



# ICMIESS 2022

International Conference on Management, Innovation, Economics and Social Science

The 3rd  
International Conference  
in Management,  
Innovation,  
Economics and  
Social Sciences  
(ICMIESS) 2022



Organized by the College of Innovation and Management, Suan Sunandha Rajabhat University  
1 U-Thong nok Road, Dusit, Bangkok 10300 Thailand

**19-20<sup>th</sup>**  
**Feb 2022**

ISBN : 978-974-421-981-7

## **MESSAGE from the President of Suan Sunandha Rajabhat University**



I am pleased to welcome you to The 3rd International Conference on Management, Innovation, Economics and Social Sciences (ICMIESS) 2022 at Suan Sunandha Rajabhat University, Bangkok, Thailand, from February 19-20, 2022. But like most other conferences this year, it was changed to an online format due to the current global situation of the COVID-19 pandemic and the restrictions regarding travelling in many countries around the world. The ICMIESS 2022 is sponsored by Suan Sunandha Rajabhat University and hosted by the College of Innovation and Management, Suan Sunandha Rajabhat University, Thailand. I hope ICMIESS 2022 will offer opportunities for experts from both academic and innovation management fields together to attain synergetic exchanges of ideas and practices.

The 3rd International Conference in Management, Innovation, Economics and Social Sciences (ICMIESS) 2022 serves as a stage of significant knowledge exchanges among researchers, academics, lecturers and students within and outside the University and, of course, among international communities. Consequently, this academic forum will be beneficial to future cooperation and academic networking in a variety of dimensions, bringing about the sustainable application of research work.

On behalf of Suan Sunandha Rajabhat University, allow me to express my appreciation and a very warm welcome to all participants who take part in the quest towards producing quality research with tangible benefits for our society and country. May you all be blessed with continuous success and prosperity.

**Associate Professor Dr. Chutikarn Sriviboon**

## **MESSAGE from the Dean of College of Innovation and Management**



On behalf of the College of Innovation and Management as the host of The 3rd International Conference in Management, Innovation, Economics and Social Sciences (ICMIESS) 2022, it is a great honor for us to invite our keynote speakers and participants to attend the ICMIESS 2022 held on February 19-20, 2022, at Suan Sunandha Rajabhat University, Bangkok, Thailand. I would like to take this opportunity to thank our co-hosts and we are excited to hear keynote speeches from Prof. Dr. Murat Yulek, Rector of OSTİM Technical University, Ankara, Turkey and Prof. Dr. Mario Glowik, Professor of International Strategic Management, Hochschule Fuer Wirtschaft and Recht (HWR), Germany before our 117 presentations that follow.

Concerning our research and innovation missions, the College of Innovation and Management encourages our lecturers and students in all study programs to engage in producing quality work, leading to the body of knowledge and innovation. The aim is toward organizational, social and national betterment. Annually, the College of Innovation and Management provides funds for research and academic work, organizes potential development programs for research and innovative ideas, and supports a wide variety of research publications and disseminations.

Finally, no conference will succeed without the strong support of its participants. I would like to thank all the authors and attendees for participating in the conference and hope you will find the ICMIESS 2022 experience a memorable one.

**Associate Professor Dr. Bundit Pungnirund**

## ICMIESS 2022 Committee

### Directors:

Assoc.Prof.Dr.Chutikarn Sriviboon  
Asst. Prof. Dr. Suwaree Yordchim

Assoc.Prof.Dr.Bundit Pungnirund

President of Suan Sunandra Rajabhat University  
Vice-President for Research and Development,  
Suan Sunandha Rajabhat University  
Dean of the College of Innovation and Management,  
Suan Sunandra Rajabhat University

### Co-host:

Sanmenxia Polytechnic, China  
Haikou University of Economics, China  
Sichuan Minzu College, China  
Aba Teachers University, China  
Quanzhou Normal University, China  
Longyan University, China  
Chongqing University of Posts and Telecommunications, China  
Ya'an Polytechnic College, China  
Guangzhou College of Commerce, China  
Chihlee University of Technology, Republic of China  
Chinese Culture University, Republic of China  
Ipekyolu International Student Association, Turkey

### Advisory Board:

Prof. Dr. Murat Yulek	OSTİM Technical University, Ankara, Turkey
Dr. Elena Battaglini	Hochschule Fuer Wirtschaft and Recht (HWR), Germany
Asst. Prof. Dr. Farrukh Iqbal	Beijing Institute of Technology, China
Prof. Luo Yi	Aba Normal University, China
Prof. Gao xingbo	Chongqing University of Posts Telecommunications, China
Prof. Cao Hua	Chongqing University of Posts Telecommunications, China
Prof. Wang Sha	Hai Kou University of Economics, China
Prof. Guo Qingyi	Sichuan Minzu University, China
Prof. Jiang Chao	Sichuan Minzu University, China
Prof. Dr. Qidan Ling	Longyan University, China
Prof. Dr. Mr. Guangqing Qu	Quanzhou Normal University, China
Prof. Fan Xianmao	Ya'an Polytechnic College, China
Prof. Wen Yi	Ya'an Polytechnic College, China
Prof. Yang Tong	Sanmenxia Polytechnic, China
Prof. Wu Yongjun	Sanmenxia Polytechnic, China
Prof. Dr. Hui Feng Hsu	Chinese Culture University, Republic of China
Assoc. Prof. Christina Tay	Chinese Culture University, Republic of China
Dr. Fen-May Liou	Chihlee University of Technology, Republic of China
Dr. Cheng-Hsu Wang	Chihlee University of Technology, Republic of China
Mr. Huang Tao	Guangzhou College of Commerce, China
Mr. Ebubekir Armagan	Ipekyolu International Student Association, Turkey
Asst. Prof. Dr. Majid Khan	National University of Sciences & Technology, Pakistan
Prof. Dr. Poomthan Rangkakulnuwat	University of the Thai Chamber of Commerce
Assoc.Prof.Dr. Nak Gulid	Srinakharinwirot University
Gp.Capt. Assoc. Prof. Dr. Kiatkulchai Jitt-Aer	Navaminda Kasatriyadhiraj Royal Air Force Academy
Asst.Prof.Dr.Kanokpatch Kopraser	Nakhon Pathom Rajabhat University
Asst.Prof. Dr. Poramet Saeng-on	Suan Sunandha Rajabhat University
Asst. Prof. Hathaipan Soonthornpipit	Suan Sunandha Rajabhat University
Asst. prof. Dr. Cholpassorn Sitthiwarongchai	Suan Sunandha Rajabhat University
Asst. Prof. Dr. Supattra Pranee	Suan Sunandha Rajabhat University
Assoc.Prof.Dr. Kanyamon Kanchanataweekul	Suan Sunandha Rajabhat University

Dr. Chattrarat Hotrawaisaya  
Dr. Chanicha Moryadee  
Asst. Prof. Dr. Muhammad Shahid Khan  
Dr. John Sterling Forssen Smith  
Asst. Prof. Poonrudee Suvannapun  
Asst. Prof. Dr. Cholpassorn Sitthiwarongchai  
Dr. Wilailuk Rakbumrung  
Asst. Prof. Dr. Chumpon Rodjam  
Miss Pimpoi Theerasathitthum  
Dr. Marthinee Khongsatid

Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University  
Suan Sunandha Rajabhat University

**Secretary:**

Miss Kassamara Sornsawan

Suan Sunandha Rajabhat University

## **Disclaimer**

The responsibility for ideas stated in this proceeding rests solely with their authors, and this publication does not constitute an endorsement by the International Conference on Management, Innovation, Economics and Social Science of the opinions so expressed in them.

**Copyright © 2022 by the 3rd International Conference on Management, Innovation, Economics and Social Science. All rights reserved.**

Copyright and Reprint Permission:

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of Thailand copyright law. Other copying, reprint, or reproduction requests should be addressed to Suan Sunandha Rajabhat University, 1 U-Thong nok Road, Dusit, Bangkok 10300 Thailand.

Additional copies of conference proceedings will be published by:  
College of Innovation and Management  
Suan Sunandha Rajabhat University, Thailand  
ISBN: **978-974-421-981-7**

**Opening Ceremony Schedule**  
**"The 3rd International Conference in Management, Innovation,  
Economics and Social Sciences (ICMISS) 2022"**

**19-20 February 2022**

**At University Council Meeting Room building 31, 5th floor, time 08.00 a.m. - 04.00 p.m.  
(in Thailand)**

**Online Via Zoom Application**

Date	Time	Activites	Place
<b>27 March 2021</b>	08.30 - 09.00 a.m.	Register	Zoom University Council Meeting Room
	09.00- 09.15 a.m.	<b>Opening speeches by</b> Asst. Prof. Dr. Suwaree Yordchim <i>Vice-President for Research and Development, Suan Sunandha Rajabhat University</i> Assoc. Prof. Dr. Bundit Pungnirund <i>Dean of College of Innovation and Management</i>	
	09.15 - 09.40 a.m.	<b>Speeches by co-host representatives from</b> <ul style="list-style-type: none"> <li>- Sanmenxia Polytechnic, People's Republic of China</li> <li>- Haikou University of Economics, People's Republic of China</li> <li>- Sichuan Minzu College, People's Republic of China</li> <li>- Aba Teachers University, People's Republic of China</li> <li>- Quanzhou Normal University, People's Republic of China</li> <li>- Longyan University, People's Republic of China</li> <li>- Chongqing University of Posts and Telecommunications, People's Republic of China</li> <li>- Ya'an Polytechnic College, People's Republic of China</li> <li>- Guangzhou College of Commerce, People's Republic of China</li> <li>- Chihlee University of Technology, Republic of China</li> <li>- Chinese Culture University, Republic of China</li> <li>- Ipekyolu International Student Association, Turkey</li> </ul>	
	09.40 - 10.45 a.m.	<b>Keynote speeches by</b> Prof. Dr. Murat Yulek, <i>Rector of OSTİM Technical University, Ankara, Turkey</i> Prof. Dr. Mario Glowik, <i>Professor of International Strategic Management, Hochschule Fuer Wirtschaft and Recht (HWR), Berlin School of Economics and Law Faculty of Business and Economics</i>	
	10.45 a.m. - 04.00 p.m.	<b>Online presentation sessions, International Conference, 2022</b> 1. Session 1 Asst. Prof. Dr. Muhammad Shahid Khan (SSRU, Thailand) 2. Session 2 Asst. Prof. Dr. Majid Khan (Nust Business school, Pakistan) 3. Session 3 Asst. Prof. Dr. Farrukh Iqbal (Shenzhen MSU-BIT, Chinn) 4. Session 4 Rahizah Binti Sulaiman (Unitar, Malaysia) 5. Session 5 Yi Hua Wu Beijing (Institute of Technology, China)	
<b>28 March 2021</b>	08.00 a.m. - 04.00 p.m.	<b>Conference Workshop: Introduction to NVIVO, SPSS, SMART-PLS, AMOS, MENDELELEY and Zotero</b> Speaker by Asst. Prof. Dr. Muhammad Shahid Khan (Ph.D.)	

**"The 3rd International Conference in Management, Innovation,  
Economics and Social Sciences (ICMISS) 2022"  
19 February 2022**

**At University Council Meeting Room building 31, 5th floor, time 10.45 a.m. - 04.00 p.m.  
(in Thailand)**

**Online Via Zoom Application  
ID 421 890 4446 ROOM 1**

Activities	Number	Title	Presenter
<b>International present (23 articles)</b>  <b>Chairman</b> <i>Asst. Prof. Dr. Muhammad Shahid Khan (SSRU, Thailand)</i>  <u><b>Zoom Login Room 1</b></u> <b>ID: 421 890 4446</b> <b>Password: 1234</b>  <b>10.45 a.m. - 04.00 p.m.</b>	1	OPINIONS ON THE MARKETING MIX FACTORS TOWARDS THE SERVICE SELECTION OF GRAND BALLON D'OR FOOTBALL CLUB, BANG KHAE, BANGKOK	ASAVIN JINDAANUNYOTH
	2	COVID-19 AND AN OPPORTUNITY FOR CREATIVITY IN LANGUAGE CLASSROOMS	SALINEE ANTARASENA
	3	MANAGEMENT ELEMENTS FOR EXCELLENCE BASIC EDUCATIONAL SCHOOL	TANAWAT SRISIRIWAT
	4	CAPITAL INVESTMENT ANALYSIS FOR THE PRODUCT OF STARTUP COMPANY CASE STUDY: THE DETECTING PROGRAM FOR TRAFFIC LIGHT VIOLATION	PIYADA DAOWADUENG
	5	DESIGNING OF MEDICAL RESOURCE DISTRIBUTION FOR HOSPITALS IN NAKHONRATCHASIMA PROVINCE	WITCHAPON PONTUETHANAGOON
	6	INVESTIGATION AND COUNTERMEASURES ON PSYCHOLOGICAL HEALTH MANAGEMENT OF MIDDLE SCHOOL STUDENTS WITH FINANCIAL DIFFICULTIES	LANGYUN YAN
	7	THE DEVELOPMENT OF HIGHER VOCATIONAL EDUCATION AND REGIONAL ECONOMY IN CHINA	DUAN LIANGYI
	8	UNDERSTANDING THE USE OF SOCIAL MEDIA FOR BUSINESS: AN APPLICATION OF THE UTAUT <sub>2</sub> MODEL	SUCHART TRIPOPSAKUL
	9	THE LITERATURE REVIEW ON TRANSFORMATIONAL LEADERSHIP AND JOB SATISFACTION	NAPHOB CHAISUPANAT
	10	THE LITERATURE REVIEW ON INNOVATIVE WORK BEHAVIOR AND ORGANIZATION PERFORMANCE	PATHADA CHAISUPANAT
	11	EMPLOYEE MOTIVATION AND JOB PERFORMANCE: A STUDY OF EMPLOYEES IN BANGKOK	RATIRATH NA SONGKHLA
	12	RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND THE OPERATIONAL EFFICIENCY OF PRIVATE COMPANY EMPLOYEES IN BANGKOK	PANNALIN SUCHOOKORN
	13	THE UNIQUE CHARACTERISTIC AS A GOOD PERFORMANCE AND FAMOUS ONLINE INFLUENCER IN ONLINE CONTENT AND BE SUCCESS IN E-COMMERCE MARKET	PEERANTHON SAENSOOK

Activities	Number	Title	Presenter
	14	OPEN INNOVATION AND AUDIT QUALITY OF NON-BIG FOUR AUDIT FIRMS - AN EXPLORATION BASED ON CONSTRUCTING GROUNDED THEORY	DONG WANG
	15	STUDY ON INNOVATION OF EMPLOYEE TRAINING SYSTEM OF B COMPANY	QIANG HAO
	16	RESEARCH ON THE MARKETING STRATEGIES OF CHINA GRAND CANAL MUSEUM BASED ON TOURISTS' TOURISM DEMANDS	LONGSHA ZHAO
	17	A LOOK BACK AND LOOK AHEAD ON CHINA'S TRANSITION TOWARDS A KNOWLEDGE-BASED ECONOMY	QIANG XIE
	18	CREATING INCENTIVE: EVIDENCE FROM CHINA COLLEGE STUDENTS' INNOVATION AND ENTREPRENEURSHIP COMPETITION (CSIEC)	ANAN WANG
	19	PERSON-ORGANIZATION FIT AND PERSON-SUPERVISOR FIT AS MEDIATORS BETWEEN THE RELATIONSHIP OF TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE'S CREATIVE BEHAVIOR IN REAL ESTATE COMPANIES	MUYI YANG
	20	RESEARCH ON THE NEW MOTIVATION OF THE PUBLIC TO CHOOSE RELIGIOUS TOURISM DESTINATION	ZHENYANG LYU
	21	MANAGEMENT STRATEGIES OF NEW SPECIAL EDUCATION SPECIALTY CONSTRUCTION IN CHINESE UNIVERSITIES BASED ON SWOT ANALYSIS	XIAOLAN MA

**"The 3rd International Conference in Management, Innovation,  
Economics and Social Sciences (ICMISS) 2022"  
19 February 2022**

**At University Council Meeting Room building 31, 5th floor, time 10.45 a.m. - 04.00 p.m.  
(in Thailand)**

**Online Via Zoom Application**

**ID 316 459 8334 ROOM 2**

Activities	Number	Title	Presenter
<b>International present (16 articles)</b> <b>Chairman</b> <i>Asst. Prof. Dr. Majid Khan (Nust Business School Pakistan)</i>  <u>Zoom Login Room 2</u> <b>ID: 316 459 8334</b> <b>Password: 1234</b>  <b>10.45 a.m. - 04.00 p.m.</b>	1	RESEARCH ON INNOVATIVE APPROACHES OF HUMAN RESOURCE MANAGEMENT FOR ENTERPRISE DEVELOPMENT IN DIGITAL ERA	YUECHUAN TANG
	2	ON THE IMPACT OF TOUR GUIDE SERVICE QUALITY INNOVATION ON THE DEVELOPMENT OF TOURISM INDUSTRY—TAKING HARBIN CITY, HEILONGJIANG PROVINCE, CHINA AS AN EXAMPLE	ZHICHENG YU
	3	RESEARCH ON COMMUNITY O2O NEW RETAIL MODEL INNOVATION IN FRESH INDUSTRY	SIHAN WANG
	4	DISCUSSION ON INNOVATIVE WAYS OF MEDICAL CHINESE TEACHING FOR FOREIGN STUDENTS MAJORING IN MEDICINE IN HIGHER VOCATIONAL COLLEGES	XUE YANG
	5	INNOVATION MODE OF HOTEL MANAGEMENT UNDER THE BACKGROUND OF THE INTERNET	WENPING YANG
	6	RESEARCH ON THE INNOVATION OF EMPLOYMENT MANAGEMENT IN COLLEGES AND UNIVERSITIES FROM THE PERSPECTIVE OF SYSTEM ENGINEERING	YUANYUAN ZHAO
	7	NEW FORM OF EDUCATION UNDER THE COVID-19 PANDEMIC ONLINE EDUCATION	JIAN MA
	8	INNOVATIVE HEALTH MANAGEMENT OF DIABETES A NEW MODEL IN THE INTERNET AGE	YANAN ZHAO
	9	EMPLOYEE ATTENDANCE APPLICATION BASED ON DYNAMIC FACE RECOGNITION	JINGHUI ZHAO
	10	THE INFLUENCE OF ERROR MANAGEMENT CLIMATE ON THE INNOVATIVE BEHAVIOR OF GENERATION Z EMPLOYEES	JINGYA BAI
	11	RESEARCH ON THE INNOVATION OF SMALL ENTERPRISE HUMAN RESOURCE MANAGEMENT UNDER COVID-19 TAKING X COMPANY AS AN EXAMPLE	JIAWEN LI
	12	INNOVATIVE MANAGEMENT OF ELDERLY IN URBAN COMMUNITY CARE UNIT OF HAINING CITY, CHINA	LONGFEI SUN
	13	RESEARCH ON MARKETING MICRO INNOVATION STRATEGY OF SMALL AND MEDIUM-SIZED ENTERPRISES	XIAOJUAN LIU
	14	RESEARCH ON ENTERPRISE MARKETING STRATEGY INNOVATION UNDER "SHARING ECONOMY" ENVIRONMENT	YEHUI LANG
	15	RESEARCH ON MARKETING INNOVATION IN THE MOBILE PHONE INDUSTRY: A CASE OF XIAOMI SMARTPHONE IN CHINA	HUITING ZHANG
	16	BUILDING CONSTRUCTION INNOVATION MANAGEMENT AND GREEN CONSTRUCTION MANAGEMENT MODE	FUDONG TIAN

<b>Activities</b>	<b>Number</b>	<b>Title</b>	<b>Presenter</b>
	17	THE DEVELOPMENT OVERVIEW OF CROSS-BORDER E-COMMERCE IN CHINA	JIE LI
	18	INNOVATIVE MANAGEMENT OF CHINA'S FORESTRY ECONOMIC DEVELOPMENT	BIAN WEI
	19	REFORM AND INNOVATION OF URBAN MANAGEMENT IN THE INTERNET + ERA	DU WANQIU
	20	AN EMPIRICAL RESEARCH OF ONLINE LEARNER-LEARNER INTERACTION MODERATING EFFECT ON CONTINUED INTENTIONS OF ONLINE LEARNING BASED ON THE TAM MODEL	LIAO WENGUO

**"The 3rd International Conference in Management, Innovation,  
Economics and Social Sciences (ICMISS) 2022"  
19 February 2022**

**At University Council Meeting Room building 31, 5th floor, time 10.45 a.m. - 04.00 p.m.  
(in Thailand)**

**Online Via Zoom Application  
ID 876 375 6165 ROOM 3**

Activities	Number	Title	Presenter
<b>International present (16 articles) Chairman 1. Asst. Prof. Dr. Farrukh Iqbal</b>  <b><u>Zoom Login Room 3</u> ID: 876 375 6165 Password: con3</b>  <b>10.45 a.m. - 04.00 p.m.</b>	1	ON THE ROLE OF ENTERPRISE MARKETING CONTENT INNOVATION AND INNOVATIVE MARKETING CHANNELS IN THE ENVIRONMENT OF INTERNET POPULARIZATION	YI CHENG FAN
	2	RESEARCH ON THE IMPROVEMENT OF HUMAN CAPITAL OF LEFT-BEHIND WOMEN IN GUANGXI RURAL AREAS UNDER THE BACKGROUND OF RURAL REVITALIZATION STRATEGY	JUN HU
	3	ANALYSIS OF THE WAYS TO IMPROVE INNOVATION AND ENTREPRENEURSHIP EDUCATION IN THE ERA OF BIG DATA	ROU TANG
	4	RESEARCH ON THE CONSTRUCTION AND MANAGEMENT OF BASIC TEACHING ORGANIZATIONS BASED ON TEACHING AND RESEARCH SECTIONS IN COLLEGES AND UNIVERSITIES	SHI MEIJIAO
	5	EXPERIENTIAL MARKETING STRATEGY RESEARCH OF STARBUCKS	FEI ZHENG
	6	THE COMPETITIVENESS OF COFFEE INDUSTRY IN YUNNAN PROVINCE OF CHINA	ZHAO YAPING
	7	LIVE STREAMING IN THE NEW MEDIA ERA—TAKE TAobao AS AN EXAMPLE	ZU YIN ZHANG
	8	THE INFLUENCE OF MENTORING SYSTEM ON TACIT KNOWLEDGE MANAGEMENT	YAN TIANHENG
	9	RESEARCH ON HUMAN CAPITAL MANAGEMENT OF CHINESE ENTERPRISES	ZHENG KAI CHEN
	10	INNOVATIVE COMPENSATION METHOD FOR TALENT RETENTION IN COVID-19 SITUATION	LIYAN GAO
	11	THE INFLUENCE OF MODERN HUMAN RESOURCE MANAGEMENT ON STATE-OWNED ENTERPRISES	DONGXIA MA
	12	THE DEVELOPMENT AND DIRECTION OF LOGISTICS INDUSTRY UNDER COVID-19	ZHIHUI WANG
	13	DEVELOPMENT TREND OF ECONOMIC MANAGEMENT IN THE ERA OF BIG DATA	ZHANG YUANQING
	14	RESEARCH ON EMPLOYEE INNOVATION BEHAVIOUR IN HRM INNOVATION STRATEGY	HAISHAN SHEN
	15	RESEARCH ON STATE-OWNED ENTERPRISES' HUMAN RESOURCES RISK AND INTERNAL CONTROL	JUN WANG
	16	RESEARCH ON HUMAN RESOURCE MANAGEMENT OUTSOURCING AND RISK MANAGEMENT OF SMALL AND MEDIUM ENTERPRISES	WEIXING SHI
	17	RESEARCH ON STRATEGICALLY-ORIENTED COST MANAGEMENT OF HUMAN RESOURCES	SAINAN WANG

<b>Activities</b>	<b>Number</b>	<b>Title</b>	<b>Presenter</b>
	18	TRANSFORMATION OF HUMAN CAPITAL MANAGEMENT FUNCTIONS IN THE INTERNET ERA	YAPING LI
	19	A BRIEF ANALYSIS OF CHINESE-STYLE MANAGEMENT	RUIYAN LIU
	20	RESEARCH ON HUMAN RESOURCE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES BASED ON CLOUD COMPUTING	XIAOHUI ZHAI

**"The 3rd International Conference in Management, Innovation,  
Economics and Social Sciences (ICMISS) 2022"  
19 February 2022**

**At University Council Meeting Room building 31, 5th floor, time 10.45 a.m. - 04.00 p.m.  
(in Thailand)**

**Online Via Zoom Application  
ID 953 644 5274 ROOM 4**

Activities	Number	Title	Presenter
<b>International present (16 articles)</b>  <b>Chairman</b> <i>Miss Rahizah Binti Sulaiman (Unitar, Malaysia)</i>  <u><b>Zoom Login Room 4</b></u> <b>ID: 953 644 5274</b> <b>Password: 1234</b>  <b>10.45 a.m. - 04.00 p.m.</b>	1	RESEARCH ON HUMAN RESOURCE COST CONTROL IN ENTERPRISES	DEYANG LI
	2	TALKING ABOUT THE IMPORTANCE OF HUMAN RESOURCE MANAGEMENT	SIQI LI
	3	ANALYZE THE ROLE AND APPLICATION STRATEGY OF EMOTION MANAGEMENT IN ENTERPRISE HUMAN RESOURCE MANAGEMENT	MAN LI
	4	RESEARCH ON MEDICAL MANAGEMENT IN THE CONTEXT OF POST EPIDEMIC ERA	JING YANG
	5	HOW TO TURN HUMAN RESOURCES INTO HUMAN	XIAOLU YU
	6	RESEARCH ON PRINCIPAL-AGENT RISK MANAGEMENT OF HUMAN RESOURCES IN NEW ENTERPRISES	ZENG YI
	7	BIBLIOMETRIC ANALYSIS ON COORDINATED DEVELOPMENT OF ECOLOGY AND INDUSTRY	WANG SHI YING
	8	THE IMPACT OF BIG DATA ON HUMAN RESOURCE MANAGEMENT OF E-COMMERCE ENTERPRISES TAKE JINGDONG AS AN EXAMPLE	JIE ZHANG
	9	ANALYSIS OF INNOVATION MANAGEMENT MODE	ZHIGUO GAN
	10	RESEARCH ON HUMAN RESOURCE TRAINING OF SMALL AND MEDIUM-SIZED ENTERPRISES IN CHINA	JUN LIU
	11	PROBLEMS AND COUNTERMEASURES OF HUMAN RESOURCE MANAGEMENT IN HIGH-STAR HOTEL	YAN ZHANG
	12	RESEARCH ON ETHICS OF HUMAN RESOURCE MANAGEMENT IN CHINESE ENTERPRISES	BOHAO ZHANG
	13	RESEARCH ON MANAGEMENT METHODS OF ENTERPRISE TECHNOLOGICAL INNOVATION SCHEME	LUO HAIYUN
	14	RESEARCH ON THE FUNCTION OF HUMAN RESOURCE MANAGEMENT IN ENTERPRISE STRATEGIC REFORM	HUI ZHANG
	15	RESEARCH ON THE IMPORTANCE OF HUMAN EFFICIENCY MANAGEMENT SYSTEM TO ENTERPRISE LISTING	YANJUN.LIU
	16	RESEARCH ON THE IMPORTANCE OF INNOVATION MANAGEMENT UNDER THE NEW ENVIRONMENT	RAN LU
	17	RESEARCH ON THE CURRENT SITUATION, PROBLEMS AND COUNTERMEASURES OF	XIAOYU WANG

Activities	Number	Title	Presenter
		HUMAN RESOURCES MANAGEMENT IN PRIVATE HOSPITALS	
	18	FROM HUMAN CAPITAL MANAGEMENT PERSPECTIVE: A COMPARATIVE STUDY ON THE EMPLOYMENT RIGHTS OF THE FLOATING POPULATION WITH AGRICULTURAL AND NON-AGRICULTURAL HUKOU	XINXIN WANG
	19	INNOVATIVE HUMAN RESOURCE MANAGEMENT	HAILI CHENG
	20	INVESTIGATION AND ANALYSIS OF ENGLISH LEARNING STATUS OF MEDICAL STUDENTS -- A CASE STUDY OF NURSING UNDERGRADUATE MAJOR IN A UNIVERSITY	GUANYING YANG

**"The 3rd International Conference in Management, Innovation,  
Economics and Social Sciences (ICMISS) 2022"  
19 February 2022**

**At University Council Meeting Room building 31, 5th floor, time 10.45 a.m. - 04.00 p.m.  
(in Thailand)**

**Online Via Zoom Application**

**ID 717 711 5142 ROOM 5**

Activities	Number	Title	Presenter
<b>International present (16 articles)</b>  <b>Chairman</b> <i>Yi Hua Wu Beijing (Institute of Technology, China)</i>  <u><b>Zoom Login Room 5</b></u> <b>ID: 717 711 5142</b> <b>Password: 1234</b>  <b>10.45 a.m. - 04.00 p.m.</b>	1	PROMOTE THE DEVELOPMENT OF ZHENGZHOU SCIENCE AND TECHNOLOGY SERVICE INDUSTRY WITH THE IMPROVEMENT OF INNOVATION ABILITY AS THE CORE	JING CHEN
	2	THE EFFECT OF PUBLIC SERVICE MOTIVATION ON PUBLIC EMPLOYEES' INNOVATIVE BEHAVIOR IN CHINA	QIU WANG
	3	INTIMACY ENERGY: HOW DOES DIFFERENTIAL LEADERSHIP IMPACT EMPLOYEE PERFORMANCE	MUHAMMAD ARSHAD
	4	ON THE INNOVATION OF FINANCIAL MANAGEMENT IN E-COMMERCE ENTERPRISES	MENGJING HAO
	5	INNOVATION OF BEHAVIORAL PSYCHOLOGY IN HUMAN RESOURCE MANAGEMENT	LI SUN
	6	RESEARCH ON INNOVATIVE BUSINESS MODEL OF X COMPANY IN GUIZHOU, CHINA	RAN XIONG
	7	DEVELOPMENT AND MANAGEMENT INNOVATION OF HUMAN RESOURCE MANAGEMENT IN SMALL AND MEDIUM-SIZED ENTERPRISES	JUAN WU
	8	PROMOTION AND ANALYSIS OF NEW MEDIA MARKETING ON ENTERPRISE MANAGEMENT INNOVATION	SHIHAO LI
	9	RESEARCH ON THE IMPACT OF GREEN INNOVATION ON ENTERPRISE ECONOMIC PERFORMANCE	LUO XIAODAN
	10	THE RELATIONSHIPS AMONG EXPERIENTIAL MARKETING, FACTORS OF CHOOSING TO STUDY ABROAD, SATISFACTION, AND PURCHASE INTENTION: AN EXAMPLE OF THE XINYIFANG EDUCATION & TECHNOLOGY COMPANY IN CHINA	RAN AN
	11	INNOVATIVE DESIGN THINKING ON TRADITIONAL WATCHES WITH WEARABLE TECHNOLOGIES	CHUKUI CHEN
	12	RESEARCH ON THE IMPACT OF GOVERNMENT HUMAN CAPITAL INVESTMENT ON ECONOMIC GROWTH	CHANGYU LIU
	13	RESEARCH ON THE TRANSFORMATION MODE OF ENTERPRISE FINANCIAL MANAGEMENT UNDER THE BACKGROUND OF DIGITAL ECONOMY	HANLEI MA

Activities	Number	Title	Presenter
	14	RESEARCH ON THE MECHANISM AND STRATEGY OF ENTERPRISE MANAGEMENT INNOVATION: BASED ON THE PERSPECTIVE OF DIGITAL ECONOMY	XIAOFANG XIONG
	15	COMPETENCY MODEL APPLICATION IN THE FUNCTIONS OF MANUFACTURE: MIDDLE MANAGERS IN A MANUFACTURING CHINA COMPANY	SHUZH I YU
	16	RESEARCH ON THE PRACTICE OF KNOWLEDGE TALENT MANAGEMENT -- IT ENTERPRISE IN HENGQIN (CHINA)	LIHUI HUANG
	17	RESEARCH ON THE INDUSTRY-UNIVERSITY-RESEARCH LINKAGE AND INNOVATIVE TALENT TRAINING MODE FROM THE PERSPECTIVE OF HUMAN CAPITAL	XIANTING YUAN
	18	ORGANIZATIONAL OPPORTUNITIES BROUGHT ABOUT BY BUSINESS MODEL INNOVATION	XIAOYANG LI
	19	REFLECTIONS AND SUGGESTIONS ON CHINESE SUMMER CAMP TEACHING MODE	MA LIYA
	20	DISCUSSION ON THE BASIC GOVERNMENT SERVICES MODE UNDER DIGITAL GOVERNMENT	WEI SUN
	21	TO DEVELOP AN INNOVATION MANAGEMENT STRATEGY FOR TRADITIONAL BOOKSTORES	YU NIE
	22	INNOVATIVE MANAGEMENT OF HEALTH CARE INDUSTRY	MENGJIE GUO
	23	EXECUTIVE INNOVATION LEADERSHIP AND HUMAN RESOURCE MANAGEMENT INNOVATION THIS AFFECTS THE INNOVATION OF LEARNING ORGANIZATIONS RAJABHAT UNIVERSITY RATTANAKOSIN GROUP	WUTIPONG JANMUANGTHAI
	24	ANALYSIS OF THE INNOVATION DIRECTION OF XIAOMI SMART HOME BUSINESS MODEL UNDER THE INTERNET	YANG SHENG
	25	EXPERIENTIAL MARKETING STRATEGY RESEARCH OF STARBUCKS	FEI ZHENG
	26	INNOVATIVE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES ON CHINESE CROSS-BORDER E-COMMERCE PLATFORMS	LI YUE
	27	INNOVATIVE MANAGEMENT OF MANAGEMENT MODE IN THE BIG DATA ERA OF PRIVATE ENTERPRISES	FAN PENGYU
	28	AN EMPIRICAL STUDY ON THE RELATIONSHIP BETWEEN TECHNOLOGICAL INNOVATION AND FIRM PERFORMANCE	JINGXUAN SUN

## TABLE OF CONTENTS

Title	Page
OPINIONS ON THE MARKETING MIX FACTORS TOWARDS THE SERVICE SELECTION OF GRAND BALLON D'OR FOOTBALL CLUB, BANG KHAE, BANGKOK..... <i>Asavin Jindaanunyoth , Archavit Choengklinchan, Suebpong Jindapon, Kittipong Potimu, Parinya Kwanmuangvanich</i>	1
COVID-19 AND AN OPPORTUNITY FOR CREATIVITY IN LANGUAGE CLASSROOMS..... <i>Salinee Antarasena</i>	11
MANAGEMENT ELEMENTS FOR EXCELLENCE BASIC EDUCATIONAL SCHOOL..... <i>Tanawat Srisiriwat, Bundit Pungnirund</i>	18
CAPITAL INVESTMENT ANALYSIS FOR THE PRODUCT OF STARTUP COMPANY CASE STUDY: THE DETECTING PROGRAM FOR TRAFFIC LIGHT VIOLATION..... <i>Piyada Daowadueng, Jetsada Kumphong</i>	25
DESIGNING OF MEDICAL RESOURCE DISTRIBUTION FOR HOSPITALS IN NAKHONRATCHASIMA PROVINCE..... <i>Witchapon Pontuethanagoon, Jarupong Banthao</i>	38
INVESTIGATION AND COUNTERMEASURES ON PSYCHOLOGICAL HEALTH MANAGEMENT OF MIDDLE SCHOOL STUDENTS WITH FINANCIAL DIFFICULTIES..... <i>Langyun Yan, Suttipong Boonphadung</i>	50
THE DEVELOPMENT OF HIGHER VOCATIONAL EDUCATION AND REGIONAL ECONOMY IN CHINA..... <i>Duan Liangyi, Suttipong Boonphadung</i>	61
UNDERSTANDING THE USE OF SOCIAL MEDIA FOR BUSINESS: AN APPLICATION OF THE UTAUT2 MODEL..... <i>Suchart Tripopsakul, Suvinai Tosirisuk, Chakrit Pichyangkul, Jaratpong Vasuthanasub, Patrarat Tangnisaitrong, Wittaya Charupongsopon</i>	67
THE LITERATURE REVIEW ON TRANSFORMATIONAL LEADERSHIP AND JOB SATISFACTION..... <i>Naphob Chaisupanat, Supattra Pranee</i>	79
THE LITERATURE REVIEW ON INNOVATIVE WORK BEHAVIOR AND ORGANIZATION PERFORMANCE..... <i>Pathada Chaisupanat, Supattra Pranee</i>	88
EMPLOYEE MOTIVATION AND JOB PERFORMANCE: A STUDY OF EMPLOYEES IN BANGKOK..... <i>Ratirath Na Songkhla, Pannalin Suhookorn, Montipa Vilasthip, Oraphan Decha, Peeranthon Saensook, Suebpong Jindapon</i>	99
RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND THE OPERATIONAL EFFICIENCY OF PRIVATE COMPANY EMPLOYEES IN BANGKOK..... <i>Pannalin Suhookorn, Ratirath Na Songkhla, Montipa Vilasthip, Oraphan Decha, Peeranthon Saensook, Suebpong Jindapon</i>	107

Title	Page
THE UNIQUE CHARACTERISTIC AS A GOOD PERFORMANCE AND FAMOUS ONLINE INFLUENCER IN ONLINE CONTENT AND BE SUCCESS IN E-COMMERCE MARKET..... <i>Peeranthon Saensook, Pannalin Suchookorn, Ratirath Na Songkhla, Montipa Vilasthip, Oraphan Decha</i>	117
MANAGEMENT STRATEGIES OF NEW SPECIAL EDUCATION SPECIALTY CONSTRUCTION IN CHINESE UNIVERSITIES BASED ON SWOT ANALYSIS..... <i>Xiaolan Ma, Suttipong Boonphadung</i>	130
OPEN INNOVATION AND AUDIT QUALITY OF NON-BIG FOUR AUDIT FIRMS-AN EXPLORATION BASED ON CONSTRUCTING GROUNDED THEORY..... <i>Dong Wang</i>	139
STUDY ON INNOVATION OF EMPLOYEE TRAINING SYSTEM OF B COMPANY..... <i>Qiang Hao</i>	153
RESEARCH ON THE MARKETING STRATEGIES OF CHINA GRAND CANAL MUSEUM BASED ON TOURISTS' TOURISM DEMANDS..... <i>Longsha Zhao, Jian Wang</i>	161
A LOOK BACK AND LOOK AHEAD ON CHINA'S TRANSITION TOWARDS A KNOWLEDGE-BASED ECONOMY..... <i>Qiang Xie</i>	169
CREATING INCENTIVE: EVIDENCE FROM CHINA COLLEGE STUDENTS' INNOVATION AND ENTREPRENEURSHIP COMPETITION (CSIEC) <i>Anan Wang, Hongxin Li</i>	181
PERSON-ORGANIZATION FIT AND PERSON-SUPERVISOR FIT AS MEDIATORS BETWEEN THE RELATIONSHIP OF TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE'S CREATIVE BEHAVIOR IN REAL ESTATE COMPANIES..... <i>Muyi Yang</i>	193
RESEARCH ON THE NEW MOTIVATION OF THE PUBLIC TO CHOOSE RELIGIOUS TOURISM DESTINATION..... <i>Zhenyang Lyu</i>	208
RESEARCH ON INNOVATIVE APPROACHES OF HUMAN RESOURCE MANAGEMENT FOR ENTERPRISE DEVELOPMENT IN DIGITAL ERA ..... <i>Yuechuan Tang</i>	223
ON THE IMPACT OF TOUR GUIDE SERVICE QUALITY INNOVATION ON THE DEVELOPMENT OF TOURISM INDUSTRY—TAKING HARBIN CITY, HEILONGJIANG PROVINCE, CHINA AS AN EXAMPLE..... <i>Zhicheng Yu</i>	232
RESEARCH ON COMMUNITY O2O NEW RETAIL MODEL INNOVATION IN FRESH INDUSTRY..... <i>Sihan Wang</i>	241

Title	Page
DISCUSSION ON INNOVATIVE WAYS OF MEDICAL CHINESE TEACHING FOR FOREIGN STUDENTS MAJORING IN MEDICINE IN HIGHER VOCATIONAL COLLEGES..... <i>Xue Yang, Nuntiya Noichun</i>	256
INNOVATION MODE OF HOTEL MANAGEMENT UNDER THE BACKGROUND OF THE INTERNET..... <i>Wenping Yang</i>	261
RESEARCH ON THE INNOVATION OF EMPLOYMENT MANAGEMENT IN COLLEGES AND UNIVERSITIES FROM THE PERSPECTIVE OF SYSTEM ENGINEERING..... <i>Yuanyuan Zhao</i>	268
NEW FORM OF EDUCATION UNDER THE COVID-19 PANDEMIC ONLINE EDUCATION..... <i>Jian Ma</i>	276
INNOVATIVE HEALTH MANAGEMENT OF DIABETES A NEW MODEL IN THE INTERNET AGE..... <i>Yanan Zhao</i>	286
EMPLOYEE ATTENDANCE APPLICATION BASED ON DYNAMIC FACE RECOGNITION..... <i>Jinghui Zhao</i>	295
THE INFLUENCE OF ERROR MANAGEMENT CLIMATE ON THE INNOVATIVE BEHAVIOR OF GENERATION Z EMPLOYEES..... <i>Jingya Bai</i>	308
RESEARCH ON THE INNOVATION OF SMALL ENTERPRISE HUMAN RESOURCE MANAGEMENT UNDER COVID-19 TAKING X COMPANY AS AN EXAMPLE..... <i>Jiawen Li</i>	317
INNOVATIVE MANAGEMENT OF ELDERLY IN URBAN COMMUNITY CARE UNIT OF HAINING CITY, CHINA..... <i>Longfei Sun</i>	329
RESEARCH ON MARKETING MICRO INNOVATION STRATEGY OF SMALL AND MEDIUM-SIZED ENTERPRISES..... <i>Xiaojuan Liu</i>	355
RESEARCH ON ENTERPRISE MARKETING STRATEGY INNOVATION UNDER "SHARING ECONOMY" ENVIRONMENT..... <i>Yehui Lang</i>	365
RESEARCH ON MARKETING INNOVATION IN THE MOBILE PHONE INDUSTRY: A CASE OF XIAOMI SMARTPHONE IN CHINA..... <i>Huiting Zhang</i>	375
BUILDING CONSTRUCTION INNOVATION MANAGEMENT AND GREEN CONSTRUCTION MANAGEMENT MODE..... <i>Fudong Tian</i>	380
THE DEVELOPMENT OVERVIEW OF CROSS-BORDER E-COMMERCE IN CHINA..... <i>Jie Li, Lili Zhang</i>	389
INNOVATIVE MANAGEMENT OF CHINA'S FORESTRY ECONOMIC DEVELOPMENT..... <i>Bian Wei</i>	402

Title	Page
REFORM AND INNOVATION OF URBAN MANAGEMENT IN THE INTERNET + ERA..... <i>Du Wanqiu</i>	410
AN EMPIRICAL RESEARCH OF ONLINE LEARNER-LEARNER INTERACTION MODERATING EFFECT ON CONTINUED INTENTIONS OF ONLINE LEARNING BASED ON THE TAM MODEL <i>Liao Wenguo</i>	418
ON THE ROLE OF ENTERPRISE MARKETING CONTENT INNOVATION AND INNOVATIVE MARKETING CHANNELS IN THE ENVIRONMENT OF INTERNET POPULARIZATION..... <i>Yi Cheng Fan</i>	430
RESEARCH ON THE IMPROVEMENT OF HUMAN CAPITAL OF LEFT-BEHIND WOMEN IN GUANGXI RURAL AREAS UNDER THE BACKGROUND OF RURAL REVITALIZATION STRATEGY..... <i>Jun Hu</i>	446
ANALYSIS OF THE WAYS TO IMPROVE INNOVATION AND ENTREPRENEURSHIP EDUCATION IN THE ERA OF BIG DATA..... <i>Rou Tang</i>	458
RESEARCH ON THE CONSTRUCTION AND MANAGEMENT OF BASIC TEACHING ORGANIZATIONS BASED ON TEACHING AND RESEARCH SECTIONS IN COLLEGES AND UNIVERSITIES..... <i>Shi Meijiao</i>	462
EXPERIENTIAL MARKETING STRATEGY RESEARCH OF STARBUCKS..... <i>Fei Zheng</i>	468
THE COMPETITIVENESS OF COFFEE INDUSTRY IN YUNNAN PROVINCE OF CHINA..... <i>Zhao Yaping</i>	478
LIVE STREAMING IN THE NEW MEDIA ERA—TAKE TAOBAO AS AN EXAMPLE..... <i>Zu Yin Zhang</i>	485
THE INFLUENCE OF MENTORING SYSTEM ON TACIT KNOWLEDGE MANAGEMENT..... <i>Yan Tianheng</i>	496
RESEARCH ON HUMAN CAPITAL MANAGEMENT OF CHINESE ENTERPRISES..... <i>Zheng Kai Chen</i>	502
INNOVATIVE COMPENSATION METHOD FOR TALENT RETENTION IN COVID-19 SITUATION..... <i>Liyan Gao</i>	511
THE INFLUENCE OF MODERN HUMAN RESOURCE MANAGEMENT ON STATE-OWNED ENTERPRISES..... <i>Dongxia Ma</i>	520
THE DEVELOPMENT AND DIRECTION OF LOGISTICS INDUSTRY UNDER COVID-19..... <i>Zhihui Wang</i>	527
DEVELOPMENT TREND OF ECONOMIC MANAGEMENT IN THE ERA OF BIG DATA..... <i>Zhang Yuanqing</i>	532

Title	Page
RESEARCH ON EMPLOYEE INNOVATION BEHAVIOUR IN HRM INNOVATION STRATEGY..... <i>Haishan Shen</i>	539
RESEARCH ON STATE-OWNED ENTERPRISES' HUMAN RESOURCES RISK AND INTERNAL CONTROL..... <i>Jun Wang</i>	545
RESEARCH ON HUMAN RESOURCE MANAGEMENT OUTSOURCING AND RISK MANAGEMENT OF SMALL AND MEDIUM ENTERPRISES..... <i>Weixing Shi</i>	554
RESEARCH ON STRATEGICALLY-ORIENTED COST MANAGEMENT OF HUMAN RESOURCES..... <i>Sainan Wang</i>	561
TRANSFORMATION OF HUMAN CAPITAL MANAGEMENT FUNCTIONS IN THE INTERNET ERA..... <i>Yaping Li</i>	569
A BRIEF ANALYSIS OF CHINESE-STYLE MANAGEMENT..... <i>Ruiyan Liu</i>	578
RESEARCH ON HUMAN RESOURCE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES BASED ON CLOUD COMPUTING..... <i>Xiaohui Zhai</i>	583
RESEARCH ON HUMAN RESOURCE COST CONTROL IN ENTERPRISES..... <i>Deyang Li</i>	592
TALKING ABOUT THE IMPORTANCE OF HUMAN RESOURCE MANAGEMENT..... <i>Siqi Li</i>	601
ANALYZE THE ROLE AND APPLICATION STRATEGY OF EMOTION MANAGEMENT IN ENTERPRISE HUMAN RESOURCE MANAGEMENT..... <i>Man Li</i>	611
RESEARCH ON MEDICAL MANAGEMENT IN THE CONTEXT OF POST EPIDEMIC ERA..... <i>Jing Yang</i>	618
HOW TO TURN HUMAN RESOURCES INTO HUMAN CAPITAL ..... <i>Xiaolu Yu</i>	626
RESEARCH ON PRINCIPAL-AGENT RISK MANAGEMENT OF HUMAN RESOURCES IN NEW ENTERPRISES..... <i>Zeng Yi</i>	633
BIBLIOMETRIC ANALYSIS ON COORDINATED DEVELOPMENT OF ECOLOGY AND INDUSTRY..... <i>Wang Shi Ying</i>	640
THE IMPACT OF BIG DATA ON HUMAN RESOURCE MANAGEMENT OF E-COMMERCE ENTERPRISES TAKE JINGDONG AS AN EXAMPLE..... <i>Jie Zhang</i>	651
ANALYSIS OF INNOVATION MANAGEMENT MODE..... <i>Zhiguo Gan</i>	659
RESEARCH ON HUMAN RESOURCE TRAINING OF SMALL AND MEDIUM-SIZED ENTERPRISES IN CHINA..... <i>Jun Liu</i>	663

Title	Page
PROBLEMS AND COUNTERMEASURES OF HUMAN RESOURCE MANAGEMENT IN HIGH-STAR HOTEL..... <i>Yan Zhang</i>	671
RESEARCH ON ETHICS OF HUMAN RESOURCE MANAGEMENT IN CHINESE ENTERPRISES..... <i>Bohao Zhang</i>	681
RESEARCH ON MANAGEMENT METHODS OF ENTERPRISE TECHNOLOGICAL INNOVATION SCHEME..... <i>Luo Haiyun</i>	689
RESEARCH ON THE FUNCTION OF HUMAN RESOURCE MANAGEMENT IN ENTERPRISE STRATEGIC REFORM..... <i>Hui Zhang</i>	695
RESEARCH ON THE IMPORTANCE OF HUMAN EFFICIENCY MANAGEMENT SYSTEM TO ENTERPRISE LISTING..... <i>Yanjun.Liu</i>	704
RESEARCH ON THE IMPORTANCE OF INNOVATION MANAGEMENT UNDER THE NEW ENVIRONMENT..... <i>Ran Lu</i>	719
RESEARCH ON THE CURRENT SITUATION, PROBLEMS AND COUNTERMEASURES OF HUMAN RESOURCES MANAGEMENT IN PRIVATE HOSPITALS..... <i>Xiaoyu Wang</i>	727
FROM HUMAN CAPITAL MANAGEMENT PERSPECTIVE: A COMPARATIVE STUDY ON THE EMPLOYMENT RIGHTS OF THE FLOATING POPULATION WITH AGRICULTURAL AND NON-AGRICULTURAL HUKOU..... <i>Xinxin Wang</i>	735
INNOVATIVE HUMAN RESOURCE MANAGEMENT..... <i>Haili Cheng</i>	743
INVESTIGATION AND ANALYSIS OF ENGLISH LEARNING STATUS OF MEDICAL STUDENTS -- A CASE STUDY OF NURSING UNDERGRADUATE MAJOR IN A UNIVERSITY..... <i>Guanying Yang</i>	753
PROMOTE THE DEVELOPMENT OF ZHENGZHOU SCIENCE AND TECHNOLOGY SERVICE INDUSTRY WITH THE IMPROVEMENT OF INNOVATION ABILITY AS THE CORE..... <i>Jing Chen</i>	760
THE EFFECT OF PUBLIC SERVICE MOTIVATION ON PUBLIC EMPLOYEES' INNOVATIVE BEHAVIOR IN CHINA..... <i>Qiu Wang</i>	772
INTIMACY ENERGY: HOW DOES DIFFERENTIAL LEADERSHIP IMPACT EMPLOYEE PERFORMANCE..... <i>Muhmmad Arshad,Liu Ning, Zhang Honglie, Aneela Qadir, Jiang Zhou</i>	780
ON THE INNOVATION OF FINANCIAL MANAGEMENT IN E-COMMERCE ENTERPRISES..... <i>Mengjing Hao</i>	797

Title	Page
INNOVATION OF BEHAVIORAL PSYCHOLOGY IN HUMAN RESOURCE MANAGEMENT..... <i>Li Sun</i>	804
RESEARCH ON INNOVATIVE BUSINESS MODEL OF X COMPANY IN GUIZHOU, CHINA..... <i>Ran Xiong</i>	811
DEVELOPMENT AND MANAGEMENT INNOVATION OF HUMAN RESOURCE MANAGEMENT IN SMALL AND MEDIUM-SIZED ENTERPRISES..... <i>Juan Wu</i>	819
PROMOTION AND ANALYSIS OF NEW MEDIA MARKETING ON ENTERPRISE MANAGEMENT INNOVATION..... <i>Shihao Li</i>	824
RESEARCH ON THE IMPACT OF GREEN INNOVATION ON ENTERPRISE ECONOMIC PERFORMANCE..... <i>Luo Xiaodan</i>	828
THE RELATIONSHIPS AMONG EXPERIENTIAL MARKETING, FACTORS OF CHOOSING TO STUDY ABROAD, SATISFACTION, AND PURCHASE INTENTION: AN EXAMPLE OF THE XINYIFANG EDUCATION & TECHNOLOGY COMPANY IN CHINA..... <i>Ran An</i>	834
INNOVATIVE DESIGN THINKING ON TRADITIONAL WATCHES WITH WEARABLE TECHNOLOGIES..... <i>Chukui Chen</i>	850
RESEARCH ON THE IMPACT OF GOVERNMENT HUMAN CAPITAL INVESTMENT ON ECONOMIC GROWTH..... <i>Changyu Liu</i>	860
RESEARCH ON THE TRANSFORMATION MODE OF ENTERPRISE FINANCIAL MANAGEMENT UNDER THE BACKGROUND OF DIGITAL ECONOMY..... <i>Hanlei Ma</i>	869
RESEARCH ON THE MECHANISM AND STRATEGY OF ENTERPRISE MANAGEMENT INNOVATION: BASED ON THE PERSPECTIVE OF DIGITAL ECONOMY..... <i>Xiaofang Xiong</i>	878
COMPETENCY MODEL APPLICATION IN THE FUNCTIONS OF MANUFACTURE: MIDDLE MANAGERS IN A MANUFACTURING CHINA COMPANY..... <i>Shuzhi Yu, Lihui Huang</i>	892
RESEARCH ON THE PRACTICE OF KNOWLEDGE TALENT MANAGEMENT -- IT ENTERPRISE IN HENGQIN (CHINA)..... <i>Lihui Huang, Shuzhi Yu</i>	909
RESEARCH ON THE INDUSTRY-UNIVERSITY-RESEARCH LINKAGE AND INNOVATIVE TALENT TRAINING MODE FROM THE PERSPECTIVE OF HUMAN CAPITAL..... <i>Xianting Yuan</i>	927

Title	Page
ORGANIZATIONAL OPPORTUNITIES BROUGHT ABOUT BY BUSINESS MODEL INNOVATION..... <i>Xiaoyang Li</i>	939
REFLECTIONS AND SUGGESTIONS ON CHINESE SUMMER CAMP TEACHING MODE..... <i>Ma Liya</i>	949
DISCUSSION ON THE BASIC GOVERNMENT SERVICES MODE UNDER DIGITAL GOVERNMENT..... <i>Wei Sun</i>	953
TO DEVELOP AN INNOVATION MANAGEMENT STRATEGY FOR TRADITIONAL BOOKSTORES..... <i>Yu Nie</i>	968
INNOVATIVE MANAGEMENT OF HEALTH CARE INDUSTRY..... <i>Mengjie Guo</i>	987
EXECUTIVE INNOVATION LEADERSHIP AND HUMAN RESOURCE MANAGEMENT INNOVATION THIS AFFECTS THE INNOVATION OF LEARNING ORGANIZATIONS RAJABHAT UNIVERSITY RATTANAKOSIN GROUP..... <i>Wutipong Janmuangthai, Chutikarn Sriviboon, Cholpassorn Sitthiwarongchai</i>	999
ANALYSIS OF THE INNOVATION DIRECTION OF XIAOMI SMART HOME BUSINESS MODEL UNDER THE INTERNET..... <i>Yang Sheng</i>	1006
EXPERIENTIAL MARKETING STRATEGY RESEARCH OF STARBUCKS..... <i>Fei Zheng</i>	1026
INNOVATIVE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES ON CHINESE CROSS-BORDER E-COMMERCE PLATFORMS..... <i>Li Yue</i>	1036
INNOVATIVE MANAGEMENT OF MANAGEMENT MODE IN THE BIG DATA ERA OF PRIVATE ENTERPRISES..... <i>Fan Pengyu</i>	1048
AN EMPIRICAL STUDY ON THE RELATIONSHIP BETWEEN TECHNOLOGICAL INNOVATION AND FIRM PERFORMANCE..... <i>Jingxuan Sun</i>	1069

# OPINIONS ON THE MARKETING MIX FACTORS TOWARDS THE SERVICE SELECTION OF GRAND BALLON D'OR FOOTBALL CLUB, BANG KHAE, BANGKOK

ASAVIN JINDAANUNYOTH<sup>1\*</sup>, ARCHAVIT CHOENGLINCHAN<sup>2</sup>,  
SUEBPONG JINDAPON<sup>3</sup>, KITTIPONG POTIMU<sup>4</sup>,  
PARINYA KWANMUANGVANICH<sup>5</sup>

<sup>1,2,3,4,5</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*  
*Email: asavin.jin@hotmail.com*

## ABSTRACT

The purpose of this study was to study the level of opinions on the marketing mix factors towards the service selection of Grand Ballon d'or Football Club, Bang Khae, Bangkok. The sample size calculated by Krejcie & Morgan included 360 service users from a convenient random sampling in Grand Ballon d'or Football Club. The tools used to collect data were questionnaires validated by experts with a reliability of 0.93. Data were analyzed by applying descriptive statistics including frequency, percentage, mean, standard deviation. The results showed that the level of respondents' opinions on the marketing mix factors towards decision making on selecting the Grand Ballon d'or Football Club as a whole was at a high level (mean = 3.90). When considering separately, the aspect with the highest mean was the aspect of product (mean = 4.09), followed by physical evidence (mean = 4.03), place (mean = 4.00), process (mean = 3.92), price (mean = 3.84), people (mean = 3.72, and promotion (mean = 3.68) respectively.

**Keywords:** marketing mix, Grand Ballon d'or football club

## INTRODUCTION

### 1. Introduction

A survey of physical activity of the Thai population in 2015 conducted by the National Statistical Office found that males had a higher rate of playing sports and exercising than females (National Statistical Office, 2016). This is because those who are of working age have sufficient income that can be allocated for sports activities according to the interests of the individual. Football is one of the most popular sports in Thailand. As a result, it is necessary to search for an available and suitable football pitch or field. Public football fields provided by government agencies are insufficient to meet people's demands. There is also the problem of uneven surfaces that cannot be used while raining, at night, and time limited. At present, there is a business for renting artificial football fields launched by private entrepreneurs who have locations near their residences or located in community areas to support the needs of the football players under standard domes which can avoid being exposed to the sunlight affecting exercise behavior. The football field has artificial grass with a softer surface that looks real. In addition, service users can also choose a suitable time to use the field according to their convenience. As a result, there

are not only more and more people interested in using artificial football fields but also football match competition provided by the pitch owner is higher. (Tanpipataree, 2015; Nakasiri, 2011; Senawat, 2013). The business of artificial football fields is considered to be the main service even though the product is a football field with artificial turf. Entrepreneurs, therefore, use a marketing tool consisting of marketing mix factors (7P's). According to Sereerat (2009), the marketing mix for service business consists of product, price, place, promotion, people, physical evidence, process, which are used for business management to achieve the goals of the organization by considering the needs of service users in order increase the satisfaction of service users to return to use the service continuously.

Grand Ballon d'or Football Club established in 2017 in Bang Khae, Bangkok uses an artificial turf football field is located at 143 Phutthamonthon Sai 2 Road, Bang Phai Subdistrict, Bang Khae District, Bangkok, open daily from Monday to Friday from 3.00 pm. to 1.00 pm, and 8.00 am. to 11.00 pm. on Saturday and Sunday. The artificial turf used is the GSF-M520-ZG model, Omega Shape, which is high quality and high standard artificial turf produced by Green Glass Company Limited. There are three pitches with dome and one field without dome serviced by professional staff.

For this reason, the researcher aims to examine the opinion level relevant to the marketing mix factors towards the selection of Grand Ballon d'or Football Club to provide useful information in business strategy planning and develop marketing promotion patterns to reach the service users in the future.

### 1.1 Purpose of the study

The study examines service users' opinions of marketing mix factors towards the service selection of Grand Ballon d'or Football Club, Bang Khae District, Bangkok.

### 1.2 Conceptual framework

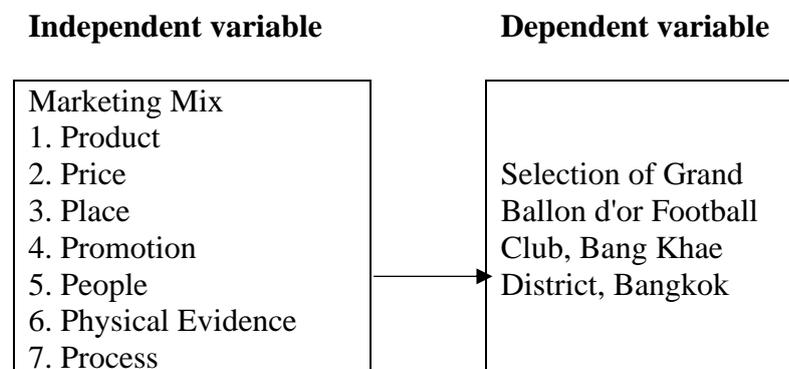


Figure 1: Conceptual framework

Figure 1 shows the conceptual framework consisting of seven independent variables in marketing mix factors including product, price, place, promotion, people, physical evidence, process, and a dependent variable indicating the service section of Grand Ballon d'or Football Club, Bang Khae District, Bangkok.

## RESEARCH METHODOLOGY

### 2. Research methodology

#### 2.1 Research design

This study is survey research.

#### 2.2 Population and samples

Population: The population included service users of the Grand Ballon d'or Football Club, Bang Khae District, Bangkok. The number of users from December 2019 to February 2020 totaled 10,050 service users, approximately 3,350 per month.

Samples: Out of 3,500, 346 samples were obtained by calculating a sample size proposed by Krejcie & Morgan (1970). the researcher determined to use 360 samples to reduce data discrepancies. Finally, a set of questionnaires were randomly administered by convenience sampling.

#### 2.3 Instrumentation

A set of questionnaires created by the researcher was divided into two parts as follows:

Part 1: General information. The questionnaire was designed in checklist form which could be chosen only one answer from all options consisting of gender, age, education level, marital status, occupation, average monthly income, a total of 6 items.

Part 2: Questions related to opinions of the service users towards the marketing mix factors 7P's including product, price, place, promotion, people, physical evidence, and process. The questionnaire was designed in a five-point Likert scale, extremely high, high, moderate, low, and extremely low.

#### 2.4 Testing quality of research instrument

##### 2.4.1 Content validity

The researcher submitted the questionnaire being reviewed and revised as suggested by the advisor to three experts to validate whether the questions are congruent with the research objectives or not. Item-objective Congruence Index (IOC) valued by the experts was at 0.98.

##### 2.4.2 Reliability

The questionnaire validated by experts was conducted a pilot study with 30 homogeneous samples to evaluate its reliability. The value of Cronbach's alpha coefficient was 0.93 indicating an applicable value.

#### 2.5 Procedure

The researcher contacted Grand Ballon d'or Football Club, Bang Khae District, Bangkok to ask for cooperation in gathering data. The data were collected from service users of Grand Ballon d'or Football Club during October 11-17, 2020, until the specified number of 360 users was reached. The returned questionnaire was checked and 100% complete.

#### 2.6 Data analysis

Descriptive statistics including percentage mean, and standard deviation were used for data analysis. In this regard, the interpretation of the mean criteria finding the range and stratum, then using the difference obtained to determine the criteria for measuring the opinion level as follows:

4.21-5.00 indicates an extremely high level

3.41-4.20 indicates a high level

2.61-3.40 indicates a moderate level

1.81-2.60 indicates a low level

1.00-1.80 indicates an extremely low level

## RESULTS AND FINDINGS

### 3. Results and Findings

#### 3.1 General information

Most respondents were male (98.89%), 35 years of age and up (56.11%), received a bachelor's degree (68.06%), were married (51.94%), worked in private companies (46.11%), and gained monthly income approximately 35,000 per month and up (36.67%).

#### 3.2 Results

Results of opinions' level towards the marketing mix factor were shown in table 1-8.

*Table 1: Mean and Standard Deviation of Market Mix Factors Rating Scale in General*

(n = 360)				
Marketing Mix	$\bar{x}$	S.D.	Opinions' level	Ranking
1. Product	4.09	0.75	High	1
2. Price	3.84	0.75	High	5
3. Place	4.00	0.74	High	3
4. Promotion	3.68	0.88	High	7
5. People	3.72	0.92	High	6
6. Physical Evidence	4.03	0.78	High	2
7. Process	3.92	0.76	High	4
<b>Total</b>	<b>3.90</b>	<b>0.81</b>	<b>High</b>	<b>-</b>

As shown in table 1, a mean and standard deviation of opinions' level towards marketing mix factors overall was at a high level ( $\bar{x} = 3.90$ , S.D. = 0.81). Considering each aspect separately, it was found that the aspect with the highest mean was the product ( $\bar{x} = 4.09$ , S.D. = 0.75), followed by the physical evidence ( $\bar{x} = 4.03$ , S.D. = 0.78). The marketing mix factor with the lowest mean was ( $\bar{x} = 3.68$ , S.D. = 0.88).

*Table 2: Mean and Standard of the Opinions' Level towards Product*

(n = 360)				
Marketing Mix Product	$\bar{x}$	S.D.	Opinions' level	Ranking
1. Artificial turf football field and equipment with high quality, standard, and availability.	4.22	0.68	Extremely high	1
2. Numbers of artificial turf football fields are sufficiently available for service users' demands.	4.11	0.71	High	2
3. the artificial turf football field with sufficient facilities available for service users.	4.09	0.73	High	3
4. Artificial turf football field provides shops and other services.	3.93	0.86	High	4
<b>Total</b>	<b>4.09</b>	<b>0.75</b>	<b>High</b>	<b>-</b>

Table 2 showed that the mean and standard deviation of the opinion level towards the product in the marketing mix was at an extremely high level ( $\bar{x} = 4.09$ , S.D. = 0.75). When considering each aspect, it was found that the aspect with the highest mean was artificial turf football fields and equipment with good quality, standard, and availability ( $\bar{x} = 4.22$ , S.D. = 0.68), followed by numbers of artificial turf football fields sufficiently available for service users ( $\bar{x} = 4.11$ , S.D. = 0.71). The aspect with the lowest mean was the artificial turf football fields with additional shops and services ( $\bar{x} = 3.93$ , S.D. = 0.86).

Table 3: Mean and Standard of the Opinions' Level towards Price

(n = 360)

Marketing Mix Price	$\bar{x}$	S.D.	Opinions' level	Ranking
1. Rental price is reasonable.	3.97	0.67	High	1
2. Various payment methods such as Cash, credit card, QR code, and prompt pay.	3.86	0.89	High	3
3. The subscription fee is reasonable.	3.87	0.69	High	2
4. Service fee is cheaper than other providers.	3.65	0.73	High	4
<b>Total</b>	<b>3.84</b>	<b>0.75</b>	<b>High</b>	-

Table 3 showed that the mean and standard deviation of the opinions' level toward marketing mix factor in terms of price was at a high level ( $\bar{x} = 3.84$ , S.D. = 0.75). Considering each aspect separately, the reasonable price received the highest mean ( $\bar{x} = 3.97$ , S.D. = 0.67), followed by a reasonable price of a subscription fee ( $\bar{x} = 3.87$ , S.D. = 0.69) while providing service with cheaper fee received the lowest mean ( $\bar{x} = 3.65$ , S.D. = 0.73).

Table 4: Mean and Standard of the Opinions' Level towards Place

(n = 360)

Marketing Mix Place	$\bar{x}$	S.D.	Opinions' level	Ranking
1. The football field is located near the community, residence, and workplace.	4.12	0.70	High	2
2. Traveling to the stadium is convenient.	4.14	0.65	High	1
3. Notification of directions via social media.	3.78	0.82	High	4
4. Reservation service via phone, line, and informing users when having a cancellation.	3.94	0.71	High	3
<b>Total</b>	<b>4.00</b>	<b>0.74</b>	<b>High</b>	-

Table 4 illustrated that a whole picture of the mean and standard deviation of the opinions' level toward the place in the marketing mix was at a high level ( $\bar{x} = 4.00$ , S.D. = 0.74). Considering each aspect separately, the convenience of traveling to the football field gained a high level at ( $\bar{x} = 4.14$ , S.D. = 0.65), followed by the football field located near the community, residence, and workplace ( $\bar{x} = 4.12$ , S.D. = 0.70). The aspect with the lowest mean was the notification via social media ( $\bar{x} = 3.78$ , S.D. = 0.82).

Table 5: Mean and Standard of the Opinions' Level towards Promotion

(n = 360)

Marketing Mix Promotion	$\bar{x}$	S.D.	Opinions' level	Ranking
1. Having a discount for annual members.	3.86	0.78	High	1
2. Providing Public relations and advertisements in various media.	3.64	0.85	High	3
3. Organizing interesting football tournaments.	3.74	0.87	High	2
4. Providing football experts for service users.	3.48	0.97	High	4
<b>Total</b>	<b>3.68</b>	<b>0.88</b>	<b>High</b>	-

As shown in Table 5, the mean and standard deviation of the opinions' level towards the promotion was at a high level ( $\bar{x} = 3.68$ , S.D. = 0.88). The findings were found that the aspect with the highest mean was a discount for an annual membership ( $\bar{x} = 3.86$ , S.D. = 0.78), followed by organizing interesting football tournament activities ( $\bar{x}$

= 3.74, S.D. = 0.87), while the aspect with the lowest average was providing football experts to give advice to service users ( $\bar{x}$  = 3.48, S.D. = 0.97).

Table 6: Mean and Standard of the Opinions' Level towards People

(n = 360)

Marketing Mix People	$\bar{x}$	S.D.	Opinions' level	Ranking
1. Staff provide service willingly and quickly.	4.06	0.80	High	1
2. Staff are knowledgeable and skillful in playing football.	3.56	0.97	High	4
3. Staff with a clean and polite dress.	3.65	0.88	High	2
4. Staff greet the service user every time they come in contact.	3.62	0.95	High	3
<b>Total</b>	<b>3.72</b>	<b>0.92</b>	<b>High</b>	<b>-</b>

As shown in Table 6, the mean and standard deviation of opinions' level towards the people in the marketing mix was at a high level ( $\bar{x}$  = 3.72, S.D. = 0.92). Considering each aspect separately, staff providing service willingly and quickly received the highest mean at ( $\bar{x}$  = 4.06, S.D. = 0.80), followed by staff who were clean and politely dressed ( $\bar{x}$  = 3.65, S.D. = 0.88). The lowest mean score was staff with football knowledge and skills ( $\bar{x}$  = 3.56, S.D. = 0.97).

Table 7: Mean and Standard of the Opinions' Level towards Physical Evidence

(n = 360)

Marketing Mix Physical Evidence	$\bar{x}$	S.D.	Opinions' level	Ranking
1. Design and decoration of artificial turf football field with realistic colors.	4.37	0.60	Extremely high	1
2. Artificial turf football field feels like playing in a real grass field.	4.03	0.72	High	2
3. Car parking is convenient and sufficiently available.	3.79	0.87	High	4
4. Cleanliness is maintained in service areas.	3.94	0.80	High	3
<b>Total</b>	<b>4.03</b>	<b>0.78</b>	<b>High</b>	<b>-</b>

Table 7 showed mean and standard deviation of the opinions' level towards the physical evidence in the marketing mix, in general, was at a high level ( $\bar{x}$  = 4.03, S.D. = 0.78). When considering each aspect separately, it was found that the highest mean was the design and decoration of the artificial turf football field with realistic colors ( $\bar{x}$  = 4.37, S.D. = 0.60), followed by artificial turf football fields that felt like playing on a real grass field ( $\bar{x}$  = 4.03, S.D. = 0.72). The aspect with the lowest mean was convenient and sufficient ( $\bar{x}$  = 3.79, S.D. = 0.87).

Table 8: Mean and Standard of the Opinions' Level towards Process

(n = 360)

Marketing Mix Process	$\bar{x}$	S.D.	Opinions' level	Ranking
1. The field and facilities are properly planned.	3.98	0.75	High	1
2. A systematic procedure for accessing the service.	3.87	0.69	High	3
3. Accepting opinions and feedback of service users and bringing to continuously improve service quality.	3.85	0.85	High	4
4. Regularly develop and maintain a standard of equipment available to be used.	3.98	0.77	High	1
<b>Total</b>	<b>3.92</b>	<b>0.76</b>	<b>High</b>	<b>-</b>

As shown in Table 8, the mean and standard deviation of the opinions' level towards service process in the marketing mix as a whole was at a high level ( $\bar{x} = 3.90$ , S.D. = 0.81). Given the process in the marketing mix, the aspects with the highest mean were the football field and facilities with proper plans ( $\bar{x} = 3.98$ , S.D. = 0.75), and regular development and standard equipment available to be used ( $\bar{x} = 3.98$ , S.D. = 0.77), followed by a systematic procedure for accessing the service ( $\bar{x} = 3.87$ , S.D. = 0.69), while accepting service users' opinions and recommendations, and bringing them to continuously improve service quality received the lowest mean ( $\bar{x} = 3.85$ , S.D. = 0.85).

## CONCLUSION

### 4. Conclusion

#### 4.1 General information

Classified by gender, most respondents were male, aged 35 years and over, received a bachelor's degree, being married, worked in private companies with a monthly income of more than 35,000 Baht.

#### 4.2 The opinions' level on the marketing mix

The opinions' level on the marketing mix overall was at a high level. When considering each aspect separately, it was found that the aspect with the highest mean was the product, followed by the physical, the place, the process, the price, the people, and promotion, respectively. when considering each aspect separately, all 7P's were summarized in descending order as follows:

##### 4.2.1 Products

Products, the artificial turf football fields, and equipment with quality, standards, and availability to be used.

##### 4.2.2 Price

Price, the reasonable rental rate for artificial turf football fields.

##### 4.2.3 Place

Place, convenience for traveling to artificial turf football fields.

##### 4.2.4 Promotion

Promotion, a discount for annual members.

##### 4.2.5 People

People, the staff providing service willingly and quickly.

##### 4.2.6 Physical evidence

Physical evidence, the design, and decoration of the artificial turf football fields with realistic colors.

##### 4.2.7 Process

Process, proper plans of football field and facilities, regular development, and standard equipment available to be used.

## DISCUSSION

### 5. Discussion

Overall, the opinions' level on the marketing mix factor was found to be at a high level. When considering each aspect separately, it was found that the aspect with the highest mean included the product, followed by the physical, the place, the process, the price, the people, and promotion respectively. Sereerat (2009), Pongsakornrunsilp (2014), and Kuntontbutr (2020) have discussed the marketing mix of service businesses

that consists of 7 P's including Product, Price, Place, Promotion, People, Physical Evidence, and Process of Service. Development of the marketing mix for the service business should take into account service users' demands to meet the primary preferences, characteristics, and behavior of the service users. the needs of service users as much as possible to match the characteristics and behavior of service users to make them satisfied and return to use the services provided continuously.

### **5.1 Product**

According to results, the aspect of artificial turf football fields and equipment are of high quality, standard, and available to be used are emphasized, which is consistent with the research conducted by Saengswat (2015), which shows that the marketing mix significantly affects selection behavior artificial turf football field in Hua Hin District, Prachuap Khiri Khan Province. What's more, the product aspect with the highest mean in the marketing mix is significantly consistent with Thitseeang (2016), revealing that the product in the marketing strategies affects the selection of artificial turf football field services in Muang district, Chiang Mai province.

### **5.2 Price**

A reasonable price for the service of artificial turf football fields is considered one of the most difficult factors affecting decisions making to use the service. The result is consistent with Phetsakda's (2014) study on factors affecting the selection behavior of artificial turf football field of the service users in Chiang Mai which found that price was the marketing factor significantly affecting the selection behavior towards the use of artificial turf football field service.

### **5.3 Place**

The service users are concerned about the convenience and time of traveling to the football field. According to Pahirun (2011), the factor of the service marketing mix that affects working-age people in selecting an artificial turf football field in Chiang Mai is the place. The service users primarily consider the convenient transportation, lighting facilities in the football field, location near the community sources, etc.

### **5.4 Promotion**

An annual membership discount is considered an important factor that can increase the number of service users, which is consistent with a study conducted by Kiatdonmueang (2015). The results of the study revealed that promotion was considered one of the competitive strategies that created a competitive advantage in the indoor football field business in Bangkok.

### **5.5 People**

The opinions level towards the people in the marketing mix was at a high level, emphasizing willingness and promptness to provide service. The result in this aspect was consistent with a study of Soisa-ard, Wangbenmad, and Limyothin (2015), specifying that the people in the marketing mix influenced decision-making to return to use the service of the artificial turf football field in Hat Yai, Songkhla province.

### **5.6 Physical evidence**

The design and decoration of the artificial turf football field with realistic color are also considered one of the most attractive factors for the service users. This was in line with the research conducted by Kaewmorakot (2015) on guidelines for improving the quality of services for artificial turf football field business in Chonburi province showing that prioritizing the service users' demands towards service quality put in descending order, the physical environment of the field, facilitation services, price, payment, sales promotions, confidence in the performance and behavior of staff, accessibility, convenience, reliability, and management, respectively.

## 5.7 Process

It was found that the service users placed on the proper layout of the football field, facilities, and the development and maintenance of equipment to be standardized and available to be used simultaneously. This was consistent with a study conducted by Wuthinet (2017) that found that attitudes towards the service business in marketing mix factors were at a high level. The factor with the highest average was the process.

## SUGGESTIONS

### 6. Suggestions

6.1 The results of the study indicate that the marketing mix affecting the selection of the service of Grand Ballon d'Or Football Club is the product, the artificial turf football fields, and equipment with standard, high quality, and availability to be used simultaneously. Therefore, the football field service providers should basically focus on the maintenance of football fields and equipment to be of high quality following the standards and available to be used all the time.

6.2 Additional qualitative research with interviews informed by stakeholders such as entrepreneurs, staff, and service users should be conducted to gain insights for further development of the artificial turf football field business.

## REFERENCES

- Kaewmorakot, S. (2015). *A guideline for developing service quality of artificial turf football fields business in Chonburi province*. M. Sc. Program in Exercise and Sport Science. Faculty of Sports Science, Burapha University.
- Kiatdonmueang, P. (2015). Strategic of indoor football field business. *Journal of Pacific Institute of Management Science*, vol. 1(2), pp. 69-83.
- Kuntonbutr, S. (2020). *Marketing management marketing technology*. Bangkok: Publisher of Chulalongkorn University.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities, *Educational and psychological measurement*, vol. 30, pp. 607-610.
- Nakasiri, P. (2011). *A study of the management of indoor artificial soccer field business in Bangkok and its perimeter*. M.S. Program in Sports Science. Faculty of Sports Science, Chulalongkorn University.
- National Statistical Office, Ministry of Information and Communication Technology. (2016). *The 2015 Physical Activity Survey*. Bangkok: National Statistical Office.
- Pahirun, A. (2011). *Services marketing mix affecting people in working ages towards choosing artificial-grass football fields for rent in Chiang Mai province*. M.B.A. Program in Graduate School, Chiang Mai University.
- Phetsakda, T. (2014). *Factors effecting behaviors on the selection of artificial grassed soccer field of users in Chiang Mai province*. M.B.A. Program in Graduate School, Maejo University.
- Pongsakornrunsilp, S. (2014). *Principles of marketing*. Bangkok: Top. (in Thai)
- Saengswat, V. (2015). *The marketing services that affect the behavior use of artificial turf football field service Hua Hin district, Prachuap Khiri Khan province*. M.B.A. Program in Graduate School, Stamford International University.
- Senawat, W. (2013). Effective service model of artificial grass indoor football fields in Bangkok metropolitan. *Suddhiparitat*, vol. 27(83), pp. 78-96.
- Sereerat, S. (2009). *Marketing management*. Bangkok: Tammasan.

- Soisa-ard, K., Wangbenmad, C., and Limyothin, P. (2015). The service marketing mix factors influencing customers' repurchase decision-making in artificial grass soccer field in Munng Hatyai, Songkhla province. *The 6th Hatyai National and International Conference. Online Conference*, Hatyai University.
- Tanpipataree, T. (2015). *The project of football life arena*. M.A. Program in Entertainment Management and Production. Graduate School, Bangkok University.
- Thitseeseang, S. (2016). *Marketing strategies effecting the selection to use artificial turf football fields in Muang district, Chiang Mai province*. M.B.A. Program in Graduate School, Maejo University.
- Wuthinet, A. (2017). *The factors influencing decision-making in artificial grass soccer field in Munng Nakhon Ratchasima province*. M.Econ. Program in Graduate School, University of the Thai Chamber of Commerce.

# COVID-19 AND AN OPPORTUNITY FOR CREATIVITY IN LANGUAGE CLASSROOMS

**SALINEE ANTARASENA**

*Faculty of Faculty of Management Science, Silpakorn University, Thailand*

*Email: dr.maia@maia-antarasena.com*

## ABSTRACT

The Covid-19 pandemic has forced most schools and higher institutions, if not all, to welcome an abrupt switch—an unprecedented crisis in all areas which entirely shifts their centuries-old traditional pedagogical approach to a more resilient learning approach, so their students can develop or maintain their self-efficacy while experiencing technology-assisted and self-regulated learning. In the case of Thailand, to reduce the spread of the coronavirus, educational institutions across the country have been calling for potential scenarios that could nourish fuller technological disruptions while tailoring alternative learning channels to support the country's evolving education policies. Because Thailand's National Development Plan aiming to compete more effectively in the global market environment is still in effect, educational institutions still mandate that students learn English. In normal circumstances before the pandemic outbreak, face-to-face approach earned a high regard in language classroom, to establish a good rapport with the learners. Hence, today the readiness for the 'new normal' English language classroom environment is unquestionably essential. This study investigated some adjustments of language pedagogy during this pandemic crisis. It started from a very simple curiosity of mine: (1) Are there any examples of educational institutions whose adaptations can be lauded alongside their creative improvisation of their existing resources? And (2) Will such attempt need any newly-defined learning assessment? The study ends with a discussion of possible outcomes when the implementation of this alternative approach is more viable in larger scale.

**Keywords:** ELT market, Creative Improvisation, Innovation Management

## INTRODUCTION

Although learning technically happens all the time, academic achievement does not. Instead, teachers typically play an important role in fostering deeper engagement of the learners in education settings, especially when affected by the COVID-19 pandemic. In Thailand, only months after the country's first large-scale outbreak in 2019, the normal operation of the educational institutions was severely quashed. In order to protect their students from proliferating contamination during the coronavirus blossoms, social distancing started becoming a normal practice, so some institutions threw themselves into a deep end of online classroom settings while others with technological constraints to a certain extent reported using an "on-hand" approach as their most favourable educational setting.

While traditional classroom has been shut for an indefinite period and it is not uncommon today to find parents voicing their serious concerns over mental health and

academic decline of their children whose traditional learning has been pushed aside in favour of online learning environment, from teaching pedagogy to examination methods, the efforts of other educational alternatives have not fallen short. *Kaeng Khoi School* in Saraburi province, for example, has introduced their way of creative improvisation for their instructional arrangement and learning support modification, from the introduction of OBS (Open Broadcaster Software) and the use of social media to track students' academic learning and preference before tailoring the support, to learning material and learning time adjustment in order to maintain and enhance the engagement of the students in their new-normal settings. *Rachinee Burana School* in Nakhon Pathom province as well as *Faculty of Education at Ramkhamhaeng University* are among good examples of educational institutions that could execute activities well compromised with their strong adoption of preventive measures to prevent the potential spread of the virus. High-level adaptations of their students towards the changing perception of their learning settings cannot be overlooked.

However impressive, such adaptation has not yet been implemented in a larger scale, much less the adjustments for English language classrooms. An obvious example to fix the current situation could be the additional tax incentives offered by Thailand Board of Investment (BOI) to the adjustment-investing plants, which have poured into those of the so-called STEM subjects. Specifically, the companies engaged in Human Resource Development (HRD) investment—in the establishment of education or vocational training institutes specializing in science, technology, engineering and mathematics (STEM)—will financially assisted by Thailand's BOI, a recognizable level of encouragement, so much so that the companies could be eligible to be granted at least five-years corporate income tax exemption.

How about the future of Thailand's English language classrooms? In the latest study regarding the English proficiency of Thai students, Chuanpongpanich reported in his study (2021) that even before the pandemic, among the ASEAN members, the English proficiency of Thai students was reported to be relatively low, compared to other members. Then, after the pandemic hit, the English proficiency level of Thai students is continuing its downward and this has put the blame on the the government for its lack of modernising teaching methods and curriculum. In a word, if we consider the country's investment on language classroom as an investment in real business setting while looking into the English proficiency level as the investment return, it is quite obvious that the investments have already turned sour and the country's high-ups as disgruntled investors could be unlikely to keep further faith but tempted to give up on this investment to cut the loss. However, up to present, English language is still one of the five main subjects according to Office of the Basic Education Commission (OBEC).

Why English outlasts their souring investment return, and why not new investment in other foreign languages commonly taught in school such as Chinese? That is because since the official establishment of the ASEAN Community in 2015, Thailand, as a member of ASEAN, has promised to keep pace with the growth of other member countries in the ASEAN Community, hence, conformed to the Article 34 of the ASEAN charter indicating that "The working language of ASEAN shall be English."

Perhaps, the country should bring forward more serious investments into Tech Education (Tech Ed) resources? At this stage of technological leapfrogging in Thailand, closing the gaps of technological constraints among learners already in the country's educational system alone could reach as much as 98bn THB (approximately 293 million USD), despite higher possibility of the budgetary restrictions during this uncertain time

for further possible contingencies and looming success of return on investment (ROI) as the full delivery of Tech Ed of this scale has never before been fully investigated. Hence, to date, such Ed Tech investment has never yet implemented.

Then, what else can we do?

This brought up the first set of question to this study: *Are there any examples of educational institutions whose adaptations have been lauded alongside their creative improvisation of existing resources? And after the implementation, is there any need to redesign newly-defined learning assessment to measure the educational return of their adjustment?* After a thorough investigation, one example stood out: *the Faculty of Arts of University of Calgary in Alberta (Canada)*, which offers a more convenient baseline for tailoring the online teaching and learning delivery to captivate the interactivity in the changing classroom setting among their students and to incorporate the experience of the students and their learnings. This study investigated the practicalities of their adjustments of language pedagogy during the pandemic crisis and this brought up the second set of question to this study: *How their newly-invented pedagogical approach relying most on their existing resources could create engaging online learning spaces? Could their pedagogical approach marshal the calibration of language learning in new light, especially in Thailand's setting?*

During the pandemic at Faculty of Arts of University of Calgary, teachers and students worked side by side to seek after more possible kinds for their virtual class engagements. The pivot in teaching forced the professors to genuinely covet instructional innovation in their courses. For example, in German phonetics class, the professor assigned the students weekly video journals, with a list of questions that the students could chose to answer in German. That way, even in the absence of face-to-face interaction during the pandemic, each student was encouraged to practise German with the teacher. That also helped the teacher to track the language progress of each student. Facial nuances during Zoom classroom sessions is still gold, but the professor had substantially bettered the face-to-face live classes by tasking the students with dubbing silent videos which allowed them a fuller room to be creative while practising the target language, German. In Philosophy of Logic class, the professor teamed up with a professor teaching similar class at other educational institution, University of Victoria. To create a lively learning community, they invited their students at both universities to enjoy each other's Zoom classes and shared online discussion board. More interestingly, instead of arbitrarily assigning grades to each assessment, a "specifications-based" grading system and the use of tokens that their students could use to request extensions or reassessment of their assignments were introduced in these classes. To acquire the tokens, their students were well informed to complete and pass a certain amount of assessments which corresponded with the week's learning goals, including timed exam-like questions and a range of problem sets.

While the learning outcome here looks promising, the latter part of the last question (*Could their pedagogical approach marshal the calibration of language learning in new light, especially in Thailand's setting?*) is still left unanswered. This brings the study to the last set of question: *What could be the major obstacle to language learning classroom in Thailand's setting? And what can we do within such limitations?*

Several studies support that progress of the learner towards online teaching-learning delivery could be related to the extent to which the learners would engage in autonomous or self-regulated learning (Smith et al., 2003; Abuhassna et al., 2020; Alenezi, 2020; Joosten et al., 2020; Cheon et al., 2021; T. Muthuprasad et al., 2021), and thus

making the interaction between teachers and learners as a key factor in creating a considerable impact on the learner's perceptions of online learning—specifically, the capability of the interaction with the teachers to promote critical thinking ability and information processing (Picciano, 2002; Hay et al., 2004), the flexibility of online learning and the chances of engaging with teachers and students taking the same courses in online learning settings (Wise et al., 2004; Kim et al., 2005; Donahoe et al., 2019; Heo et al., 2021). Other studies also support that there could be no significant difference between online learning and face-to-face class with regard to the learner's satisfaction and online class could be as effective as traditional class when the course content is curated to online environment appropriately (Allo, M. D., 2020; Agarwal et al., 2020; Atmojo et al., 2020). In Thailand's setting, while the English curriculum is already infamous for its unsuccessful attempt in helping the students to earn decent scores compared to those from other member countries, when virtual classrooms has become the new normal, **the country's unstable internet connection** has been reported, now as the largest obstacle, exacerbating an already problematic situation.

The study used this basic framework to understand the learner's perception regarding online education and then drafted out a more alternative instructional approach, which (1) proposes a redesigned pedagogical approach of English language and (2) within certain time constraints, promises to progress certain language skills according to the course requirements.

## RESEARCH METHODOLOGY

### a. Participants and Procedure

This study recruited 32 students, or around 10% of the total student in one language course at our university. They are Thai-natives and all of them have already completed A1, according to the CEFR level. The challenges here included one, the time limit for stable internet connection from their home, which is around 2 hours at most, and two, the graduation requirement for their English proficiency level, to earn at least a B2 of CEFR. Therefore, the objective of this study was set, that is, in two hours, we decided to create a capability leap of listening comprehension skill of these students, from their original A1 to B2 level.

We used Zoom for this class. The questions and responses were administered and taken via Google Classroom. The content of the structured conversations included CEFR A2, B1 and B2, respectively. Previously, students described their struggle to catch every word of the whole chunk of the assessment test during the listening practice sessions in ordinary classes. Therefore, after the preliminary assessment (A1), the study invited the students to spend around 30 minutes to enjoy a mini fill-in-gaps activity—in which they learnt which part in a chunk they would need to pay attention to while listening; which part, they would not; and which part, they could even figure out what has gone missing. All the responses were documented and analysed for the changes in both assignments within the allocated time frame.

## RESULTS

The results are quite impressive and the key results are presented below (Table 1).

A2	24 🇧🇩	75% 🇧🇩
B1	19 🇧🇩	59.37% 🇧🇩
B2	16 🇧🇩	50% 🇧🇩

**Table 1. Results of Listening Skill Assessment after Fill-in-Gaps activity**

As indicated in Table 1, the results reported that within the time allocated, no less than 50% of all participants across three levels could score higher after following the new pedagogical approach, with the highest leap at their current level or A2. Clearly, with the two-hour session of this approach, the learning takes lesser time to stay connected while achieving to higher the scores of all participants. It should be noted that while the advanced statistical method might seem to display a more sophisticated interpretation, because the only criteria for the students to join this study is their passing score of A1 level, therefore there is a large deviation in a data set here; hence, for the time being, this is the best measure to answer the research questions of this study. It should be noted also that as the stable internet connection is the biggest challenge in virtual classroom in Thailand's setting, it is not exaggerating to say that with this approach, chance for students living in the area with unstable internet connection to achieve the proficiency level as a requisite for their graduation could also be higher.

## CONCLUSION

The result of this study suggests the need for us teachers to redesign not only the pedagogy approach but also the assessment of certain skills from our students. In normal circumstances, we could give them our best educational tools and time, but during this pandemic crisis, not every student could afford the same learning environment as we would do for them. Most importantly, we must not forget the fact that for the time being, our students would need longer time to study in isolation.

Like other Asian nations—now still grappling to balance restrictions in order to halt the rapid spread of COVID-19 against the need to resuscitate the nation's economy and to maintain financial stability by welcoming back holidaymakers to tourist attractions, and students, to classrooms. In the case of Thailand, this devastating pandemic has already entailed a sustainable new normal in the country's educational system, with unavoidable trade-offs and hard choices. It is now still too early to capitulate, especially amid the ongoing pandemic. For students, they should be opted for more alternative instructional approaches which could afford them more room to exercise their creativity, perhaps in a more cooperative-learning environment.

By and large, this study presents how language classroom in Thailand requires more than just some technology choices. We hope this study will be a start button to encourage more teachers to redesign their classroom settings.

## REFERENCES

- Alenezi, A. (2020). The relationship of students' emotional intelligence and the level of their readiness for online education: A contextual study on the example of university training in Saudi Arabia. *The Education and science journal*, 22(4), 89-109.
- Abuhassna, H., Al-Rahmi, W., Yahya, N., Zakaria, M., Kosnin, A., Darwish, M. (2020). Development of a new model on utilizing online learning platforms to improve students' academic achievements and satisfaction. *International Journal of Educational Technology in Higher Education*, vol. 17(1), 1–23.
- Agarwal, S., Kaushik, J. S. (2020). Student's Perception of Online Learning during COVID Pandemic. *The Indian Journal of Pediatrics*, vol. 87, 554.
- Allo, M. (2020). Is the Online learning good in the midst of Covid-19 Pandemic? The case of EFL learners. *Journal Sinesthesia*, vol. 10(1), 1-10.
- Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, vol. 12(20), 1-34.
- Atmojo, A., & Nugroho, A. (2020). EFL classes must go online! Teaching activities and challenges during COVID-19 pandemic in Indonesia. *Register Journal*, vol. 13(1), 49-76.
- Donahoe, B., Rickard, D., Holden, H., Blackwell, K., Caukin, N. (2019). Using EdTech to enhance learning. *International Journal of the Whole Child*, vol. 4(2), 57–63.
- Clark, A., Nong, H., Zhu, H., & Zhu, R. (2020). Compensating for academic loss: Online learning and student performance during the COVID-19 pandemic. *China Economic Review*, vol. 68, 101629.
- Dhawan, S. (2020). Online Learning: A Panacea in the time of COVID-19 crisis. *Journal of Educational Technology System*, vol. 49 (1), 5–22.
- ECLAC-UNESCO (2020). Education in the time of COVID-19. [Online]. Available at <https://www.cepal.org/en/publications/45905-education-time-covid-19>
- Ferraro, F., Ambra, F., Aruta, L., Iavarone, M. (2020). Distance Learning in the COVID-19 Era: Perceptions in Southern Italy. *Education Sciences*, vol. 10(12), 355.
- Firat, M., Bozkurt, A. (2020). Variables affecting online learning readiness in an open and distance learning university. *Educational Media International*, vol. 57(2), 112-127.
- Heo, H., Bonk, C., Doo, M. (2021). Enhancing learning engagement during COVID -19 pandemic: Self-efficacy in time management, technology use, and online learning environments. *Journal of Computer Assisted Learning*, vol. 37(6), 1640-1652.
- Hassan, M. (2021). Online Teaching Challenges during COVID-19 Pandemic. *International Journal of Information and Education Technology*, 11(1), 41-46.
- Hay, A., Hodgkinson, M., Peltier, J., Drago, W. (2004). Interaction and virtual learning. *Strategic Change*, vol. 13(4), 193-204.
- Hunter, J., Ross, B. (2019). Does increased online interaction between instructors and students positively affect a student's perception of quality for an online course? *Journal on Empowering Teaching Excellence*, vol. 3 (2), 4.

- Jena, P. (2020). Online Learning during Lockdown Period for Covid-19 in India. *International Journal of Multidisciplinary and Current Educational Research*, vol.9, 82.
- Cheon, J., Cheng, J., Cho, M. (2021). Validation of the online learning readiness self-check survey. *Distance Education*, vol. 42 (4), 599-619.
- Karalis, T. (2020). Planning and evaluation during educational disruption: lessons learned from Covid-19 pandemic for treatment of emergencies in education. *European Journal of Education Studies*, vol. 7(4), 125-142.
- Kim, K., Liu, S., Bonk, C. (2005). Online MBA students' perceptions of online learning: Benefits, challenges, and suggestions. *Internet and Higher Education*, vol. 8(4), 335-344.
- Motz, B., Quick, J., Wernert, J., Miles, T. (2021). A pandemic of busywork: Increased online coursework following the transition to remote instruction is associated with reduced academic achievement. *Online Learning*, vol. 25(1), 70-85.
- Muthuprasad, T., Aiswarya, S., Aditya, K. S., Jha, G. K. (2021). Students' perception and preference for online education in India during COVID -19 pandemic. *Social Sciences & Humanities Open*, vol. 3(1), 100101.
- Nurohmat, N. (2020). The Effect of Online learning on students' English learning achievement. *Scripta: English Department Journal*, vol. 7(2), 58-65.
- Picciano, A. (2002). Beyond Student Perceptions: Issues of interaction, presence, and performance in an online course. *Journal of Asynchronous Learning Networks*, vol. 6, 21-40.
- Maijo, S. (2021) Learners' perception and preference of open and distance learning mode at the Institute of Adult Education, Tanzania. *East African Journal of Education and Social Sciences*, vol. 2(3), 79-86.
- Singh, V., Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, vol. 33(4), 289–306.
- Smith, P., Murphy, K., Mahoney, S. (2003). Towards identifying factors underlying readiness for online learning: An Exploratory Study. *Distance Education*, vol. 24(1), 57-67.
- Sukman, K., Mhunkongdee, T. (2021). Thai EFL learners' voices on learning English online during the COVID-19 pandemic. *International Journal of English Language Teaching*, vol. 9(2), 1-9.
- Tan, C. (2021). The impact of COVID-19 on student motivation, community of inquiry and learning performance. *Asian Education and Development Studies*, vol. 10(2), 308–321.
- Joosten, T., Cusatis, R. (2020). Online learning readiness. *American Journal of Distance Education*, vol. 34(3), 180-193.
- Luu, T. (2021). Readiness for online learning: Learners' comfort and self-directed learning ability. *International Journal of TESOL & Education*, vol. 2(1), 213-224.
- Volery, T., Lord, D. (2000). Critical success Factors in Online Education. *International Journal of Educational Management*, vol. 14 (5), 216–223.
- Wei, H., Chou, C. (2020). Online learning performance and satisfaction: do perceptions and readiness matter? *Distance Education*, vol. 41(1), 48-69.
- Wise, A., Chang, J., Duffy, T., Del Valle, R. (2004). The effects of teacher social presence on student satisfaction, engagement, and learning. *Journal of Educational Computing Research*, vol. 31(3), 247–271.

# MANAGEMENT ELEMENTS FOR EXCELLENCE BASIC EDUCATIONAL SCHOOL

TANAWAT SRISIRIWAT<sup>1</sup>, BUNDIT PUNGNIRUND<sup>2</sup>

<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: tanawat.sr@ssru.ac.th*

## ABSTRACT

The study aimed to analyse management elements for excellence basic educational school. This is a documentary research using secondary data from documents and research studies related to concepts and theories of school management for excellence basic educational school. The criteria of Malcolm Baldrige National Quality Award (MBNQA), Thailand Quality Award (TQA), Baldrige Excellence Builder, McKinsey 7s Framework, Singapore's School Excellence Model (SEM) and recent research studies related to school management for becoming excellent schools were gathered, analysed and synthesized. The findings indicated that the management for excellence basic educational school consisted of 7 elements as follows: (1) leadership, (2) strategic planning, (3) student and stakeholder focus, (4) staff management, (5) result, (6) process management and (7) measurement, analysis and knowledge management.

**Keywords:** elements, management, basic educational school and excellence

## INTRODUCTION

Changes happen rapidly in today's society, and the global world is connected without borders. It is led to an intense competition in economy. Innovation especially technological innovation is developed to respond to today's changes, which affected our knowledge and ways of living in society. Thus, Thailand is needed an urgent development in every aspect through knowledge-based society and knowledge-based economy. School management in Thailand, basic educational school in particular, has designed to respond the current competitive conditions according to society's expectations. However, Thai educational system has failed to provide satisfaction in learning achievement of students in fundamental education level; the students' performance on testing results demonstrated much lower achievement scores than the average, and the scores were lower than the average scores of many countries in Asia (Office of the Education Council, 2017). Similarly, the Ordinary National Educational Test (O-NET) score of secondary students (Grade 7), academic year of 2020 showed that students' scores in other subjects, except Thai language, were below 50 out of 100, and Mathematics was the lowest when compared with other subjects (National Institute of Educational Testing Service, 2021). According to the above results, it is obvious that the development of excellence in education is needed in order to provide quality education for young generations to acquire skills that can compete in today's competitive society.

With the circumstances, school management should be a priority to be emphasized since it is a major part to enhance students' learning achievement. Sergiovanni (1991) said that an excellent school provides learners quality education, and a key to excellence derives from effective school management based on national and international criteria, for instance, the Malcolm Baldrige National Quality Award (MBNQA), Thailand Quality Award (TQA), McKinsey 7s Framework, Singapore's School Excellence Model (SEM) and studies related to school management. In other words, students with abilities and skills for the 21st century era can be resulted from effective school management. Therefore, we emphasize on analyse and synthesize elements of management for excellence basic educational school aiming to find out elements for future school management.

## LITERATURE REVIEW

School management is a significant process in learning and teaching at fundamental educational level. The process involves with bringing school to global standard which has to work in collaboration with school administrators, teachers, educators and local community aiming to design standardized lesson plan for setting quality in education, which will lead students to improve necessary skills in all aspect (Good, 1998; Batwman and Snell, 1999; Sergiovanni, 1991; Good, 1973 and Batwman and Snell, 1999). To achieve school management goal, the national and international criteria were analysed. Starting from the criteria of Malcolm Baldrige National Quality Award (MBNQA), it consists of 7 elements as follows: (1) leadership, (2) strategic planning, (3) student and stakeholder focus, (4) management, analysis and knowledge management, (5) workforce focus, (6) process management and (7) result (National Institute of Standards and Technology, 2008). The criteria of Thailand Quality Award (TQA) consists of 7 elements as follows: (1) leadership, (2) strategic planning, (3) parent focus, (4) knowledge management, (5) workforce focus, (6) operation focus and (7) assessment and improvement. Similar to Baldrige Excellence Builder (2021), the criteria consists of 7 elements as follows: (1) leadership, (2) strategy, (3) customer, (4) measurement, analysis and knowledge management, (5) workforce, (6) operations and (7) results. The elements of McKinsey 7s Framework include (1) structure, (2) strategy, (3) staff, (4) styles, (5) systems, (6) shared values and (7) skills (Waterman, 1982). The Singapore's School Excellence Model (SEM) includes 9 following elements; leadership, strategic planning, staff management, resources, student-focused processes, administrative and operational results, staff results, partnership and society results and key performance results (Singapore, 2000).

In addition, recent studies variously indicate about elements of management for excellence basic educational school in Thailand and other countries. Patrick Shipe (2011) pointed out that the management for excellent school comprised 7 elements; strategic planning, administrators, developing and solving problem systematically, developing an effective communication, parents, environment and staff. Also, Aziah Ismail, Abdul Ghani, Kanesan Abdullah (2012) studied elements of management for excellence national primary school, Ulu Lubai in Lumbang Sarawak, Malaysia which consisted of 3 elements; administrators, teachers and parents. Similar to Fulston Schools (2018), the study indicated 6 elements of a model of management for excellent school which included leadership, student and stakeholder focus, strategic planning, planning for educational support, human resources and performance results. Udom Chulewan and Chawalit Kerdthip (2016) found that excellent schools with global standard consisted of 3 main indicators: (1) students as a global citizen, (2) curriculum and teaching with global

standard and (3) management with quality based on global standard. Aram Wattana (2018) identified 7 elements of management for excellent schools under provincial administration organization as follows: (1) leadership of administrators, (2) quality of teachers, (3) strategic planning, (4) network, (5) quality of students, (6) management and (7) personnel development. Nararak Pradujprom, Sumet Ngamkanok and Sompong Panhoon (2019) studied a management model for primary schools in becoming excellence in literacy in the area under Eastern Region Office of Primary Education which consisted of 8 following elements: (1) leadership of the administrators, (2) strategies, (3) personnel recruitment and development, (4) learning process development, (5) learner and stakeholder focus, (6) management process, (7) interactive classroom environment and (8) implementation outputs. Pornnapa Poonsawat (2020) indicated 7 management components towards excellence of private schools in Khon Kaen province: (1) leadership, (2) strategic planning, (3) student and stakeholder focus, (4) measurement, analysis and knowledge management, (5) workforce focus, (6) operations focus and (7) result. In the same way with the study of Somtawin Roekngam and Suwit Panujaree (2020), the excellent administration model for the school administrators under the Bangkok Metropolitan Administration included 7 components: (1) structural management, (2) strategic management, (3) personnel management, (4) behavior of management method, (5) system and operating method, (6) common values and (7) personnel operation skills.

## RESEARCH METHODOLOGY

This study is a documentary research using secondary data from documents and research studies related to concepts and theories of management for excellent schools. Documents and research articles were gathered, analyzed and synthesized to find out management components for excellence basic educational schools.

## RESULTS AND FINDINGS

The document analysis of management elements for excellence basic educational school is shown in Tab. 1.

Table 1: The analysis of management elements for excellence basic educational school

Elements	MBNQA	TQA	Baldrige Excellence Builder	7s McKinsey	SEM	Patrick Shipe (2011)	Aziah Ismail (2012)	Fulston Schools ((2018	Udom Chulewan(2016)	Aram Wattana) 2018)	Nararak Pradujprom(2019))	Pornnapa Poonsawat(2020)	Somtawin Roekngam(2020))
1. Leadership	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
2. Strategic planning	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓
3. Student and stakeholder focus	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
4. Measurement, analysis, and knowledge management	✓	✓	✓								✓	✓	

Elements	MBNQA	TQA	Baldrige Excellence Builder	7s McKinsey	SEM	Patrick Shipe (2011)	Aziah Ismail (2012)	Fulston Schools ((2018	Udom Chulewan(2016)	Aram Wattana) 2018)	Nararak Pradujprom(2019) )	Pornapa Poonsawat(2020)	Somtawin Roekngam2020) )
.5 Workforce focus	✓	✓			✓			✓					
6. Process Management	✓	✓		✓					✓	✓		✓	✓
7. Result	✓	✓	✓		✓			✓			✓	✓	
8. Staff management			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
.9 Operations			✓										
.10 Structure				✓									✓
11. Shared values				✓									✓
.12 Skills				✓									✓
.14 Management					✓						✓		✓
.15 Social participation 1					✓								
.16 Process evaluation 1					✓								
.17 Developing and solving problem systematically						✓							
.18 Communication						✓							
.19 Network										✓			
.20 Environment						✓					✓		
.21Curriculum and teaching with global standard									✓				

From Tab. 1, the results showed that the management for excellence basic educational school consisted of 7 following elements: (1) leadership, (2) strategic planning, (3) student and stakeholder focus, (4) staff management, (5) result, (6) process management and (7) measurement, analysis and knowledge management.

## CONCLUSION

The result of the study of management for excellent schools, which consisted of 7 components; leadership, strategic planning, student and stakeholder focus, staff management, result, process management and measurement, analysis and knowledge management which the components were significant components of school management, appeared to be similar to the studies of Fulston Schools (2018), Nararak Pradujprom (2019) and Pornnapa Poonsawat (2020). Similarly, the studies of Ratchaprapa Phianbubpha, Linda Nakpoy and Nusin Rungdech (2016) indicated that the significant factors affecting to management of the Demonstration School of Rajabhat Rajanagarindra

University included quality of teachers, leadership of leaders, motivation in work, attitudes toward work and teamwork, respectively. In addition, Watcharapong Noummano and Kanchana Boonsong (2015) found that factors affecting to achievement with management of secondary school in Phetchaburi province under the Secondary Educational Service Area Office 10 consisted of (1) students, (2) teachers and (3) school administrators with a predictive success at 71.50 percent. Aunampai Passakchai, Chuanchom Chinatangkul and Kamolmal Chaisirithanya (2017) also studied the effectiveness of Seuksasongkroa school which included 4 components as follows: (1) academics, (2) enthusiasm in management, (3) abilities and competencies of teachers and personnels and (4) creative leadership. Furthermore, Nathakorn Phaomai, and Piangkae Poophaayang (2021) found that the major factors related to the effectiveness of schools were transformational leadership, motivation in work and organizational climate, respectively. The relationship between management factors and school effectiveness, for instance, transformative leadership, motivation in work and organizational climate, were found positive with the effectiveness of schools at a significant level of .01, and the correlation coefficient was shown between .599 - .760. Saknirund Wongsrikaew, Wichit Kummuntakun and Yuwathida Chapunya (2017) found that ICT, strategic plan, teacher and personnel and motivation were factors related to the effectiveness of private school management, a basic education level, in Yasothon province with a statistical significance at .01. Similar to the study of Udom Chulewan and Chawalit Kerdtip (2016), it showed that the excellent schools consisted of 3 components as follows: (1) students as a global citizen, (2) curriculum and teaching with global standard and (3) management with quality based on global standard. Also, the components of school management to become excellent based on Malcolm Bald ridge National Quality Award (MBNQA) consisted of 7 elements as follows: (1) leadership, (2) strategic planning, (3) student and stakeholder focus, (4) management, analysis and knowledge management, (5) resource focus, (6) process management and (7) result which each component was put into practice in schools, followed up and indicated indicators to reach school goals. Curriculum and learning management were shown in the components 1-6 while student attribute as a global citizen was shown in the component 7.

## **RECOMMENDATION/MANAGERIAL IMPLICATION AND LIMITATION**

The recommendation is suggested to consider the result of the study for implementing in schools with different school size and different contexts to investigate whether the outcomes appeared differently. Also implementing in schools can verify and confirm the effective management components for excellence basic educational school. In addition, it is recommended to further study on management model of basic education schools to excellence aiming for implementing in schools to enhance students' potential and academic achievement to reach a global standard.

### **Acknowledgment**

This success of this research is resulted from comments and guidance from experts, Thank you. I would also like to thank the Collage of Innovation and Management and the Research and Development Institute, Suan Sunandha Rajabhat University, Bangkok.

## REFERENCES

- Baldrige Excellence Builder. (2021). BALDRIGE EXCELLENCE BUILDER: Key questions for improving your organization's performance. [www.nist.gov/Baldrige](http://www.nist.gov/Baldrige).
- Baldrige National Quality Program. (2008). 2009-2010 Criteria for Performance Excellence. Retrieved from [http://www.nist.gov/baldrige/publications/upload/2009\\_2010\\_Business\\_Nonprofit\\_Criteria.pdf](http://www.nist.gov/baldrige/publications/upload/2009_2010_Business_Nonprofit_Criteria.pdf). (July 9, 2010).
- Batwman, T. S., and Snell, S. A. (1999). *Management: Building competitive advantage* (4th ed.). Boston: Irwin McGraw-Hill
- Chulewan, U., and Kerdtip, C. (2016). Components of Secondary School Management for World-Class Standard School. *Academic Services Journal, Prince of Songkla University*, 28(3), 36-47.
- Fulston Schools. (2018). Excellence Model. Retrieved from <http://www.fulschool.org/debt/prodev/leadership/model.html>. (January 10, 2019).
- Good, C. V. (1973). *Dictionary of Education*. New York: McGraw Hill.
- Good, C. V. (1998). *Dictionary of Education* (3rd ed.). New York: McGraw Hill.
- Institute for the Promotion of Teaching Science and Technology. (2021). Evaluation of PISA 2018: Literacy, Mathematics and Science. Bangkok.
- National Institute of Standards and Technology. (2008). *Burbidge National Quality Program Educational Criteria for Performance Excellence*. Gaithersburg, MD.
- Noummano, W. and Boonsong, K. (2015). The Factor Affecting to Achievement with Management on High School in Phetchaburi Province, High School Educational Service Area Office 10. *Veridian E-Journal, Silpakorn University*, Vol. 8 No.1 (January-April 2015), 1120-1131.
- Office of the Education Council. Ministry of Education. (2017). *Thailand Education Scheme B.E. 2560-2579*. Bangkok: Prik Whan Graphic.
- Passakchai, A., Chinatangkul, C. and Chaisirithanya, K. (2017). Components of The Effectiveness Welfare School. *Academic Journal Bangkokthonburi University*, Vol.6 No.1 January - June 2017, 136-144.
- Peter, T. J. and Waterman. R. H. (1982). *Insearch of Excellence*. New York: Harper & Row.
- Phaomai, N. and Poophaayang, P. (2012). Administrative Factors Affecting the Effectiveness of the Schools under Chaiyaphum Primary Educational Service Area Office 3. *NEU Academic and Research Journal*, Vol. 11 No. 2 (May-August 2021), 212-225.
- Poonsawat, P. (2020). A Study of Management Components towards the Excellence of Private Schools in Khon Kaen Province. *Journal of Educational Administration, Khon Kaen University*, 16(2), 53-65.
- Pradujprom, N., Ngamkanok, S., and Panhoon, S. (2019). Development of a Management Model for Primary Schools in Becoming Excellence in Literacy in the Area under Eastern Region Office of Primary Education. *Muban Chombueng Rajabhat University Research Journal (Humanities and Social Sciences)*, 7(2), (112-126).
- Phianbubpha, R., Nakpoy, L. and Rungdech, N. (2016). Factors Affecting the Administration of the Demonstration School Rajanagarindra Rajabhat University. *NRRU Community Research Journal Vol.10 No.3* ((September -

- December 2016) NRRU Community Research Journal Vol.10 No.2 (May - August 2016), 107-115.
- Roekngam, S., and Panujaree, S. (2020). An Excellent Administration Model for the School Administrators under the Bangkok Metropolitan Administration. *Journal of Humanities and Social Sciences Thonburi University*, 14(3), 147-159.
- Sergiovanni, J. (1991). *The principal ship: A reflective practice perspective*. Boston: Allyn and Bacon.
- Shipe, P. (2011). *Quality Management to Excellence*. Dissertation, Ph.D. West Michigan University.
- Wattana, A. (2018). *A Management Model for Excellence Basic Educational School under provincial administrative organization*. Doctor of Philosophy (Educational Administration). Nakhon Sawan Rajabhat University.
- Wongsrikaew, S., Kummuntakun W. and Chapunya, Y. (2017). Factors Affecting the Efficiency of Private Schools' Administration under Basic Education in Yasothon Province. *Journal of Roi Et Rajabhat University*, Vol. 11 No. 1 (January - June 2017), 79-88.

# CAPITAL INVESTMENT ANALYSIS FOR THE PRODUCT OF STARTUP COMPANY CASE STUDY: THE DETECTING PROGRAM FOR TRAFFIC LIGHT VIOLATION

**PIYADA DAOWADUENG<sup>1\*</sup>, JETSADA KUMPHONG<sup>2</sup>**

<sup>1</sup> *Khon Kaen Business School, Khon Kaen University, Thailand*

<sup>2</sup> *Faculty of Technical Education, Rajamangala University of Technology,  
Isan Khon Kaen Campus, Thailand*

*Email: piyadao@kku.ac.th*

## ABSTRACT

The objective of this research was to analyze the cost-effectiveness of the investment for detecting programs to monitor traffic light violations. The data was collected by interviewing the director of the JP Intelligence System Engineering Company Limited and the Khon Kaen Provincial Police Officers. The management accounting tools used in this research consisted of Payback Period, Net Present Value (NPV), and Internal Rate of Return (IRR). The finding was shown that with the 450,000-baht investment, the Payback Period would be at a duration of 1 year, four months, and two days. The Net Present Value (NPV) was gauged at 750,542.85 baht, greater than 0, indicating that this project can have a greater return on investment. Regarding the Internal Rate of Return (IRR), the finding shows 48.88%, higher than the discount rate (6.60 %). Accordingly, the investment was a profitable project since the project provided a short payback time with positive net present value and a high internal rate of return. Therefore, based on the cost-effectiveness analysis, the investment for detecting programs capable of reporting and investigating traffic violations has a greater financial advantage.

**Keyword:** Startup Company, Payback Period, Net Present Value, Internal Rate of Return, Capital investment analysis, New technology Product Development

## INTRODUCTION

Road accidents are one of the leading causes of injury and death, increasing every year. According to the report of the Office of Health Promotion and Reduction of Risk Factors, road accidents are one of the three major causes of mortality for Thai people. When considering the causes of road accidents, the drivers' behaviors, such as driving recklessly and violating traffic rules, were the sole contributors to road accidents. Road accidents have tragic results both for individuals and society.

Khon Kaen province is the sixth-largest province in the northeast with the third-largest population in the country, or about 1,802,872 people (Central Registration Office, 2019). In 2019, it was found that in Khon Kaen province, there were a total of 6,891

accidents, causing a total number of 7,818 injuries and fatalities (Accident Information Center, 2019). Many factors contribute to the causes of traffic accidents, which include violating traffic rules, such as running red lights, refusing to conform to road signs, and not wearing a helmet.

JP Intelligence System Engineering Co., Ltd. has created a traffic violations program to examine and report the cases of traffic light violations. The program can record the images of accidents, document traffic offenders' behaviors, and register those pictures on a database. This information can later be used in the process of issuing police warrants. Introducing this program to the traffic monitoring system should help lighten the duties of those individuals who supervise traffic regulations. The project has been proposed to organizations with the power to purchase, such as the Khon Kaen Provincial Administrative Organization, the Khon Kaen Municipality, and the Provincial Police Office Foundation. Despite the high efficiency of the program, it cannot guarantee that investing in this new technology product is more valuable for investors. Therefore, this research is investigated to analyze a cost-effective analysis of the traffic monitoring program. The data was collected from conducting interviews with the director of JP Intelligence System Engineering company and the police officers of the Khon Kaen Provincial Police Office. Then, the data were analyzed by using management accounting techniques (payback period, net present value, and internal rate of return) to evaluate the cost-effectiveness of the program. The results reveal that investing in this product is beneficial. The finding of this study is applicable to estimate the financial benefits of similar innovation technology products.

## LITERATURE REVIEW

### 2.1 Definition

#### 2.1.1 Cash Flow

Cash flow is the in-flow or the out-flow of cash or of other forms of exchange that is equivalent to cash. The received cash is known as cash flow in, while the paid cash is called cash flow out. There are two types of cash flow as described below:

**Negative cash flow** is expressed as the situation when the accumulation of the cash flow is negative due to the amount of money paid out in cash being greater than the amount of money received in cash (Thongsukhowong, 2011).

**Positive cash flow** occurs when the cash flow accumulation is positive, resulting from having a greater amount of received cash than cash paid out (Thongsukhowong, 2011).

#### 2.1.2 Discount Rate

Sektrakul (2008) explained that the discount rate is used to calculate the future value to the present value.

#### 2.1.3 Financial Costs

According to Pradabkul (2016), financial costs are costs or expenses incurred from financing allocation or from the business financial management, such as applying for loans. An entity's financial costs can vary, such as interest or fees.

## LITERATURE REVIEW

### 2.2 Literature review

#### 2.2.1 Startup

Sirisuttanan (2018) defines the term “startup” as an organization established to create a repeatable business model, and it is a rapidly growing business model. It is committed to developing new products or services within a highly unpredictable environment. Moreover, it is a new business that seeks to increase and solve the problems in its daily business life. The startup owners need to be responsive to the customers' needs by creating unique goods that offer an alternative to the conventional trends. Most startups nowadays are related to IT and technology.

JP Intelligence System Engineering Co., Ltd, is a **Software as Service** start-up. It has developed a ready-made software program, which can detect red light violations, and which can find people who do not wear helmets using the innovative Red Light Violation Detection System, Magic Eye 4.0. The technology functions by detecting cars that cross the stop line when the traffic light is red. If a vehicle exceeds the stop line, the program sounds an alarm. Then a camera records a picture and video of the offending vehicle and obtains its registration number.

#### 2.2.2 Payback Period

It is a method of financial appraisal, used to evaluate the capital project, calculates the return per year from the start of the project until the accumulated returns are equal to the cost of the investment, at which time the investment is said to have been paid pack (Lefley, 1996: 208). It is primarily used for capital investment communication and decisions.

Finding the payback period of an investment project is based on the value of the financial loss on the investment and the time that benefits will be returned from the investment. The calculation can be divided into two cases as follows:

- 1) The return or net cash inflow after tax is an equal amount earned every year throughout the project life. This can be calculated using the following equation:

$$\text{Payback Period} = \text{Initial investment} / \text{Annual net cash input after tax}$$

- 2) In case of differences in the annual net cash inflow, the cash flow calculation can be done by obtaining a figure of accumulated cash flow for each year. During the first year of investment, there would be a negative cash flow value. After receiving the statistics for each year's accumulated cash flow, each year's cash flow is deducted from the initial investment. The time when the result of the deduction leaves the accumulated cash flow with an exact value of 0 marks the precise year of the Payback Period. If the accumulated cash flow does not remain precisely at “0”, there is some positive figure remaining. The payback period can be detected by comparing the input cash flow in the negative year with that of the positive figure in the overlapping year. The proportion of the remaining cash flow is used to compare (Thongsukhowong, 2011a).

Given that the payback period is an indicator that can help make investment decisions, it is essential to assess the cost-effectiveness of installing the traffic violation monitoring and reporting program to determine the investment's payback period. If any

project has a short payback period, investors will quickly receive benefits from investing in that project.

### 2.2.3 Net Present Value

It is a method that calculates the difference in the present value of the expected future return based on the required minimum rate of return or the capital cost versus the initial cost. It can be calculated using the following equation:

$$NPV = \left( \sum_{t=1}^n \frac{C_t}{(1+r)^t} \right) - I$$

NPV = Net Present value

n = number of interest periods/number of years

I = Initial Investment

R = Interest Rate / Rate of Return

C<sub>t</sub> = Net cash flow received for each period

T = Year 1 to Year n

The decision to accept a project depends on the net cash flow, which must only be positive to confirm the worthiness of the investment. The positive future of net cash flow shows that the return on investment is higher than the required rate of return or greater than the cost of acquisition (Thongsukhowong, 2011b).

The net present value method is essential in the investment decision-making process. The net present value must be assessed to determine whether installing a program that monitors and reports traffic violation cases is worthwhile.

### 2.2.4 The Internal Rate of Return (IRR)

It is the rate of return expected to be received on an item to be invested in. IRR is a discount rate that makes the present value of the net cash inflow equal to the net investment cash. In this case, the NPV was equal to zero. When the IRR is greater than the financial cost, the investments are profitable and worth investing in. The higher IRR value indicates that the investment will be profitable. If the IRR is less than the financial cost, it means that the investment will not be profitable and should be rejected. When IRR is equal to zero, the investment is equal to the capital. Awirottananon (2018) demonstrated that it could compare IRR to the loan's interest rate. The project is worth the investment if the IRR is higher than the loan's interest rate. On the other hand, if the IRR is lower than the loan's interest rate, the project is not worth the investment.

#### The formula for the IRR Calculation

$$0 = -CF + \frac{CF_1}{(1+IRR)^1} + \frac{CF_2}{(1+IRR)^2} + \frac{CF_3}{(1+IRR)^3} + \frac{CF_n}{(1+IRR)^n}$$

CF = net cash flow per year, N = investment year

To assess the worthiness of investment in the program that monitors and reports cases of traffic light violations, it is necessary to calculate the internal rate of return to help the potential buyers make a purchasing decision.

Occasionally, there are conflicts between the NPV and IRR because of a great difference in the free cash flows in the first and the final years. Therefore, the analysts would use the NPV as the primary reference because it uses WACC, an actual cost of money that is more reasonable than the IRR (Chotinarumon, 2013).

### 2.2.5 Method for Estimation of Income

Sanitwong Na Ayuthaya (2005) reveals several methods to estimate incomes. It depends on many factors, such as the nature of the business, the cost of personnel budgeting, and the duration of the budget. The estimated income is as follows:

1) **The Casual Approach** is an estimation of income that is based on the factors, which affect business performance. All related factors are used as a foundation for the analysis of income.

2) **The Non-Casual Approach** estimates income, which is based on historical data. In this approach, it is assumed that all the factors affecting the past operations of the business will continue to have the same effect in the future. Statistical methods are used to help identify trends.

3) **The Indirect Approach** is a method for estimating revenue from all the sales that the industry is operating. The data is then evaluated according to the proportion of the business, which causes the company to be analyzed according to the specified policies, which includes making predictions about the movements of a business's competitors.

4) **The Direct Approach** is an estimation of income based on evaluating the necessity of commodities for consumption.

Since there is a limitation about income estimation, the non-casual approach was used for income estimation in this study.

### 2.2.6 Road Traffic Act, B.E. 2522

2.2.6.1 Section 22 of The Road Traffic Act of B.E. 2552 states that drivers must follow the traffic signs or road markings that appear in front of them in the following cases:

(1) When seeing the amber traffic light, the driver must prepare to stop the vehicle behind the stop line to prepare for the action in (2). However, if the driver has already passed the stop line when the amber light comes on, then the drive can proceed.

(2) When seeing a red traffic light or other stop signs, the driver must stop the vehicle behind the stop line.

(3) When seeing a green light traffic light or other green signs to mean "Go," the driver can continue driving unless there is another traffic instruction that is otherwise specified.

(4) When seeing a green arrow sign directing a driver to turn or to go straight, or when seeing a red light with a green arrow directing a turn or moving forward, the driver must drive with caution and must allow the pedestrians or the vehicles on the right side to go first.

(5) When seeing a flashing red light installed on any side of an intersection, the driver must stop the vehicle behind the stop line. When seeing that it is safe and there are no traffic obstructions, the driver should continue driving with caution.

(6) When seeing a flashing amber light at any location, the driver must reduce the vehicle speed and pass that road with caution.

A driver, who wishes to drive straight, must take the lane marked with the “go straight on” sign. A driver, who wants to make a turn, must enter the lane with a turning sign. All drivers must enter the desired lane immediately after seeing the notice signs (Office of the Council of State, 2019).

### **2.2.6.2 Rates of Traffic Fines**

According to the Road Traffic Act, when determining the amounts of the fines to be enforced for the traffic violators, The Royal Thai Police (2020) have accordingly specified the amounts of the penalties by the Road Traffic Act of B.E. 2522 as follows:

#### **"2 Characteristics of traffic signs and road signs**

Based on Article 25, Section 22, and Section 152, the following offensive traffic behaviors are subject to fines of 500 baht:

- (1) Not following the amber traffic signal.
- (2) Failing to follow the red-light signal or other red traffic signs with the word "Stop."
- (3) Failing to obey the green-light signal or other green traffic signs with the word "Go."
- (4) Failing to follow the green arrow light, which signals the drivers to keep going or to turn, and failing to follow the red light with the green arrow light, indicates making a turn or going straight.
- (5) Failing to follow the flashing red light.
- (6) Failing to follow the flashing amber light.

#### **17 Characteristics of Miscellaneous Violations**

In analyzing the cost-effectiveness of investing in the program that detects traffic light violations, the cash flow, which has been taken from the traffic violation fines, should be considered. Therefore, it is essential to understand the forms of violation and the rates of the penalties.

### **2.3 Prior Study related to Capital Investment Analysis**

Laopuangsak et al. (2011) studied the costs and benefits of a bypass Road Project on Route San Pa Tong - Hang Dong (Part 1) in Chiang Mai Province. This research study aimed at analyzing the costs, benefits, and economic value of the construction of this bypass. The results showed that the project had had an NPV of the cost for saving the use of cars at the rate of 52.59 million baht, while the value of saving travel time was rated at 234.0 million baht. The benefit value was 286.59 million baht. The NPV cost of 132.65 million baht resulted in an NPV value of 153.94 million baht. When an NPV value is greater than zero, a project is considered suitable for investment. The benefit and cost ratio were rated at 2.16, which is greater than 1. These results indicated that the investment was appropriate. Moreover, the IRR was found to be greater than the investment cost at 25.2%. Based on findings, it can conclude that the construction of the bypass would be a worthwhile investment.

Laopuangsak et al. (2013) analyzed the economic worthiness of an intersection project on Highway number 331 in Ban Nong Khla in the Sriracha District of Chonburi Province. The study aimed to investigate the benefit costs and the economic benefits of the section construction project. The study methodology consisted of a cost-benefit analysis and a financial worthiness analysis using NPV, the B/C ratio, and IRR. The results showed that the project had the following: 1) an NPV for car usage with a savings of 209.36 million baht, 2) a value of 130.32 million baht for saving travel time, and 3) a benefit value of 339.68 million baht. Moreover, the cost's present value of 105.99 million baht led to the NPV of 233.69 million baht, while the ratio of benefit and cost was 3.20, and the IRR value was 35.9 percent. This figure shows that the NPV value is greater than zero. The ratio of benefit and cost was more significant than 1, and the IRR was greater than the investment cost by 12 percent. The results indicated that the intersection construction project in the Ban Nong Kla Village in Sriracha had been a worthwhile investment.

Malatji et al. (2013) investigated the financial appraisal methods that can provide optimal decisions for building energy efficiency investment decisions. Based on 25 case studies, the results show that the project is interested in investment if Net Present Value is positive (greater than zero) and short payback periods. That is, the project is profitable in which it can identify monetary savings.

Lawrence et al. (2019) studied the effect of monetary, payback time, and firm characteristics on electricity saving in the energy-intensive industry in Sweden from 2007 to 2015. The PLS results reveal that the monetary investment and payback time are more likely to influence the electricity-saving in the energy-intensive industry in Sweden than the firm characteristics.

## **RESEARCH METHODOLOGY**

### **3.1 Population and Sample**

This research is an exploratory study since there is a lack of investigation into the financial evaluation of new technology product development of startups using management accounting techniques. The qualitative method is adopted to collect data, including a case study and interview. Regarding the case study, the researchers use purposive sampling to select the case study (Saunders et al., 2007). It is a JP Intelligence System Engineering company. This company is a new startups frontier that has created a traffic violations program to examine and report the cases of traffic light violations. More specifically, their new technology product can help reduce the causes of road accidents, the recklessness drivers' behaviors, and the time consuming for traffic police officers. Therefore, investigating the financial benefit of implementing a traffic violations program of JP Intelligence System Engineering company is more interesting.

Regarding the interview, it is separated into two groups. Firstly, concerning the product information, the researchers select the director of JP Intelligence company for interview because he can provide in-depth detail of the new technology product development. Secondly, concerning the ending users, the researchers chose three police officers from Khon Kaen Provincial Police Office because their duty is related to the traffic light violations.

### **3.2 Data Collection**

The researchers collected data using semi-structured interviews and opened-end questions, allowing the researchers to control the interview without losing the overall direction (Saunders et al., 2007). Before starting the interview, the consent form was asked permission from the interviewees. For interviewing the director, he was asked questions about the financial costs of the product and general information about the product and the company. Meanwhile, for interviewing the police officers, they were asked questions about the traffic light violations rules, penalty, and their job duty. The interview took time approximately 20-30 minutes per person. Audio-recording and note-taking were used to record the conversation during the interview.

### 3.2 Data Analysis

The management accounting tools used for project evaluation consisted of Payback Period, Net Present Value (NPV), and Internal Rate of Return (IRR). These techniques are most extensively used for capital investment appraisal to new technology products (e.g., Ashford et al., 2016; Laopuangsak et al., 2011; Laopuangsak et al., 2013; Silva et al., 2019).

## FINDINGS

### 4.1 Payback Period

Based on an interview with police officers from the Khon Kaen Provincial Police Office, it was found that the cash flow of the Khon Kaen Police Office was coming from the traffic light violation fine orders. Moreover, the researchers asked for information about the fine orders generated by the traffic monitoring and reporting program issued in 2020. The Police Office had to be responsible for some expenses related to the cost that occurred when issuing the orders. These costs included a printer rental fee of 5,500 baht per month, a paper fee of 600 baht per month, and a postal service fee of 3 baht per order.

By interviewing the director of JP Intelligence System Engineering Co., Ltd., the researchers were able to obtain the number of orders issued by the traffic violation monitoring and reporting program from 2017 to 2019.

Therefore, the researchers estimated the revenues, which were generated from the order penalty payments issued in 2020, as a foundation for the cost-effective analysis. It was assumed that any factors, which had affected past operations, would still yield the same effect to the present day's operations. Based on this calculation, the net cash flow was computed as displayed below.

**Table 4.1: The Annual Net Cash Flow of the Agency**

Years	Cash Flow Received	Cash Flow Paid	Net Cash Flows
2017*	66,330	17,600	48,730
2018	535,688	116,811	418,877
2019	353,926	102,014	251,912
2020	892,500	145,794	746,706

\* The 2017 data was collected after introducing the traffic violations monitoring and reporting program from November and December.

The researchers considered the importance of the relationship between money and time. For this purpose, the discount rate calculation was analyzed. The researchers investigated some related studies as follows: a) a study that investigated the payback efficiency of a project to substitute the NGV vehicles with electric busses for the service of the public transportation organization (King Mongkut's Institute of Technology Ladkrabang, 2016), and b) a study, which was conducted on tax incentives in the business of manufacturing hard-disk drives that are promoted by BOI and the cost-effectiveness and worthiness of the promotion sector (Saisuthanawit and Charoenchai, 2018). In both studies, it was found that the discount rate was used about the rate of Minimum Loan Rate (MLR) issued by commercial banks registered in Thailand. Accordingly, for this research, the MLR of 6.60%, which the commercial banks published, was used to calculate the discount rate (Bank of Thailand, 2017). In addition, this referential MLR loan rate was fixed throughout the project.

**Table 4.2: The Agency's Accumulated Cash Flow**

Years	Net Cash Flows	Net Cash Flows in Discount Rate of the Present Value	Accumulated Cash Flows
Initial Investment Cost			(450,000.00)
2017 (Nov.-Dec.)	48,730	45,712.95	(404,287.05)
2018	418,877	368,614.24	(35,672.82)
2019	251,912	207,958.77	172,285.95
2020	746,706	578,256.90	750,542.85

From table 4.2, the results show that the initial investment of the project 450,000 baht will get back during 2019. A calculation reveals that the payback period was one year, four months, and two days.

#### 4.2 The Net Present Value (NPV)

$$NPV = \left( \sum_{t=1}^n \frac{C_t}{(1+r)^t} \right) - I$$

NPV = net present value

I = Initial investment cost, which was 450,000 baht

C<sub>t</sub> = Net cash flow received for each period

T = Year 1 to Year n

n = number of years used in the calculation (specifically, it was four years for this research.)

r = Discount rate of 6.60% based on the minimum loan rate (MLR) from commercial banks for 2017 (data from the Bank of Thailand). This rate was fixed throughout the project.

**Table 4.3: The Calculation of Net Present Value (NPV)**

Years	Initial Investment Cost	Net Cash Flows	Discount Rates*	Net Cash Flows in the Discount Rate of the Present Value
2017	(450,000)	48,730	$(1+0.066) = 1.066$	45,712.95
2018		418,877	$(1+0.066)^2 = 1.136$	368,614.24
2019		251,912	$(1+0.066)^3 = 1.211$	207,958.77
2020		746,706	$(1+0.066)^4 = 1.291$	578,256.90
<b>NPV</b>				<b>750,542.85</b>

\*The discount rate was based on the Minimum Loan Rate (MLR) issued by the commercial banks in 2017 (Bank of Thailand, 2017).

From table 4.3, the project's initial investment was 450,000 baht, and that the Net Present Value (NPV) over the four years of the project was 750,542.85 baht, which was greater than 0, indicating that this project has a greater rate of return than the investment cost.

#### 4.3 Internal Rate of Return (IRR)

$$0 = -CF + \frac{CF_1}{(1+IRR)^1} + \frac{CF_2}{(1+IRR)^2} + \frac{CF_3}{(1+IRR)^3} + \frac{CF_n}{(1+IRR)^n}$$

CF = Yearly Cash Flow

N = Years of investment (This study calculates a 4-year project.)

$$0 = -450000 + \frac{48,730}{(1+IRR)} + \frac{418,877}{(1+IRR)^2} + \frac{251,912}{(1+IRR)^3} + \frac{746,706}{(1+IRR)^4}$$

The Internal Rate of Return (IRR) was 48.8, which had a higher value than the discount rate of 6.60.

## DISCUSSION AND CONCLUSION

The study investigates the evaluation of the cost-effectiveness of installing a program to monitor and report cases of traffic light violations. Data collection was from the interviews with the director of JP Intelligence System Engineering Co., Ltd. and three police officers in Khon Kaen Provincial Police Office. The management accounting tools used for the project's assessment consisted of the Payback Period, the Net Present Value (NPV), and the Internal Rate of Return (IRR).

The finding shows that with the project's investment cost of 450,000 baht, the business would have a payback period of one year, four months, and two days, with the net present value (NPV) of 750,542.85 baht and the internal rate of return (IRR), which was equal to 48.88 percent. The finding indicates that the payback period was short with one year, four months, and two days. The Net Present Value (NPV) was equal to 750,542.85 baht, greater than 0, indicating that this project has a greater return on investment. The

NPV result was aligned with Chatwiriyacharoen (2015), given that if NPV is positive, the project under investigation yields greater returns than investment. Therefore, implementing the traffic light monitoring and reporting project will offer a greater return than the investment costs, which indicates that the project will be profitable. The Internal Rate of Return (IRR) was equal to 48.88 percent, greater than the reference discount rate of 6.60%, which was derived from the minimum loan rate (MLR) issued by the commercial banks in 2017. This shows that the project is profitable. This result was supported by Awirothananon (2018), who demonstrated that if the IRR is higher than the loan interest rate, the project is worth the investment. Therefore, it can be concluded that this project is worth the investment.

The research finding is consistent with prior studies, for example Laopuangsak et al. (2011), Laopuangsak et al. (2013), and (Malatji et al., 2013). In these studies, the projects were worth the investment because they had shown a short payback period and positive net present values. Moreover, the internal rates of returns were found to be greater than the cost of assets.

This research contributes to management accounting research in startups in two ways. Firstly, we investigate the capital investment of startups' products in which there is the limitation of study of management accounting in this field. Particularly, our findings can guide startups owners to apply management accounting techniques to estimate the value of their products since it is difficult to assess the precise financial benefits of new technology products before prototype installation. Secondly, investing in new technology products is unclear benefits for investors. Therefore, our findings can be used as a guideline to make the optimal decision in similar projects in the future.

This research has limitations in which further study can develop. Firstly, we focus on project evaluation in an economic context. Further study can broaden our scope by considering social benefits from the program, such as reducing accidents and social costs, including the opportunity cost of funds. Secondly, other factors might influence the project investment, such as inflation, interest rates/discount rate changes, economic growth, and firm characteristics. Further study may concern. Lastly, in terms of generalization, we focus on one startup type. Further investigation may broaden our scope.

## REFERENCES

- Awirothananon, T). 2018. (Financial Feasibility Study of the Adventure Business Establishment )in Thai. (*Journal of Management Science Chiangrai Rajabhat University*, 13)1(, 92-107 .
- Ashford, A. R. W., Dyson, R. G., & Hodges, S. D. (2016). *The Capital-Investment Appraisal of New Technology : Problems , Misconceptions and Research Directions Published by : Palgrave Macmillan Journals on behalf of the Operational Research Society Stable URL :* <http://www.jstor.org/stable/2582185> REFERENCES Lin. 39(7), 637–642.
- Bank of Thailand). 2017. (Interest rate in money market]. WWW. [Available from : [https://www.bot.or.th/App/BTWS\\_STAT/statistics/Report=th](https://www.bot.or.th/App/BTWS_STAT/statistics/Report=th)] /Accessed 15/11/20.[
- Central Registration Office). 2019. (Accident Report )in Thai] .(WWW. [Available from : <http://www.thairsc.com>] /Accessed 30/08/20.[

- Central Registration Office .(2019). The total population in Thailand (in Thai) .(WWW .[ Available from :[https://stat.bora.dopa.go.th/stat/pk/pk\\_62.pdf](https://stat.bora.dopa.go.th/stat/pk/pk_62.pdf) ]Accessed 30/08/20.[
- Chanso, C).2019 .(Classification of Startup (in Thai) .(WWW .[Available from : <https://techsauce.co/tech-and-biz/startup-type/> ]Accessed 05/09/20 .[
- Chatwiriya Charoen, N).2015 .(Project Feasibility) in Thai] (WWW .[Available from : <https://reportingengineer.com/project-irr-npv-calculation/> ]Accessed 30/08/20.[
- Chotinarumon, A).2013.( The results of IRR and the results of NPV )in Thai] .(WWW .[ Available from : <https://www.facebook.com/ArmFinance/posts/465650946840330/> ]Accessed 31/08/20.[
- King Mongkut's Institute of Technology Ladkrabang).2016 .(Public Transformation Service) in Thai] .(WWW .[Available from : <http://www.bmta.co.th/sites/default/files/files/draft-tor/elmraayngaan.pdf> ]Accessed 17/11/20.[
- Laopuangsak, P., Chantaranumchu, N., & Dittavirun, N(201) .3( Economic Value Analysis of Highway No.331 Intersection Project, Bannongkhla, Sriracha district, Chonburi .*Journal of Management Sciences*, 30)1(, 1-21 .
- Laopuangsak, P., Chantaranumchu, N., & Dittavirun, N(201) .1( Cost-Benefit Analysis of Sanpatong-Handong) Phase 1 (Bypass Project, Chiangmai .*Journal of MIS of Naresuan University*, 30)1(, 71-83 .
- Lawrence, A., Karlsson, M., Nehler, T., & Thollander, P. (2019). Effects of monetary investment, payback time and firm characteristics on electricity saving in energy-intensive industry. *Applied Energy*, 240(June 2018), 499–512. <https://doi.org/10.1016/j.apenergy.2019.02.060>
- Lefley, F. (1996). The payback method of investment appraisal: A review and synthesis. *International Journal of Production Economics*, 44(3), 207–224. [https://doi.org/10.1016/0925-5273\(96\)00022-9](https://doi.org/10.1016/0925-5273(96)00022-9)
- Malatji, E. M., Zhang, J., & Xia, X. (2013). A multiple objective optimisation model for building energy efficiency investment decision. *Energy and Buildings*, 61, 81–87. <https://doi.org/10.1016/j.enbuild.2013.01.042>
- Office of the Council of State).2019 .(Road Traffic Act, B.E.2522 )in Thai] .(WWW .[ Available from :<http://web.krisdika.go.th/data/law/law2%/A803%/A803-20-9999-update.pdf> ]Accessed 31/08/20.[
- Pradabkul, A).2016 .(Financial Costs )in Thai] .(WWW .[ Available from : <https://www.smethailandclub.com/money-1221-id.html> ]Accessed 31/08/20.[
- Saunders, M., Lewis, P., & Thornhill, A., (2007). Research methods. *Business Students 4th edition Pearson Education Limited, England*.
- Sanitwong Na Ayuthaya, P).2005 .(*Budgeting* 10th ed., Bangkok :CUPRESS.
- Saisuthanawit, S. & Charoenchai, N).2018 .(Engineering Economic Value Analysis of Interlocking Block Pilot Plant Using Mae Moh Power Plant Bottom Ash )in Thai .(*Naresuan University Engineering Journal*, 13)2(, 80-98.
- Sektrakul, K).2008 .(Value of Money) in Thai] .(WWW .[Available from :

- <https://www.set.or.th/set/education/knowledgedetail.do?contentId555=&type=article/>  
]Accessed 31/08/20.[
- Sirisuttanan, P) .2018 .(What is startup? And What is the important of startup? )in Thai ( )  
]WWW .[  
Available from :<https://bingobook.co/business/startup/>] /Accessed 31/08/20.[
- Silva, G. S., Yeske, P., Morrison, R. B., & Linhares, D. C. L. (2019). Benefit-cost analysis to estimate the payback time and the economic value of two *Mycoplasma hyopneumoniae* elimination methods in breeding herds. *Preventive Veterinary Medicine*, 168(October 2018), 95–102.  
<https://doi.org/10.1016/j.prevetmed.2019.04.008>
- The Royal Thai Police )2020 .(Rates of Traffic Fines )in Thai] .(WWW.[ Available from :  
<http://www.ratchakitcha.go.th/PDF>] Accessed 05/09/20.[
- Thongsukhowong, A) .2011 .(Capital investment decision )in Thai] .(WWW .[Available from :  
[https://home.kku.ac.th/anuton/3526301/Doc\\_04pdf](https://home.kku.ac.th/anuton/3526301/Doc_04pdf)] /Accessed 30/08/20.[

# DESIGNING OF MEDICAL RESOURCE DISTRIBUTION FOR HOSPITALS IN NAKHONRATCHASIMA PROVINCE

WITCHAPON PONTUETHANAGOON<sup>1\*</sup>, JARUPONG BANTHAO<sup>2</sup>

<sup>1,2</sup> Faculty of Engineering and Technology, Rajamangala University of Technology Isan,  
Nakhonratchasima, Thailand  
Email: witchapon.po@rmuti.ac.th

## ABSTRACT

The service of the Public Health Office is important to be designed and developed by the policy of the Ministry of Public Health in terms of the service system. This must be continuously developed is The Optimized Distribution of Medical Resources to avoid disparities between large cities with economic and social readiness and those with low levels of readiness. Because it found that personnel, tools, and medical technology are often concentrated in large cities. While small towns and rural areas are still scarce. The Distribution of Medical Resources is consistent with the logistics management of healthcare services (Healthcare Logistics). Based on the above problems, the researcher has chosen to study the transportation of freight company companies and the public health departments in Nakhon Ratchasima Province. The objective is to present the Designing of Medical Resource Distribution that optimizes and reduces transportation costs by applying a mathematical model for a Vehicle Routing Problem (VRP). The study started with hospital logistics data and transportation restrictions. It is explained as follows: The truck must transport medical resources from the Medical Depot to 32 hospitals. The original model of transportation was suitable for short-distance transportation in nearby areas. If the same mode of transportation is still used, the transport will lose unnecessary transportation costs in each round. from the application of a mathematical model under specified conditions. It was found that the most optimal routes were 6 routes with a total distance of 1,383.9 kilometers. the cost of transportation was reduced to 30,536.8 baht/week

**Keywords:** Logistics Management, Medical Resources Distribution, Vehicle Routing Problem

## INTRODUCTION

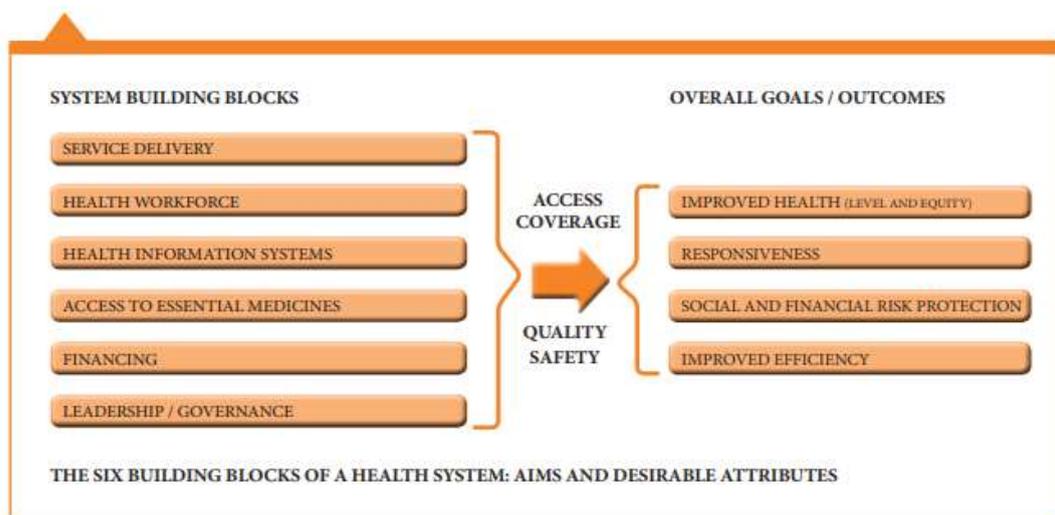
### 1.1 Background of the study

Today's society has undergone rapid changes due to the development of science and technology over the past decade causing changes in society, economy, environment, and people's way of life. Although at present there are advances in medical technology that can better control and prevent infectious diseases, the incidence of chronic disease, social and environmental factors are more diverse and more difficult to control.

The development of public health and health service systems is therefore essential to the factors affecting people's health in order to enable people to have access to health services and to be safe under the circumstances [1]

The structure of the public health service system consists of six aspects: 1) Service System 2) Health Workforce 3) Health Information Systems 4) Medical Technology such as drugs, medical supplies and diagnostic tools 5) Health Expenditure Budget and 6) Leadership and Governance with four objectives: 1) All population groups in obtaining services and having good health 2) The health service has satisfactorily met the needs of the people 3) Have a system to prevent social and financial risks from health expenditures and 4) To improve service efficiency in the allocation of resources and technology. It also takes into account access to services and the coverage of public health services, and services with standardized quality and safety [2] shown in Figure 1.

Figure 1: The WHO HEALTH Systems Framework



Source: *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*. Geneva: World Health Organization; 2010

## 1.2 Problem Statement

Issues in the organization of service systems that still need to be continually developed is to distribute resources appropriately so that there is no disparity between large cities with economic and social readiness and those with low levels of readiness, because it was found that medical and public health personnel and advanced medical equipment and technology are often concentrated in large cities. While small towns and rural areas are still scarce.

The distribution of medical resources is consistent with the service system in logistics management in health services (Healthcare Logistics) which has a greater role in the public health industry due to Thailand's awareness of logistics costs. The government has classified it as a key issue of the country's development strategy to promote low-cost logistics and develop logistics personnel. It also encourages both the public and private sectors to see the importance of improving their own work processes to reduce logistics costs. For the provision of health services, the major cost of the organization is Medical Resources include drugs, medical supplies, medical devices and raw materials related to the treatment of diseases and etc. [3]

### 1.3 Research Questions

Logistics management in the health service of freight forwarding companies and the public health office of Nakhon Ratchasima Province is important to be designed and developed. Researchers have chosen to study the transportation routes of the company. The problem is described as follows. 5 hospitals in Nakhon Ratchasima province have a need for medical resources. Medical Resource Warehouse (MRW) will have to bring 1 transport vehicle to deliver medical resources to 5 network hospitals, traveling and returning 5 routes with a total distance of 273.6 kilometers. Transportation in areas near MRW uses low transportation costs. But if the same mode of transport to all 32 hospitals will make travel and return trips with a total distance of 5,201 kilometers. The conventional mode of transportation will increase the distance, number of rounds of transportation and the cost of transportation for various hospitals in the Nakhon Ratchasima Area.

### 1.4 Research Purpose

From such problems The design of the distribution route for medical resources will reduce the transport problems that arise. This led the researchers to research and design medical resource distribution routes by applying the Vehicle Routing Problem (VRP) principles to guide transportation planning for transport companies, public health departments and hospitals in Nakhon Ratchasima Province to reduce logistics costs and make transportation more convenient and more efficient.

## LITERATURE REVIEW

### 2.1 Logistics Management during the New Normal of COVID-19

Logistics management during the New Normal from the epidemic situation of COVID-19 consists of Logistics activities as in Table 1. [4] The activities that we focus on in this research are transportation activities that are faster and reduce the distribution distance between MRW and hospitals in Nakhon Ratchasima Province.

*Table 1: Logistics Activity*

<b>Logistics Activity</b>	<b>Detail</b>
Customer service and Support	Focus on sourcing products that are essential and in high demand for customer needs.
Logistic communications and Order Processing	Adapt to using online channels to receive orders to increase the speed and flexibility of response.
Purchasing and Procurement	Choose to procure raw materials and finished goods from suppliers who have measures to prevent the spread of the virus.
Material handling and Packaging	Arrange the area for loading and unloading goods to be appropriate. Reduce the loading and unloading process and take into account the hygiene of the goods.
Transportation	Direct Shipment distribution for speed of transportation and reduce the process of loading and unloading goods from transport through distribution centers.

Inventory Management	Maintain inventory levels (Cycle Stock) for fast-moving products to be sufficient for customer needs.
Warehousing and Storage	Distribution storage (Decentralized) to have products to support the needs of customers thoroughly
Reverse Logistics	Avoid this activity during epidemic periods as it increases the risk of multiple cargo movements.

## 2.2 Definition of Medical Resources

Plastics Institute of Thailand [5] has provided basic knowledge of medical materials products. Products can be classified according to their use, which can be classified into 4 main categories: 1) Medical Consumables, i.e. materials that are used up, altered or not retained 2) Medical Equipment is an item that is durable and has a useful life of 1 year 3) Reagents and Test kits and 4) Service and Software in addition, from the cooperation agreement of the ASEAN Economic Community (AEC) to harmonize the regulation of medical device supervision among member countries. Consequently, the ASEAN Medical Device Directive (AMDD) regulations, rules, standards and certifications have been negotiated, which are currently being considered and formally promulgated procedures.

## 2.3 Definition of Vehicle Routing Problem

Thanchuda [6] defines VRP as routing freight from distribution centers to customers at various points in order to support decision-making for system users with a single distribution center and problem modeling. Organize a truck routing with load capacity constraints considering the weight and volume of cargo within the vehicle capacity condition with the goal of achieving the shortest distance or minimum cost. Factors related to routing include:

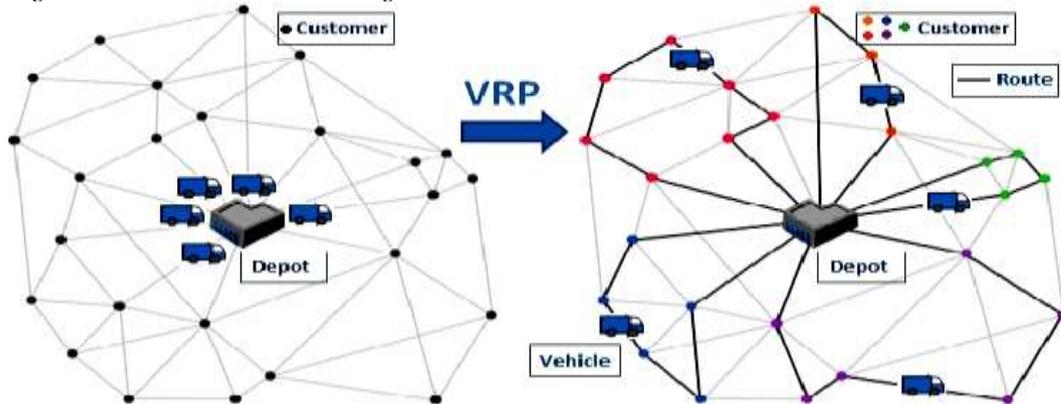
1) Set of Customers: Each customer is assigned to a different location (Node) and needs to receive or deliver goods in different amounts, and sometimes there may be a need for time added

2) Vehicles are trucks, ships, planes, or things for transportation used to provide services to customers who have a duty to travel Pick-up and delivery of goods between customers and warehouses. There are load restrictions imposed on the number of pieces of cargo or the maximum weight of cargo that can be carried per vehicle.

3) Warehouses (Depots) are places where products are stored, factories or distribution centers. which is defined as the starting and ending point of the route. All vehicles must depart from this point, go to the customer service points and return to the same point after the service is complete. For complex problems, multiple warehouses may be required to serve different groups of customers.

4) Route is the assignment of which vehicles will travel to different points or customers and how to travel in descending order with multiple Sub-Route.

Figure 2: Classical Vehicle Routing Problem



Source: Ashima Gupta & Sanjay Saini (2017 Ninth International Conference on Advanced Computing)

## 2.4 Related Research

Table 2: Related research using VRP principles

Author	Title	Detail	Tools
P. Kabcome & T. Mouktonglang (2015)	Vehicle Routing Problem for Multiple Product Types, Compartments, and Trips with Soft Time Windows	To propose a mathematical model for solving the problem of non-strict time-constrained vehicle routing. (VRPSTW) and distribution of many types of products.	VRPSTW +Mathematical Model
Ashima Gupta & Sanjay Saini (2017)	An Enhanced Ant Colony Optimization Algorithm for Vehicle Routing Problem with Time Windows	This study tends to solve a VRP with time windows. Its principal objective is to find out the minimum cost routes to serve the customers within service time intervals, by a fleet of vehicles having configured capacity	VRPTW + Ant Colony Optimization (ACO)
Pitch P. & Premporn K. (2019)	Vehicle Routing Arrangement of Heavy Trucks for Bulk and Sack Products: A Case Study of Transportation Company	To reduce the distance and cost of transporting bulk and sacks There is a wide variety of products (Multiple Depot VRP) of the company.	VRP+Savings algorithm+ Nearest Neighbor Algorithm
Annisa Kesya Gars & Nabila Rohmatul Laili (2019)	A Cluster-First Route-Second Heuristic Approach to Solve The Multi-Trip Periodic Vehicle Routing Problem	Study the problem of routing vehicles that travel multiple trips, known as the Multi-Trip Periodic Vehicles Route Problem (MTPVRP) and apply Cluster-first route-second (CFRS) to solve the problem of LPG distributors can enable better routing.	MTPVRP+ Heuristic CFRS
Aganis Suintinac & Sirawadee Arunyanart (2019)	Vehicle Routing Problem with Split Delivery and Heterogeneous Fleet Using Differential Evolution Method: A Case Study of Beverage Logistics Company	The study of routing of freight forwarders and multi-size vehicles for beverage logistics services began with a branch-and-reduce mathematical model from Baron Solver. and compare it with the differential evolution method which is a meta-heuristic method.	VRPSDHF+Branch-and-Reduce Method

Aldy Gunawan & et al. (2020)	Vehicle Routing Problem for Multi-Product Cross-Docking	Study (VRP) for Multi-Product Cross-Docking(VRP-MPCD)Delivery and develop mixed integer programming model with Software AMPL with CPLEX solver.The results showed that CPLEX was able to optimally resolve small case studies.	VRP-MPCD+ Software AMPL with CPLEX solver
Yogi Yogaswara & Neng Resi Andriyani (2020)	Determination of Multi-Product Distributionusing Capacitated Vehicle Routing Problem (CVRP) and Product Cubication Dimensions Restriction	Determining the distribution route of paint products considering from the capacity of the car according to different weight and volume dimensions	CVRP+ Saving Clarke and Wright+Loading Process+Cube IQ
Jarupong B. (2021)	Optimizing the Transportation of Liquor Products by Considering the Load of the Vehicle	Proposes the application of the mathematical model for routing (VRP) problems to reduce transportation costs and optimize the transportation of liquor products.	Mathematical Model + VRP +LINGO

## RESEARCH METHODOLOGY

### 3.1 Research Methods

The method of conducting this research starts from the study of the topic to be studied. Study the theory and related research. Collect the studied data and apply a mathematical model for routing. Then analyze the routing results, summary and discussion.

### 3.2 Data Collection

This research consisted of data.

- 1) The location of the MRW and Hospitals in Nakhon Ratchasima Province.

*Table 3: Example of coordinates of public health offices and network hospitals*

Code	Hospital	Latitude	Longitude
H1	Nakhon Ratchasima Public Health Office	14.9281	101.9948
H2	Debaratana Nakhon Ratchasima Hospital	14.9245	101.9652
...	...	...	...
H32	Sida Hospital	15.5458	102.5575
H33	Chaloem Phra Kiat Hospital	15.0005	102.2928

- 2) The number of transport vehicles is 1 vehicle, with a capacity of not more than 7 m<sup>3</sup>.

*Table 4: Vehicle Restrictions*

Type of Vehicle	Size of the Transport Vehicle (cm <sup>3</sup> )	Load Capacity (kg)	Load Volume (m <sup>3</sup> )
Small Pickup Truck	155 x 225 x 210	1,400	7

3) The type and size of the packaging.

Table 5 : Type and Volume of packaging

Type	Package size (cm <sup>3</sup> )	Volume (cm <sup>3</sup> )	Weight (kg)	Cubic Meter Size (m <sup>3</sup> )
A	20 x 30 x 11	6,600	1.320	0.0066
B	24 x 40 x 17	16,320	3.264	0.01632
C	40 x 45 x 34	61,200	12.240	0.0612

4) The need for medical resources from the total weekly demand.

Table 6: Medical resource needs of 32 hospitals

Code	Demand	A (Boxes)	B (Boxes)	C (Boxes)	Total (Boxes)
H2	Debaratana Nakhon Ratchasima Hospital	77	21	12	110
H3	Khon Buri Hospital	82	32	17	131
...	...	...	...	...	...
H32	Sida Hospital	13	4	2	19
H33	Chaloem Phra Kiat Hospital	15	4	2	21

5) Distance data between MRW and hospitals in Nakhon Ratchasima Province.

Table 7: Example of distance between MRW and hospitals

Distance (km)	H1	H2	...	H32	H33
H1	0	5.6	...	107	51
H2	5.6	0	...	107	45.8
...	...	...	...	...	...
H32	107	107	...	0	90
H33	51	45.8	...	90	0

### 3.3 Mathematical Modeling for Vehicle Routing Problem (VRP)

This research considers the application of a mathematical model for Vehicle Routing Problem (VRP) [15] as follows:

#### Index

$i, j$  are medical and hospital resources, where  $i$  or  $j$ ;  $i, j = 1, \dots, 33$

$k$  is the truck  $k = 1$

$p$  is the end and beginning of any medical resource warehouse or hospital.

#### Parameter

$D_{ij}$  is the distance traveled from hospital  $i$  to  $j$ .

$a_k$  is the capacity of the truck.

$q_i$  is the quantity of demand for the product.

#### Decision Variable

$X_{ijk}$  is 1 when vehicle  $k$  is traveling from the hospital  $i$  to  $j$  and 0 when not travelled.

$U_{ik}$  is the decision variable to eliminate incomplete laps or sub tours.

$Y_{ik}$  is 1 when hospital  $i$  is passed by vehicle  $k$  and 0 when not travelled.

### Objective Function

Travel cost equation from city  $i$  to city  $j$  by vehicle  $k$ .

$$\text{Minimize} = \sum_{k=1}^K \sum_{j=0}^N \sum_{i=0}^N D_{ij} X_{ij}^k \quad (1)$$

### Constraint Function

$$\sum_{j=1}^N X_{0j}^k \geq 1 \quad K = 1, \dots, K \quad (2)$$

$$\sum_{i=0}^N X_{ip}^k - \sum_{j=0}^N X_{pj}^k = 0 \quad P = 1, \dots, N, k = 1, \dots, K \quad (3)$$

$$\sum_{k=1}^K Y_i^k = 1 \quad i = 1, \dots, N \quad (4)$$

$$\sum_{i=1}^N q_i Y_i^k \leq a_k \quad K = 1, \dots, K \quad (5)$$

$$Y_i^k \leq \sum_{j=0}^N X_{ji}^k \quad i = 1, \dots, N, k = 1, \dots, K \quad (6)$$

$$X_{ij}^k \in \{0,1\} \quad ; \forall i \forall j \quad (8)$$

Equations 1 through 8 show a mathematical model of a transport routing problem in cases where the transport vehicles have unequal load limits (Capacitated Vehicle Routing Problem). where Equation (1) is the shortest distance transport. Equation (2) guarantees that truck  $k$  will travel from medical depot 0 to hospital  $j$  at least one point. Equation (3) guarantees that the hospital will travel in and out equally. Equation (4) guarantees that the hospital will be transported through at least one truck. Equation (5) guarantees that the cargo truck does not exceed the amount that it can carry. Equation (6)

guarantees that admission to hospital  $i$  is possible only if truck  $k$  travels through hospital  $i$  from a specific point in hospital  $j$ . Equation (7) guarantees that any hospital  $j$  will pass by any truck at least once using a path from any hospital  $i$ . Equation (8) shows that all variables  $X$  can either be 0 or 1.

**Function to prevent sub-tours**

$$U_i^k \geq U_j^k + q_i - a_k + \left( a_k \times (X_{ij}^k + X_{ji}^k) \right) - X_{ij}^k (q_i + q_j) \quad K = 1, \dots, K, i = 0, \dots, N, \quad (9)$$

$$j = 1, \dots, N \text{ when } i \neq j$$

$$U_i^k \leq a_k - X_{0i}^k (a_k - q_i) \quad K = 1, \dots, K, i = 1, \dots, N \quad (10)$$

$$U_i^k \leq q_i + \sum_{j=1}^N q_j X_{ji}^k \quad k = 1, \dots, K, i = 1, \dots, N \quad (11)$$

From the mathematical model for solving the VRP problem, it can be explained as follows: Equations (9) - (11) In case of unknown number  $K$ ,  $K$  must be substituted for  $K$  until a possible  $K$ -value is obtained.

**3.4 Application of the program for Vehicle Routing Problem (VRP)**

- 1) Change the mathematical equations according to section 3.3 into the form of a program for solving the best solution problems.
- 2) Check the program model for the best value solution.
- 3) Apply the actual distance by the route must travel to all 32 hospitals.

**RESULT AND FINDINGS**

**4. Analysis of results and propose guidelines for distribution of medical resources of freight forwarding companies**

Based on the VRP mathematical model solving the problem by routing the transport of medical resources to 32 hospitals, the test results were shown in Table 8.

*Table 8: Results of the transportation route arrangement*

Route No.	Route Order	Distance (km)	Load Volume (Boxes)	Volume (m <sup>3</sup> )
1	H1-H2 & H2-H1	11.2	110	1.59
2	H1-H14, H14-H18, H18-H30, H30-H28, H28-H32, H32-H31, H31-H13, H13-H24, H24-H6, H6-H29 & H29-H1	327.6	490	6.96
3	H1-H19, H19-H21, H21-H22, H22-H26, H26-H15 & H15-H1	267.9	403	5.72

4	H-1H20,H-20H27,H27-H9, H9-H10,H10-H11 & H11-H1	249.3	298	4.47
5	H-1H23,H-23H4,H4-H3, H3- H8 & H8-H1	232.7	391	6.02
6	H-1H33,H3-3H7,H7-H17, H17-H16,H16-H25,H25-H5, H5-H12 & H12-H1	295.2	470	6.97
<b>Total</b>		<b>1,383.9</b>	<b>2,162</b>	<b>31.73</b>

As a result of the routing arrangement, there were 6 suitable transport routes with a total distance of 1,383.9 km and were the best value of the best solution program provided that the loading volume does not exceed the limitation of the medical resource transport vehicle, which is 7 m<sup>3</sup> for each route and can be used as a guide for planning the transport of medical resources, as shown in Figure 4 and Figure 5.

Figure 4: Example for signature

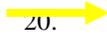
2. Symb ol	3. Name	4. Symb ol	5. Nam e	6. Symb ol	7. Nam e
8.  9.	10. Hospit al	11. 	12. 1 <sup>st</sup> Rout e	13. 	14. 4 <sup>th</sup> Rout e
15.  16.	17. Hospital	18. 	19. 2 <sup>nd</sup> Rout e	20. 	21. 5 <sup>th</sup> Rout e
 23. 24. 25.	26. Depot	27. 	28. 3 <sup>rd</sup> Rout e	29. 	30. 6 <sup>th</sup> Rout e

Figure 5: Transportation Planning



Source: <https://www.google.co.th/maps/>

## DISCUSSION AND CONCLUSION

The objectives of this research paper from the study of transportation problems are: Trucks deliver medical resources to all 32 hospitals. If unplanned transport was used, the distance would be 5,201 kilometers with high transportation cost. Therefore, using mathematical models to analyze VRP problems for optimal transportation can reduce transportation costs.

As a result of applying the mathematical model under the specified conditions, it was found that 6 routes were optimally arranged with a distance of 1,383.9 kilometers, resulting in a reduction of 3,817.1 kilometers from the original. The cost of traveling is 8.03 baht per kilometer. Calculated from the cost of fuel and maintenance costs. The transportation cost was reduced by 30,536.8 baht per week. and the research route can be used as a guideline for planning and designing more efficient distribution of medical resources.

## RECOMMENDATION

Because of the transport policy for medical resources can change according to the situation, which directly affects the load and travel distance. Therefore, when there is a change in demand, it is necessary to reorganize and develop a new transport of medical resources to achieve the minimum distance and cost of transportation. This research can be applied for similar research.

## REFERENCES

- Ministry of Public Health.(2021).Government Action Plan for the year 2021. [Online]. pp.112. Available: <https://www.moph.go.th>
- Department of Health Service Support. (2016). Health service system. [Online]. pp.8-9. Available: [https://hss.moph.go.th/fileupload\\_doc\\_slider/2016-12-08--465.pdf](https://hss.moph.go.th/fileupload_doc_slider/2016-12-08--465.pdf)
- Narongrit Kalaput. (2010). Healthcare Logistics. Journal of Hematology and Blood Service Medicine, Vol. 20, No. 3, Jul.-Sep. pp.165-167.
- Sathaporn Opananon. (2020). Logistics management in pandemic crisis. [Online]. pp.1-9. Available : <https://www.tbs.tu.ac.th/tbs-insights-2020/>
- Plastics Institute of Thailand. (2015). Introduction to Medical Devices and Materials Products. [Online]. pp.1-3. Available: [https://www.thaiplastics.org/med\\_network\\_howto2.pdf](https://www.thaiplastics.org/med_network_howto2.pdf).
- Thanchuda Phannikul. (2011). Cost Reduction of Vehicle Routing Problem with Mathematical Model Case Study: Ubon Aqarist Factory, Ubonratchathani.National Conference on Operational Research. pp.60-64.
- P. Kabcome and T. Mouktonglang. (2015). Vehicle Routing Problem for Multiple ProductTypes, Compartments, and Trips with Soft Time Windows.International Journal of Mathematics and Mathematical Sciences.Vol.2015. pp.1-10.
- Ashima Gupta & Sanjay Saini. (2017). An Enhanced Ant Colony Optimization Algorithm for Vehicle Routing Problem with Time Windows.Ninth International Conference on Advanced Computing (ICoAC). pp.267-274.
- Pitch P. & Premporn K. (2019). Vehicle Routing Arrangement of Heavy Trucks for Bulk and Sack Products: A Case Study of Transportation Company. Kasem Bundit Engineering Journal Vol.9 No.1 January-April.pp.136-157.
- Annisa Kesy Garside and Nabila Rohmatul Laili. (2019). A Cluster-First Route- Second Heuristic Approach to Solve Periodic Multi-Trip Vehicle Routing Problem.Jurnal Teknik Industri Vol. 20, No. 2, August. pp. 68-77.
- Aganis Suntainac and Sirawadee Arunyanart, 2019.Vehicle Routing Problem with Split Delivery and Heterogeneous Fleet Using Differential Evolution Method: A Case Study of Beverage Logistics Company.Journal of KMUTT Vol. 42, No.2, April-June.pp. 145-159.
- Aldy Gunawan, Audrey T. Widjaja, Benjamin Gan Kok Siew, Vincent F. Yu and PancaJodiawan. (2020). Vehicle Routing Problem for Multi-Product Cross-Docking. Proceedings of the International Conference on Industrial Engineering and Operations Management Dubai, UAE, March 10-12. pp.66-77.
- Yogi Yogaswara and Neng Resi Andriyani. (2020). Determination of Multi-Product Distribution using Capacitated Vehicle Routing Problem (CVRP) and Product Cubication Dimensions Restriction. IOP Conf. Series: Materials Science and Engineering.pp.1-7.
- Jarupong Banthao et al. (2021). Optimizing the Transportation of Liquor Products by Considering the Load of the Vehicle. The Conference of Industrial Engineering Network (IE Network 2021). pp.670-675.
- Rapeepan Pitakaso. (2016). An evolutionary approach using differentials for solving logistics problems. Department of Industrial Engineering.Ubon Ratchathani University.

# INVESTIGATION AND COUNTERMEASURES ON PSYCHOLOGICAL HEALTH MANAGEMENT OF MIDDLE SCHOOL STUDENTS WITH FINANCIAL DIFFICULTIES

LANGYUN YAN<sup>1</sup>\*, SUTTIPONG BOONPHADUNG<sup>2</sup>  
<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*  
*Email: 505916100@qq.com*

## ABSTRACT

In this paper, Wuzhou No. 3 Middle School students with financial difficulties were taken as the research object, and the questionnaire method was used to investigate and analyze the psychological health and relevant management status of current middle school students with financial difficulties. In addition, from the actual point of view, countermeasures and suggestions were proposed for the working mode of psychological health management of middle school students with financial difficulties.

**Keywords:** middle school students with financial difficulties, psychological health management, working mode

## INTRODUCTION

Middle school students with financial difficulties follow the Notice of the Department of Finance and the Department of Education of Guangxi Zhuang Autonomous Region on Allocating the Living Subsidy Funds for the Second Batch of Students with Financial Difficulties in Compulsory Education in 2019 (Guicaijiao [2019] No.100), and middle school students with financial difficulties from non-host family can be divided into four types, including registered students in compulsory education, and non-registered disabled students with financial difficulties, students from rural families on subsistence allowances, and students provided for by relief and assistance in rural areas. Psychological health management refers to the whole process of comprehensive monitoring, analysis and assessment of individual or group psychological health, health consultation and guidance, and intervention of psychological health risk factors (Fan Ke, 2012). In recent years, the state has attached great importance to the subsidizing work of schools in compulsory education, requiring the work to closely focus on the fundamental task of moral education, fully implement targeted funding, further promote subsidizing education, and continuously strengthen standardized management to improve the sense of happiness and gain of students with financial difficulties and their parents. Schools are the main objects of subsidizing work, and middle school stage is the key period of students' physical and psychological development. It is an important aspect of subsidizing education to strengthen the psychological health management of middle school students with financial difficulties. The significance of the topic is to improve the psychological health level of middle school students with financial difficulties, and explore the development path of

psychological health management in the subsidizing work of middle schools. At present, the state is actively carrying out the new deployment of “rural revitalization strategy”, which requires schools to formulate school subsidizing work plans based on reality, and give play to the role of school subsidizing working group and subsidizing office. Through the establishment of psychological health files for students with financial difficulties, the development of psychological counseling activities for psychological health groups, as well as the practice, application and research of subsidizing management research, a series of models for psychological health management for middle school students with financial difficulties are explored, summarized and concluded.

Some domestic scholars have found that problems in school psychological health management are mainly reflected in the following aspects: backward level of teaching staff, a serious shortage of professional psychological consultants, and little attention to psychological health management from school administrators (He Xiuqing , 2017) ; the lagging organizational structure of psychological health, and insufficient normative guidance on the working mode (Zhang Yaping , 2018) ;serious formalization of psychological health management (Li Xiangyang , 2011) . To solve the problems in school psychological health management, researchers also put forward some countermeasures. He Xiuqing pointed out that the role of counselors should be played from the grassroots management level of the school, and multiple departments should cooperate to build a collaborative system from the middle and senior management levels. Liu Dongmei claimed that school psychological health management work mechanism, leadership structure and relevant staff responsibilities should be improved.

On the other hand, studies found that the psychological health problems of college and vocational college students with financial difficulties mainly include: the psychological inferiority formed in their growth as well as self-esteem and inferiority blend;pessimistic and depressed towards family difficulties, closed themselves, and irrational attitude towards communication disorders;coexistence of sensitivity and anxiety;lack of sense of security in life (Lu Jin, Yang Binnan and Li Yanyiyi , 2021; Jiao Yunna and Song Yiwen , 2016) . Students with financial difficulties are more likely to suffer from serious psychological problems and intense psychological conflicts, which may affect their normal study, life and work (Li Xiangyang , 2011) .

According to the foreign language literature analysis of “students with financial difficulties” retrieved on CNKI, a total of 31 references related to students with financial difficulties were retrieved, including 24 academic journals and 7 conference papers. From the author’s point of view, most of them are foreign literature written by domestic authors. From the point of view of the research content, the research is also mainly focused on the study of financial aid and subsidies for students with financial difficulties. In general, there are very few foreign research literatures, which do not play an obvious supporting role in this study. Therefore, the literature is mainly the research of domestic scholars.

Considering the psychological health problems of students with financial difficulties in colleges and vocational colleges, researchers also came up with some countermeasures. Lin Yanyong believed that the main role of family care should be given full play to build a family support system; the positive power of social care should be fully utilized to build a social support system; the educational resources of school care should be fully used to construct the school support system; the psychological energy of individual students should be fully explored to build a self-help support system. Wu

Xudong proposed a psychological health education support system for students with financial difficulties, involving social support, spiritual motivation and psychological health education based on practical work experience. Zhu Jiguang proposed that positive psychology should be used in the education of students with financial difficulties in colleges and universities to make their positive psychology a dominant psychological state, so as to discover their shining points and cultivate their self-confidence.

In short, from the perspective of research objects, domestic researches mainly focus on the students with financial difficulties in universities and vocational colleges, and lack of discussion on those in compulsory education stage. From the perspective of the research content, they mainly center on the psychological health of students with financial difficulties, without studies on psychological health management. This paper made up for the shortcomings of the above research, starting from the perspective of psychological health management, to investigate the current situation of psychological health management of middle school students with financial difficulties, and put forward countermeasures.

## **RESEARCH METHODOLOGY**

We only accept papers written in English and without orthographic errors. In this paper, 48 students with financial difficulties in Grade 7, 8 and 9 of Wuzhou No. 3 Middle School were selected as samples. The survey was adopted with the Middle School Student Mental Health Scale (MSSMHS) and the student psychological health management questionnaire.

The scale was adopted with the Middle School Student Mental Health Scale (MSSMHS) developed by Chinese psychologist Professor Wang Jisheng, which is specially used to measure the psychological health of middle school students. It is composed of 10 subscales with a total of 60 items, where the 5-level scoring system is adopted, and the correlation between the total score of the scale ranges from 0.4 to 0.76, indicating that each item is well differentiated; the retest reliability of 10 subscales ranges from 0.716 to 0.905, the homogeneity reliability ranges from 0.601 to 0.8577, and the split-half reliability ranges from 0.6341-0.8726; the correlation between the subscale and the total scale ranges from 0.7652 to 0.8726, and the content validity is ideal.

Questionnaire star was used for online test of the scale, and SPSS.26 software was used for statistical analysis. A total of 43 valid scales were collected, with the effective rate of 89.58%.

The questionnaire of students' psychological health management was referred to the Questionnaire of College Students' Psychological Health Management used in the study of He Xiuqing [2]. In this study, the title of the questionnaire was deleted to make it more suitable for middle schools. There were 15 questions in the questionnaire, including three parts: basic background information, the psychological health management of middle school students with financial difficulties and the importance they attached to psychological health. A total of 48 questionnaires were sent out, and 43 were valid, with an effective rate of 89.58%.

## RESULTS

### 3.1 Analysis of survey results of psychological health scale for middle school students

#### 3.1.1 Basic information of samples

Table 1: Basic Information of the Survey Sample

Items		Number of People	Proportion
Gender	Male	19	44.2%
	Female	24	55.8%
Grade	Grade 9	13	30.2%
	Grade 8	8	18.6%
	Grade 7	22	51.2%

#### 3.1.2 Gender difference of middle school students with financial difficulties

The results of t-test show that there is gender difference in obsessive-compulsive symptoms among middle school students with financial difficulties. The score of obsessive-compulsive symptoms in the female is significantly higher than that in the male.

Table 2: T-test Results of Each Variable in Terms of Gender

	Gender				t	p
	Male (n=19)		Female (n=24)			
	M	SD	M	SD		
Obsessive-compulsive symptoms	1.26	0.562	1.5	0.834	-2.683	0.01*

Note: \*\* means  $P < 0.01$ , and \* means  $P < 0.05$ .

#### 3.1.3 Analysis of the total score of psychological health scale for middle school students with financial difficulties

According to the results of total score of the psychological health scale, 83.72% of the students scored less than 2 points, 13.95% of the students with mild psychological problems, and 2.33% of the students with moderate psychological problems. In general, the students' psychological health was good, and there were no severe or serious psychological problems.

Table 3: Survey Results of Total Score of Psychological Health Scale for Middle School Students with Financial Difficulties

Score	1-1.99 points	2-2.99 points	3-3.99 points	4-4.99 points	5 Points or more
Degree	None	Mild	Moderate	Severe	Serious
Number and proportion	36 (83.72%)	6 (13.95%)	1 (2.33%)	0	0

### 3.2 Analysis of the questionnaire results of students' psychological health management

#### 3.2.1 Basic information of samples

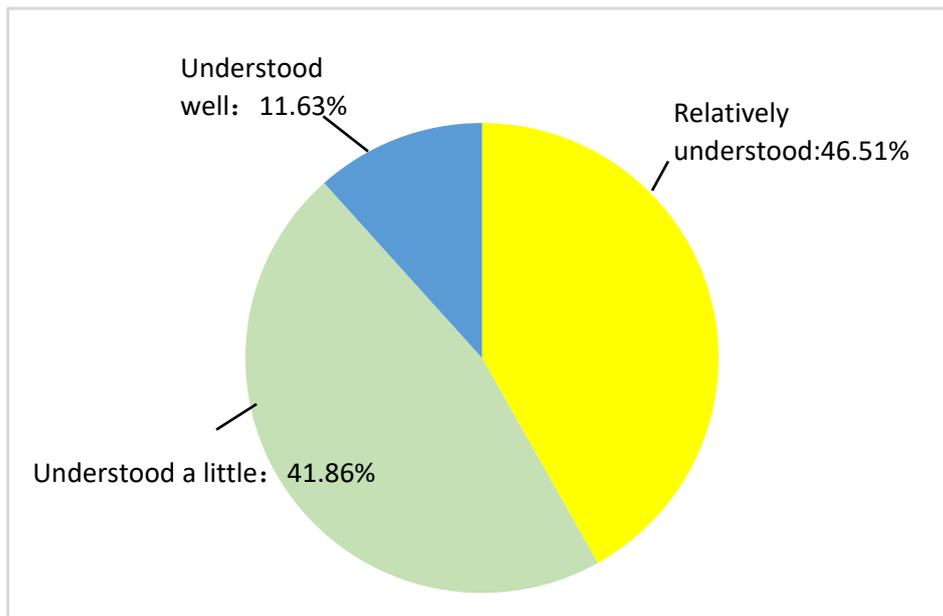
Table 4: Basic Information of the Survey Sample

Items		Number of People	Proportion
Gender	Male	18	41.86%
	Female	25	52.08%
Grade	Grade 9	12	27.90%
	Grade 8	7	14.58%
	Grade 7	24	55.81%
Poverty type	File establishment	37	86.04%
	Rural minimum subsistence	3	6.97%
	Disability	3	6.97%

#### 3.2.2 Investigation of psychological health education management system

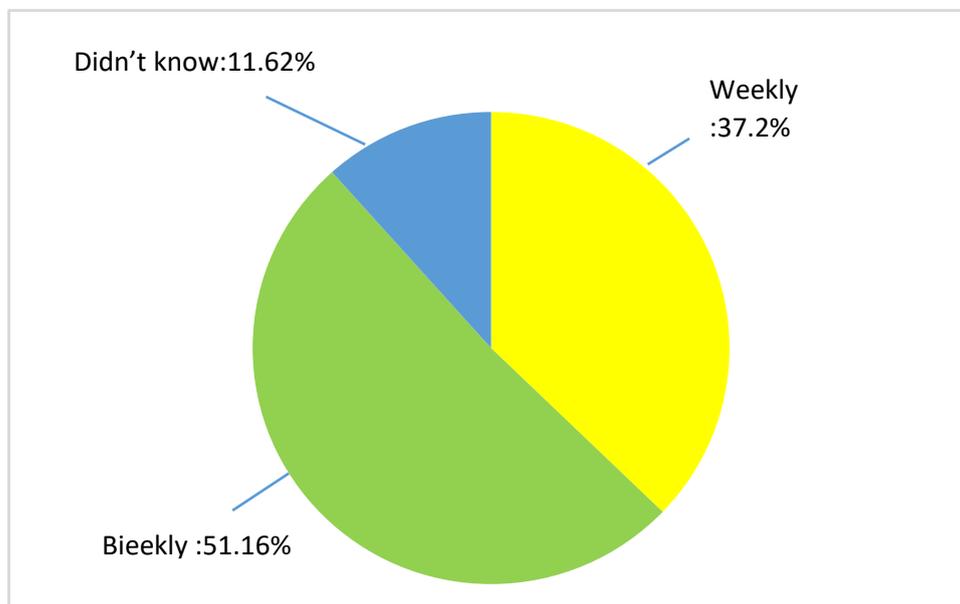
In the survey of the understanding of the concept of psychological health, 41.86% of the students understood a little about the concept, 46.51% of the students relatively understood it, and 11.63% of the students understood it well.

Figure 1: Understanding of the Concept of Psychological Health



According to the survey results of psychological health curriculum, only 51.16% of students could remember that the correct psychological health curriculum is biweekly, while 48.84% of students still didn't know the psychological health curriculum.

Figure 2: Understanding of Psychological Health Curriculum



In the survey of the popularization of psychological health education, those who participated in thematic class meetings and special lectures were more, and those who participated in face-to-face consultation, conversation and campus group psychological counseling activities were less.

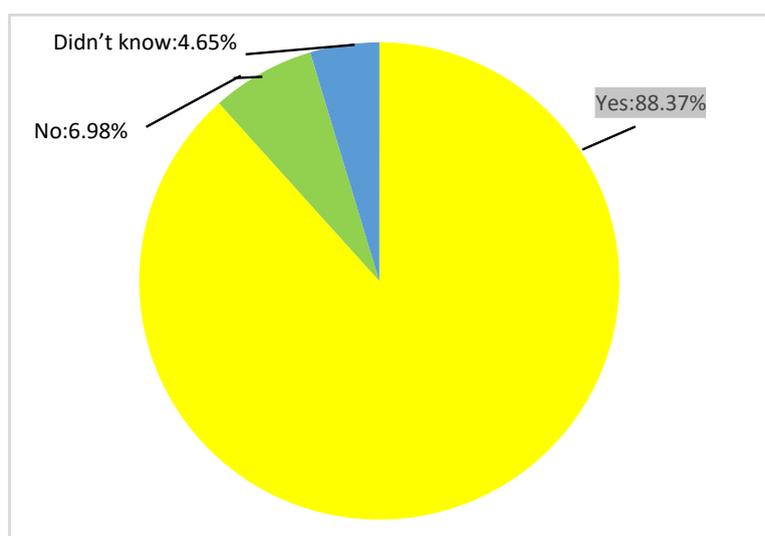
Table 5: Popularization Ways of Psychological Health Education

Options	Number of people	Percentage
Thematic class meetings	39	92.9%
Special lectures	27	64.3%
Face-to-face consultation and conversation	9	21.4%
Campus group psychological counseling activities	10	23.8%

### 3.2.3 Investigation of psychological health management organizations

In the survey of the students' awareness rate of the psychological health counseling room set up in the school, 88.37% of them knew that there is a psychological counseling room, while 11.63% still did not know it.

Figure 3: Understanding of Whether the School Has a Psychological Counseling Room



### 3.2.4 Attention of middle school students with financial difficulties to psychological health

In the survey of students' choice of psychological adjustment, more than half of them chose to make self-adjusting and talk to their friends, and those chose to ask class teacher and psychological teachers for psychological counseling were less.

Table 6: Selection of Psychological Adjustment Methods

Options	Number of People	Percentage
Self-adjusting	28	65.1%
Talking to friends	25	58.1%
Communicating with class teacher	13	30.2%

In the survey of self-mental health status assessment, most of the students reckoned that they are in a normal psychological state, while very few considered that they have some psychological problems.

Table 7: *Opinion on the Current Psychological Health Status*

Options	Number of people	Percentage
Healthy	27	62.79%
General	13	30.23%
A little problem	3	6.98%
Serious psychological problems	0	0

In the survey of “what aspect of psychological troubles students face more”, the results show that the biggest psychological distress students face comes from academic pressure, followed by family relationship and interpersonal relationship, and very few have the psychological weariness.

Table 8: *Aspects of Psychological Troubles Students Face More.*

Options	Number of People	Percentage
Family relationship	8	20.0%
Interpersonal relationship	9	22.5%
Academic pressure	32	80.0%
Psychological weariness	3	7.5%
Other	1	2.5%

A survey on “whether students are willing to take part in psychological counseling” shows that most students are willing to take part in psychological health group counseling or individual counseling, while very few are not willing to participate in them.

Table 9: *Willingness to Psychological Counseling.*

Options	Willing	Unwilling
Participating in group counseling	39 90.69%	4 9.3%
Making an appointment for counseling	34 79.07%	9 20.93%

## DISCUSSIONS

### 3.3.1 Analysis of the current situation of psychological health of students with financial difficulties

This study found that 83.71% of the students with the total score of MSSMHS lower than 2 did not reach the degree of psychological problems, while 13.95% of them with mild psychological problems and 2.33% with moderate psychological problems, indicating that the overall psychological health level of middle school students with financial difficulties is good. There was no significant difference in scale factor scores among students of different grades, and the score of obsessive-compulsive symptoms in the female was significantly higher than that in the male.

### 3.3.2 Analysis of the current situation of psychological health management of students with financial difficulties

The study found that the students have a clear understanding of the concept of psychological health, which indicates that schools have a good popularization of the concept of psychological health. Half of the students are not clear about the psychological health curriculum, suggesting that the students do not pay enough attention to the psychological curriculum and as well as the development of psychological courses. More psychological health education activities in schools are themed class meetings and special lectures, but outdoor group psychological counseling activities are less. Most students know that the school has a psychological counseling room, while a small number of students do not know it, reflecting that the publicity of the psychological counseling room of the school is not enough. When students encounter psychological problems, the proportion of the students who choose the adjustment method is self-adjusting > talking to their friends > asking psychological teachers for psychological counseling > communicating with their class teacher, showing that students attach more importance to the relationship with their peers, followed by psychological teachers, and the last is their class teacher. Most students are troubled by academic pressure, followed by interpersonal relationship, family relationship, weariness and others, revealing that the middle school learning pressure is relatively large. Moreover, most of the students are willing to participate in psychological group counseling activities or one-to-one counseling, demonstrating that students do not reject to participate in psychological activities.

## CONCLUSION

It is necessary to carry out the psychological health assessment of middle school students with financial difficulties regularly every school year, which helps the school to establish the psychological health files of middle school students with financial difficulties, understand their psychological health status, and lay a foundation for the development of psychological health management in the next step.

According to the results of the survey, the school can carry out group psychological counseling activities under the concept of positive psychology, cultivate students' positive qualities, guide them to self-reliance, self-confidence and self-improvement. Also, the school can set up a special work leading group, whose members are made up of financial aid office, psychology teacher and class teacher, as well as carry out group psychological counseling activities with different themes regularly every month.

In view of the academic pressure of middle school students with financial difficulties, it is suggested for the school that psychological teachers should set up psychological health

courses with different learning themes in different grades, so as to improve students' learning ability and efficiency and reduce learning anxiety.

## REFERENCES

- Fan Ke. (2012). *Research on the Psychological Health Management Mode of College Students*. Journal of Hunan Mass Media Vocational Technical College, Vol.12, No.2, 105-107.
- He Xiuqing. (2017). *Research on Problems and Countermeasures of Psychological Health Education Management in Newly-Established Undergraduate Universities in Fujian Province*. Master Thesis, Fuzhou: Fujian Normal University.
- Zhang Yaping. (2018). *Research on Psychological Health Education Management System of Ordinary Middle Schools in Shandong Province*. Master thesis, Jinan: Jinan University.
- Li Xiangyang. (2011). *Analysis and Adjustment Countermeasures of Psychological Health Status of College Students with Financial Difficulties*. *Academic Papers of Natural Science*, 211-215.
- Liu Dongmei. (2015). *A Study on Students' Psychological Health Management in Independent Colleges*. Master thesis, Zhengzhou: Henan University of Technology.
- Lu Jin, Yang Binnan and Li Yanyiyi. (2021). *Analysis on the Status and Ideological Education of Students with Financial Difficulties in Higher Vocational Colleges*. *Moral Education Collection*, 476-480.
- Jiao Yunna and Song Yiwen. (2016). *A Study on Psychological Health Status and Ways to Help College Students with Financial Difficulties*. *TEACHER*, 13-14.
- Lin Yanyong and Jin Qiong. (2018). *Psychological Health Problems and Strategies for College Students with Financial Difficulties*. *Data of Culture and Education*, No.13, 133-135.
- Wu Xudong. (2010). *Research on the Mental Health Support System of the Students from Family Financial Difficulties*. Master thesis. Dalian: Dalian University of Technology.
- Zhu Jiguang. (2014). *Positive psychology of college students with financial difficulties Psychological development exploration*. *Journal of HuBei TV University*, Vol.34, No.7, 060~060.
- Wang Xiaoli. (2018). *Thoughts on "poverty alleviation" of college students with economic difficulties through active mental health education*. *Financial think tank*, 48-49.
- Huang Yue. (2019). *Educational management of mental health of poor college students*. *Economist* .219-220.
- Zhu Jiguang. (2014). *On the psychological development of college students with financial difficulties under positive psychology*. *Journal of HuBei TV University*, Vol.34, No.7, 060-060.
- Pan Wenting. (2020). *Construction path of development oriented funding system in Colleges and universities from the perspective of poverty alleviation*. *Survey of Education*, Vol. 9 No. 18, 77-78.
- Zhang Yan. (2021). *Accurate psychological assistance strategies for students with financial difficulties in Higher Vocational Colleges*. *Social Science Research*, 51-52.

- Zhou Wei. (2019). *Research on junior middle school students' coping style from the perspective of positive psychological quality*. Master thesis, JiLing: Yanbian Normal University.
- Su Hui. (2021). *A case study on helping college students with financial difficulties out of poverty from the perspective of psychological education*. Journal of Hubei open vocational college, Vol.34, No.7,54-60.
- Zhou Hongyuan. (2020). *Psychological investigation and influencing factors of college students with financial difficulties*. Comparative study on cultural innovation,001-003.
- Chen Yan. (2020). *On psychological support for college students with financial difficulties*. Cultural Expo,83-84.
- Yang Xingmei. (2020). *Research on mental health education strategies for students with family economic difficulties*. Occupational Health,046-046.
- Chen Weirong. (2020). *Study on the causes and Countermeasures of mental health of students with family economic difficulties after 95 in Higher Vocational Colleges*. Journal of Hubei open vocational college, Vol.33, No.15,034-035.
- Wang Shuzhen. (2018). *Research on mental health education of college students with financial difficulties from the perspective of positive psychology*. Educational Review,098-101.

# THE DEVELOPMENT OF HIGHER VOCATIONAL EDUCATION AND REGIONAL ECONOMY IN CHINA

DUAN LIANGYI<sup>1\*</sup>, SUTTIPONG BOONPHADUNG<sup>2</sup>

<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 937048636@qq.com*

## ABSTRACT

In recent years, China's economy has developed rapidly with high quality, and the continuous supply of talents has injected a stable impetus into economic development. Higher vocational education has trained professionals from all walks of life across the country and greatly promoted social development and progress. In the context of the new era, higher vocational education and regional economy should pay more attention to cooperation and interaction, becoming a new force that promotes the momentum of social development, and embarking on a development path with Chinese characteristics. However, China's higher vocational education and regional economic development still have a discordant phenomenon, which affects the sustainable development of the regional economy to a certain extent. In order to change this phenomenon, it is necessary to establish a new relationship between higher vocational education and local economic development. Improve the service capacity of regional economic development.

**Keywords:** Higher vocational education, Regional economy development, China

## INTRODUCTION

### 1. Introduction

In recent years, China economy has developed rapidly, and the demand for talents in all walks of life has become increasingly strong. In particular, the resources of professionals are very scarce. As the basis for training professionals, higher vocational education has also received more and more attention. The development of higher vocational education and the development of regional economy are inseparable and complementary (Fu Xueling, 2020). They promote each other and make progress together, but there is still a problem of uncoordinated development before the two (Li Xinru & Ru Ning, 2019). Especially in areas with underdeveloped economic development, there is a relatively sharp contradiction between the balance of higher vocational education and the coordinated development of the regional economy. How to create a new situation of win-win cooperation and common development and realize the coordinated development of higher vocational education and regional economy is the research problem of this article. In order to balance educational resources, the Chinese government has increased basic investment from teachers to software and hardware facilities in higher vocational colleges in various regions, which to a large extent has laid the foundation for improving the quality of higher vocational education. However, due to the backward economic development in the regions where some higher vocational colleges are located, it is difficult for higher vocational colleges to complete the local talent placement after completing the talent

training, resulting in the outflow of a large number of outstanding talents (Wang Haihua, 2013). Therefore, the increased investment of local finance in education has not received a corresponding return, which not only increases the pressure on the financial burden, but also affects the development of education to a certain extent. The lag of regional economic development has further accelerated the loss of local talents and led to the emergence of a vicious circle.

## **1.1 Research Objectives**

### **1.1.1 The decisive effect of regional economic development on higher vocational education**

The development of regional economy provides a broad material basis for the development of higher vocational education. Therefore, in general, higher education develops faster in areas with faster economic development; in economically backward areas, higher education develops slowly. This fully shows that the comprehensive strength of regional economic development is an indispensable material foundation for the development of higher vocational education. The level of regional economic development directly affects the level of regional higher vocational education. This requires the regional society to improve the talent structure, establish a new model of vocational education that serves the development of the local economy, and increase the external attraction to the development of regional higher vocational education.

### **1.1.2 Regional economic development determines the development direction of higher vocational education.**

Education serves economic development; especially higher vocational education should focus on economic construction. In this environment, higher vocational education, which directly serves the economic development, must adapt to the requirements of regional economic development. To a certain extent, the development of the regional economy determines the scale, level, discipline type and academic characteristics of the development of key higher vocational education. Higher vocational education can keep up with the development of the times only by meeting the needs of students for job hunting in accordance with the requirements of regional economic development.

## **1.2 Significant of the Study**

Study the relationship between the development of higher vocational education and the regional economy, and realize the "complementarity" and "win-win" of the two. It is of great significance to deepen the reform of higher vocational education, improve the competitiveness of my country's regional economy, and realize the sustainable development of the regional economy.

## **LITERATURE REVIEW**

### **2.1 Related Research**

By reviewing the development status of China's higher vocational colleges and the flow of graduates from higher vocational colleges in recent years, as well as the economic investment of the Chinese government in higher vocational colleges, the relationship between higher vocational education and regional economic development has gradually become clear (Cao Qingna,2020). It is recognized that the development of education is

inseparable from the support of the economy, and the sustained development of the economy has injected strong support into education.

## **2.2 Conceptual Framework**

Higher vocational education: it is a new education system proposed by China in order to adapt to the situation of shortage of high-level skilled talents and combined with the general trend of the development of international vocational education.

Regional economy: the production complex produced by the interaction between internal factors and external conditions of economic development in a certain region. Regional economic development will be restricted by factors such as social and economic conditions.

The serious loss of local talents and the inadequate investment of government funds have led to an increasing conflict between higher vocational education and regional economic development. In order to solve this problem, the author has proposed a series of reform measures to achieve a balance between the two. To promote the healthy development of higher vocational education and regional economy.

## **RESEARCH METHODOLOGY**

### **3.1 Population and Sampling**

#### **3.1.1 Population**

Recruitment portals and local talent exchange centers recommended 77 graduates from higher vocational colleges from 20 companies in Beijing, 88 from 20 companies in Shanghai, 95 from 20 companies in Shenzhen and 40 from 20 companies in Jinzhong. (See Table 1)

#### **3.1.2. Sampling**

Of the 77 graduates of the Beijing company, 45 are from vocational colleges in economically underdeveloped areas; 66 out of 88 graduates from the Shanghai company; 71 out of 95 graduates from companies in Shenzhen; The company in Jinzhong has 15 out of 40 graduates. (See Table 1)

### **3.2 Analysis and Statistical Treatment**

The graduates of vocational colleges in Jinzhong city were randomly distributed 197 questionnaires, and 197 valid questionnaires were returned, with the recovery efficiency of 100%.

Table 1 197 graduates chose to work in the region

Serial number	Graduates flow to the city	Number of graduates	The number of graduates from economically underdeveloped areas	The proportion of graduates from economically underdeveloped areas
1	Beijing	77 people	45 people	58.44%
2	Shanghai	88 people	66 people	75.00%
3	Shenzhen	95 people	71 people	74.74%
4	Jinzhong	40 people	15 people	37.50%
Total		300	197	65.67%

Source: Jinzhong City is a relatively backward city in China.

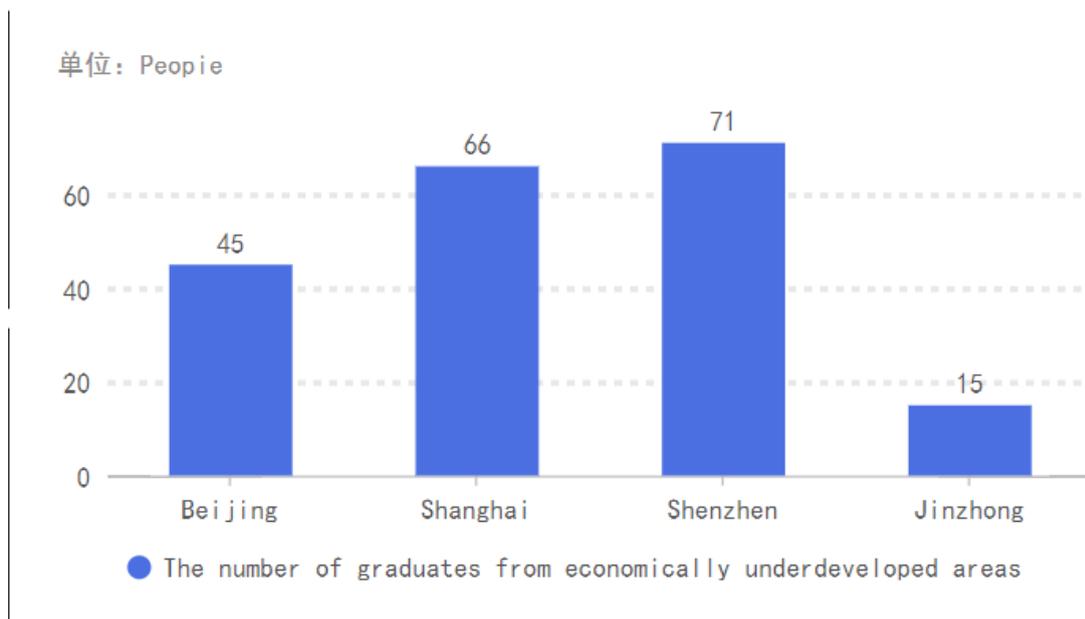
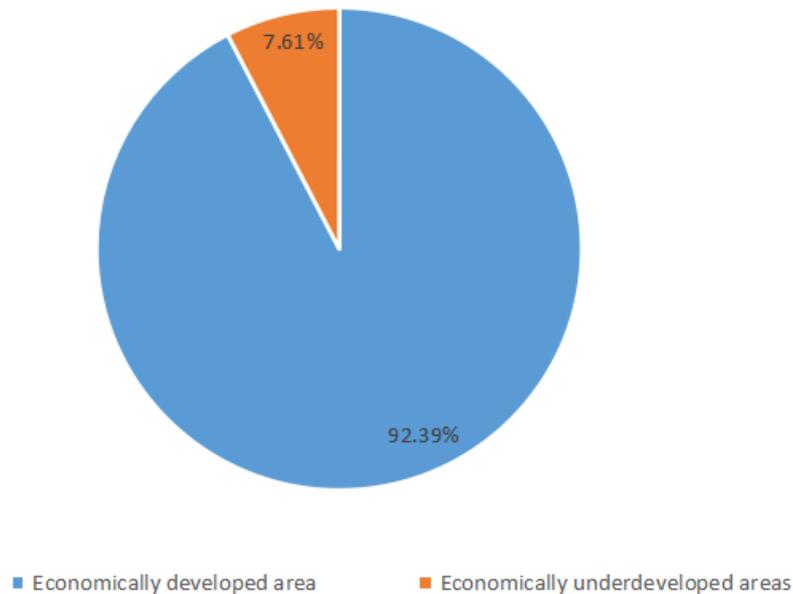


Figure 1 Job mobility of graduates in 197 questionnaires

From the Table 1 and the figure 1 show that most vocational college graduates choose to work in China's major first-tier cities such as Beijing, Shanghai and Shenzhen. The proportion of talents remaining in China's fourth-tier cities for development is very small. Graduates first choose China's economically developed regions for employment. In regions with relatively backward regional economic development, although the locals have completed the training of talents, they are very It is difficult to complete the placement of talents in the local area.

## RESEARCH RESULT

---



*Figure 2 197 questionnaires were used to investigate the proportion of graduates' flow direction*

Through the questionnaire survey showed that China's higher vocational college graduates choose to go after graduation most economically developed city employment, choose in economically underdeveloped areas is very little, the employment of graduates students after graduation to enter a line of city development, think that stay in four cities employment will hinder the late development, indicating that the regional economic development level influence area of higher vocational education level. China's economy has established many higher vocational colleges in the economically backward areas, and the number of government funding and graduates has increased year by year, but it still cannot retain talent. However, the talent pool in the economically developed regions is becoming increasingly saturated. If this goes on, colleges and universities will inevitably fall into the "bottleneck period" of development, lose high-quality resources, resulting in the waste of educational resources.

## CONCLUSIONS AND SUGGESTIONS

### 5.1 Research conclusion

There is a close positive correlation between higher vocational education and regional economic development. The coordinated development of higher vocational education and regional economy is an objective requirement for China's economic and social development, and it is effective in mobilizing universities to actively participate in local economic construction. Measures are an important way to promote the coordinated development of higher vocational education and regional economy, and are of great significance to the promotion of high-quality development of higher vocational education.

## **5.2 Discussion**

China's higher vocational education cultivates applied talents. The so-called applied talents refer to those specialized talents who can apply their professional knowledge and skills to their professional social practice and have the expertise of front-line production.

The research results show that the development of regional economy cannot be separated from the assistance of talents, especially the applied talents who can engage in front-line production. As the main position of cultivating applied talents, higher vocational colleges are complementary and inseparable with the development of regional economy.

## **5.3 Research suggestions**

The government should scientifically classify and plan educational resources in the region from a macro level. For colleges and universities with development potential and related majors, it is necessary to provide key support and provide necessary resources. At the same time, it provides employment support for graduates of higher vocational colleges to help solve the financial difficulties of college students in the process of starting a business, and truly makes higher vocational education present the localized characteristics of "local training and local work".

## **REFERENCES**

- Li Xinru&Ru Ning. (2019). A review of the research on the coordinated development of vocational education and industry in my country from a multidisciplinary perspective, 4-10.
- Wang Haihua. (2013). Research on the coordinated development of higher vocational education and regional economy [D]. Hunan Normal University.
- Fu Xueling. (2020). Change and Innovation: The Response of Higher Vocational Education under the Background of Enrollment Expansion[J]. Journal of East China Normal University (Educational Science Edition), 23-32.
- Cao Qingna. (2020). Probing into the coordinated development of vocational education and regional economy[J]. Guangxi Quality Supervision Guide, 82-83.

# UNDERSTANDING THE USE OF SOCIAL MEDIA FOR BUSINESS: AN APPLICATION OF THE UTAUT2 MODEL

SUCHART TRIPOPSAKUL<sup>1\*</sup>, SUVINAI TOSIRISUK<sup>2</sup>,  
CHAKRIT PICHYANGKUL<sup>3</sup>, JARATPONG VASUTHANASUB<sup>4</sup>,  
PATRRARAT TANGNISAITRONG<sup>5</sup>, WITTAYA CHARUPONGSOPON<sup>6</sup>  
<sup>1,2,3,4,5</sup> *School of Entrepreneurship and Management, Bangkok University, Thailand*  
<sup>6</sup>*MarketingWE Co., Ltd., Bangkok, Thailand*  
*Email: suchart.t@bu.ac.th*

## ABSTRACT

As a result of internet and social networking site technology developments and digital revolutions. Social media has become one of the most significant ways for businesses to reach out to potential customers. However, there have been few empirical studies attempting to explain what characteristics and antecedents influence whether people use this digital platform to do business. The goal of this study is to uncover the elements that influence how people use social media for business in Thailand. Multiple regression analysis was utilized to analyse variables impacting behaviour intention and use behaviour based on 154 samples collected from Thai respondents during an online survey from March to July 2021. The findings revealed that performance expectations, effort expectations, social influence, and hedonic motivation all have significant positive effects on the behaviour intention to use social media for business purposes among Thai people. On the one hand, risk perception has a detrimental impact on behaviour intention. This research is one of several initiatives to learn more about the use of social media platforms for business in Thailand. Throughout the paper, the debate and implications will be discussed.

**Keywords:** Social Media, the extended Unified Theory of Acceptance and Use of Technology (UTAUT2), Thailand

## INTRODUCTION

### 1. Introduction

According to the "Thailand Internet User Behaviour 2020" report from the Ministry of Digital Economy and Society (DE), there were 50.1 million internet users out of a total population of 66.5 million, or more than 75%. Last year, they spent 11.23 hours a day on the internet, with 95.3 percent spending the most of their time on social networking apps (Line, Facebook, and Instagram). With 98.2 percent, Facebook is the most popular selling channel, while with 96.0 percent, Line is the most popular communication route. Changes in technology and communication devices, as well as lower prices for these devices and services, have resulted in more individuals having access to the internet. Because of the growing number of both online shoppers and sellers, Thailand's e-commerce market, worth 3.78 trillion baht, has been affected. One of Thailand's fastest-growing industries was business-to-consumer (B2C) (ETDA, 2021).

Thailand's market is quite competitive at the moment. Buyers and merchants are connecting through social media, which is a medium that efficiently penetrates the target. This research will help us to better understand Thais' behaviour when using social media apps, as well as the devices they use and the factors that influence their desire to use social media for business. In Thailand, social media can be used as one of the most successful avenues for full-time and part-time businesses to sell their products, both new and used, in marketplaces. Customer-to-customer transactions are allowed in a number of Facebook groups, including Rolex Market Thailand, Seiko Mania Market Thailand, PS4 Market Thailand, and Samsung Galaxy Market Club Thailand. Facebook users in specific Facebook groups can transform themselves into amateur, semi-professional, or even professional sellers. In this modern technology-mediated setting, an individual degree of social media usage for a business goal has been realized as a popular trend to become an entrepreneur. Although previous studies have looked into the factors that influence social media adoption, empirical evidence for using social media for a business purpose in terms of Consumers to Consumers (C2C) is still needed to gain a better understanding of the behavioural use of social media as a platform for business and to contribute empirical evidence to the social media adoption literature on an individual level (Muangtum, 2021).

The goal of the study is to evaluate the factors that influence entrepreneurs' adoption of social media for commercial reasons using one of the most well-known technology adoption models, the extended unified theory of acceptance and use of technology (UTAUT2). The rest of the paper is classified as follows; research objectives is in the second section. The third section is the review of relevant literature. Hypothesis development is described in the fourth section. The research approach for data gathering is covered in the fifth section. The primary findings and analytical results will be discussed in the sixth part. The discussion and conclusion are included in the seventh part. The eighth section concludes with a limitation and ideas for additional investigation.

## **RESEARCH OBJECTIVES**

### **2. Research Objectives**

This research consisted of three objectives:

2.1 To investigate factors influencing the adoption of social media usage for business purposes in Thailand;

2.2 To determine the level of behavior intention and use behavior among Thai people who use social media for business.

## **LITERATURE REVIEW**

### **3. Literature Review**

#### **3.1 Role of Social Media in Business Context**

According to previous studies, social media enables firms to engage with clients efficiently and quickly. Social media helps businesses construct databases that can be utilized to gain a competitive advantage, and those databases can then be turned into increased revenues, allowing businesses to grow and overcome geographic barriers. According to Nawi, Al Mamun, Nasir, Raston, and Fazal (2017), entrepreneurs' acceptance and use of innovative technologies like social media for business reasons can

lead to successful businesses, which can help countries prosper economically. Previous research has established a link between social media adoption and corporate performance, according to AlSharji, Ahmad, and Bakar (2018). Use of social media has been found to increase sales, lower costs, improve customer service, raise brand awareness, generate visitors to a company's website, and strengthen business-to-business partnerships (Kaplan & Haenlein, 2010; McCann & Barlow, 2015). For most firms, social media has evolved into a critical strategic initiative that is now commonly acknowledged as an integral element of daily operations (McCann & Barlow, 2015). However, it is critical that business owners first consider the aims and objectives of social media use, as well as how to monitor the outcomes (AlSharji, Ahmad, & Bakar, 2018).

### **3.2 The Extended Unified Theory of Acceptance and Use of Technology**

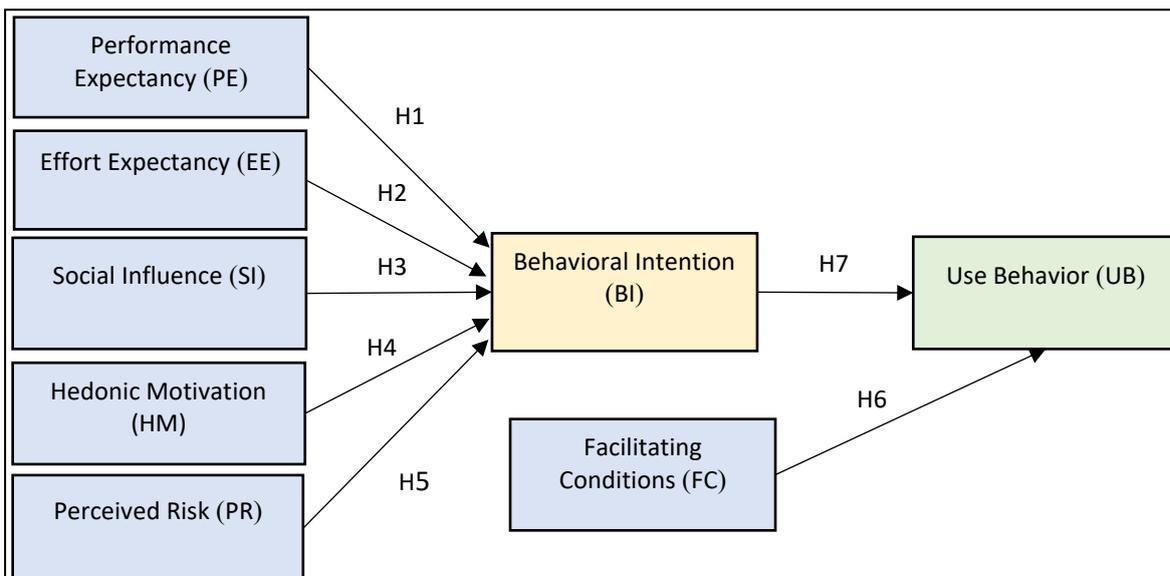
Venkatesh, Morris, Davis, and Davis (2003) established the Unified Theory of Acceptance and Use of Technology (UTAUT) model, which provides a unified theoretical basis for aiding research on Information Systems and Information Technology adoption. The original UTAUT model includes four exogenous variables: effort expectancy (EE), performance expectancy (PE), social influence (SI), and facilitating conditions (FC), as well as two endogenous variables: behavioural intention (BI) to use technology and use behaviour (UB), as well as four moderators. Performance expectancy (PE) is defined by Venkatesh et al. (2003) as the degree to which an individual believes that adopting technology will bring benefits in executing specific activities. The degree of ease associated with the use of the system is characterized as effort expectancy (EE). The amount to which customers believe important others believe they should utilize a specific technology is referred to as social influence (SI). The notion that users have the requisite knowledge, support, and resources to engage in a certain behaviour is referred to as facilitating conditions (FC). Behavioural intention (BI) is defined as "a person's subjective likelihood of performing a behaviour" (Fishbein & Ajzen, 1975 cited in Nor, Shanab, & Pearson, 2008). Use behaviour, on the other hand, refers to how a technology is really used. Martins, Oliveira, and Popovi (2014) investigated the impact of risk on the adoption of technologies such as internet banking and new online apps and systems. "The potential for loss in the pursuit of a desired outcome of using an e-service," according to the definition of perceived risk. Featherman & Pavlou (2003), cited in Martins, Oliveira, & Popovi (2014), classified risks in the technology adoption field into seven types: (1) performance risk, which is defined as the likelihood of the results not being as expected and thus failing to deliver the anticipated benefits; (2) financial risk, which is defined as the potential financial loss from the initial purchase of products and their maintenance; (3) time risk, which occurs when users lose time by using the technology; and (4) technological risk, which is defined as (7) Finally, total risk is a broad term that encompasses all six types of dangers stated before. Risk perception has a detrimental impact on the desire to adopt new technologies (Jaruwachirathanakul, & Fink, 2005). Venkatesh et al. (2012) suggested hedonic motivation (HM) as a new component in the UTAUT2 model. Hedonic motivation (HM) is defined as "the joy or pleasure obtained from employing a technology" (Venkatesh et al., 2012). In digital environments, the individual conducts technology adoption out of self-will, therefore enjoyment of utilizing the technology is extremely crucial. According to Venkatesh et al. (2012), HM and BI have a substantial positive association. As a result, the authors have decided to incorporate the perceived risk and hedonic motivation constructs into the model and to test our conceptual framework in the following session.

## HYPOTHESIS DEVELOPMENT

### 2. Hypothesis Development

Our conceptual framework was based on the extended Unified Theory of Acceptance and Use of Technology (UTAUT2) model originally developed by Venkatesh et al. (2012). There are six main constructs in the model: performance expectancy, effort expectancy, social influence, hedonic motivation, perceived risk, and facilitating conditions. The first five are direct predictors of behavioural intention, whereas the construct of facilitating conditions is a predictor of use behaviour. Performance expectancy is described as a person's belief that by using the system, he or she will be able to improve their job performance. The degree of easiness involved with using the system is referred to as effort expectancy. The degree to which an individual believes important others feel he or she should use the new method is referred to as social influence. Hedonic motivation is defined as the joy or pleasure obtained from employing a technology. Perceived risk is defined as the potential for loss in the pursuit of a desired outcome of using any digital platforms. The degree to which an individual believes that an organizational and technological infrastructure exists to facilitate system use is characterized as facilitating conditions. Figure 1 depicts the conceptual framework we've proposed.

Figure 1: The proposed conceptual framework



The following are the hypotheses:

H1: Behavioral intention (BI) to use social media for business reasons is highly influenced by performance expectancy (PE).

H2: Behavioral intention (BI) to use social media for business is highly influenced by effort expectancy (EE).

H3: Behavioral intention (BI) to utilize social media for business is highly influenced by social influence (SI).

H4: Behavioral intention (BI) to use social media for business reasons is highly influenced by hedonic motivation (HM)

H5: Behavioral intention (BI) to use social media for business reasons is highly influenced by perceived risk (PR).

H6: Facilitating conditions (FC) have a substantial impact on use behavior (UB) when it comes to using social media for business.

H7: When it comes to using social media for business, behavioral intention (BI) has a strong positive impact on use behavior (UB).

## RESEARCH METHODOLOGY

### 3. Research Methodology

#### 5.1 Research Design and Data Collection

The goal of this study is to use the extended Unified Theory of Acceptance and Use of Technology (UTAUT2) model to look at the elements that influence social media adoption as a commercial platform. The quantitative research method was employed in this study. To test and analyze the data, validate the presented hypotheses, and evaluate the relevance of the theories and the positive correlation of variables, multiple regression analysis was used with SPSS 23. An online questionnaire was employed to apply a convenience sampling strategy. From March to July 2021, data was collected online. A total of 154 valid surveys were kept for analysis after data collection and screening.

#### 5.2 Questionnaire Development

The surveys were divided into two sections: (1) general demographic and behavioral information about respondents, and (2) construct measurement items. All of the measurement items used in this study were adapted from Chua, Rezaei, Gu, Oh, & Jambulingam (2018); Venkatesh et al. (2003); Venkatesh et al. (2012); San Martn, & Herrero (2009) investigations (2012); Nordhoff et al. (2020). The items were rated on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Performance expectancy (PE, 5 items), effort expectancy (EE, 4 items), social influence (SI, 4 items), hedonic motivation (HM, 3 items), perceived risk (PR, 3 items), and enabling conditions are the independent variables in the proposed model (FC, 4 items). Behavioral intention (BI, 4 items) and use behavior are the two factors that make up the dependent variables (UB, 4 items). There are 31 measurement items in all, and Table 1 shows the details of each construct.

• *Table 1: Questionnaire Constructs and Variables*

Constructs	Items	Observed Variables
Performance Expectancy )PE(	PE1	Social networking may help you run your company.
	PE2	You will be more profitable in business if you use online social media.
	PE3	Using social media to promote your business can help you achieve your objectives.
	PE4	Using social networking to increase the quality of your current company information is a good idea.
	PE5	You will be able to spend less time attaining your business objectives if you use online social media.
Effort Expectancy )EE(	EE1	It is simple for you to learn how to conduct business using online social media.
	EE2	You anticipate that using social media to do business will be simple and straightforward.
	EE3	It's simple to learn how to use social media to conduct business.
	EE4	You will be able to trade more quickly if you use online social media.
Social Influence )SI(	SI1	Important people in my life believe that I should use social media as a commercial platform.

	SI2	People that have power over my actions believe I should use social media as a business platform.
	SI3	People whose opinions I respect prefer that I use social media for business.
	SI4	People in my circle believe that using social media as a commercial platform is acceptable.
Hedonic motivation (HM)	HM1	Using social media for business purposes would be fun.
	HM2	Using social media for business purposes would be entertaining.
	HM3	Using social media for business purposes would be enjoyable.
Perceived Risk (PR)	PR1	You're concerned that others may have access to the information on your online social network account.
	PR2	Do you believe there is a large possibility of mistakes in social media?
	PR3	When you provide personal information via online social networks, you will feel insecure.
Facilitating Conditions (FC)	FC1	You have the expertise required to do business via online social media.
	FC2	When it comes to social media concerns, you have friends who can assist you.
	FC3	You have all you need to conduct business via online social media.
	FC4	Social media can be used in conjunction with other platforms.
Behavioral Intention (BI)	BI1	You've resolved to conduct business via social media in the coming month.
	BI2	In the coming month, you anticipate doing business via online social media.
	BI3	In the coming month, you intend to conduct business through social media.
	BI4	When you have a business need, you will use social media.
Use Behavior (UB)	UB1	You frequently utilize social media to conduct business.
	UB2	You've been using social media to engage with stakeholders on a regular basis.
	UB3	You've been using social media for business objectives in my daily life.
	UB4	You conduct business using internet social networks.

## RESULTS

### 6. Results

#### 6.1 Descriptive Statistical Analysis and Sample Profiles

The majority of the participants in this study are female (52.3%), single, between the ages of 31 and 40 (30.1%), and have a bachelor's degree or above (61 percent). Most respondents work in private enterprises and earn 25,000 - 35,000 Baht on average (39.1%). They also spend more than 4 hours on social media (50.3%) on their smartphones (80.9 percent). The authors also ask the participants to rate the importance of each social media application for commercial reasons. Respondents were asked to rate the importance of the score on a scale of 1 (not at all important) to 5 (very important) (Extremely important). Tables 2 to 7 represent the findings of seven social media application rating scores.

- *Table 2: What role does Facebook play in business?*

Facebook				
	Frequency	Percent	Valid Percent	Cumulative Percent
Slightly important	1	0.5	0.5	0.5
Moderately important	13	8.7	8.7	9.2
Very important	61	39.5	39.5	48.7
Extremely important	79	51.3	51.3	100.0
Total	154	100.0	100.0	

- *Table 3: What role does Facebook Messenger play in business?*

Facebook Messenger				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	10	6.4	6.4	6.4

Slightly important	16	10.6	10.6	17.0
Moderately important	51	33.3	33.3	50.3
Very important	46	29.6	29.6	79.9
Extremely important	31	20.1	20.1	100
Total	154	100.0	100.0	

• *Table 4: What role does Instagram play in business?*

Instagram				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	9	6.0	6.0	6.0
Slightly important	16	10.5	10.5	16.5
Moderately important	42	27.5	27.5	44.0
Very important	55	35.9	35.9	79.9
Extremely important	31	20.1	20.1	100.0
Total	154	100.0	100.0	

• *Table 5: What role does YouTube play in business?*

YouTube				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	2	1.0	1.0	1.0
Slightly important	11	7.3	7.3	8.3
Moderately important	45	29.5	29.5	37.8
Very important	52	33.6	33.6	71.4
Extremely important	44	28.6	28.6	100.0
Total	154	100.0	100.0	

• *Table 6 : What role does LINE play in the corporate world?*

LINE				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	2	1.3	1.3	1.3
Slightly important	5	3.5	3.5	4.8
Moderately important	22	14.2	14.2	19.0
Very important	47	30.5	30.5	50.5
Extremely important	78	50.5	50.5	100.0
Total	154	100.0	100.0	

• *Table 7 : What role does Twitter play in business?*

Twitter				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	46	25.4	25.4	25.4
Slightly important	34	18.8	18.8	44.2
Moderately important	68	37.6	37.6	81.8
Very important	25	13.8	13.8	95.6
Extremely important	8	4.4	4.4	100.0
Total	181	100.0	100.0	

According to those questions, the top three most important applications for business purposes are Facebook (Mean = 4.41), LINE (Mean = 4.25), and YouTube (3.81), and mobile devices (Mean = 4.75) are the most often used devices for utilizing social media. Table 8 shows the detailed mean scores and their interpretation.

• *Table 8: The outcome of the mean scores and their interpretation*

		Mean	SD	Interpretation
How often have you used social media	Smartphone /Mobile	4.751	0882.	Always
	Laptop/Notebook	3.287	1.065	Sometimes

through the following devices in the last three months?	Desktop/PC	2.952	0.965	Sometimes
	Others such as Tablet	2.658	1.112	Sometimes
The following are some of the most popular social networking sites on the internet. Could you tell me how useful these online business applications are?	Facebook	4.416	0.865	Extremely Important
	Facebook Massager	3.468	0.984	Very Important
	Instagram	3.519	0.789	Very Important
	YouTube	3.812	0.877	Very Important
	LINE	4.260	0.952	Extremely Important
	Twitter	2.974	1.025	Moderately important

## 6.2 Inferential Statistical Analysis and Hypothesis Testing

The authors employed multiple regression analysis to look at the elements that influence people's intentions and actions when it comes to using social media for business. The authors started by computing the average scores from each questionnaire item deployed from each construct to create the overall value variables of performance expectancy, effort expectancy, social influence, hedonic motivation, perceived risk, facilitating condition, behavior intention, and usage behavior. The data was then separated into two models using a multiple linear regression technique. Performance expectancy, effort expectancy, social influence, hedonic motivation, and perceived risk are the five independent variables in the first model, with behavior intention as the dependent variable. The second model includes two exogenous variables: behavior intention and facilitating condition, as well as an endogenous variable, usage behavior. Table 9 shows the results of multiple regression analysis.

- *Table 6 : What role does LINE play in the corporate world?*

LINE				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	2	1.3	1.3	1.3
Slightly important	5	3.5	3.5	4.8
Moderately important	22	14.2	14.2	19.0
Very important	47	30.5	30.5	50.5
Extremely important	78	50.5	50.5	100.0
Total	154	100.0	100.0	

- *Table 7 : What role does Twitter play in business?*

Twitter				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all important	46	25.4	25.4	25.4
Slightly important	34	18.8	18.8	44.2
Moderately important	68	37.6	37.6	81.8
Very important	25	13.8	13.8	95.6
Extremely important	8	4.4	4.4	100.0
Total	181	100.0	100.0	

According to those questions, the top three most important applications for business purposes are Facebook (Mean = 4.41), LINE (Mean = 4.25), and YouTube (3.81), and mobile devices (Mean = 4.75) are the most often used devices for utilizing social media. Table 8 shows the detailed mean scores and their interpretation.

- *Table 8: The outcome of the mean scores and their interpretation*

	Mean	SD	Interpretation
Smartphone /Mobile	4.751	0.882	Always

How often have you used social media through the following devices in the last three months?	Laptop/Notebook	3.287	1.065	Sometimes
	Desktop/PC	2.952	0.965	Sometimes
	Others such as Tablet	2.658	1.112	Sometimes
The following are some of the most popular social networking sites on the internet. Could you tell me how useful these online business applications are?	Facebook	4.416	0.865	Extremely Important
	Facebook Massager	3.468	0.984	Very Important
	Instagram	3.519	0.789	Very Important
	YouTube	3.812	0.877	Very Important
	LINE	4.260	0.952	Extremely Important
	Twitter	2.974	1.025	Moderately important

## 6.2 Inferential Statistical Analysis and Hypothesis Testing

The authors employed multiple regression analysis to look at the elements that influence people's intentions and actions when it comes to using social media for business. The authors started by computing the average scores from each questionnaire item deployed from each construct to create the overall value variables of performance expectancy, effort expectancy, social influence, hedonic motivation, perceived risk, facilitating condition, behavior intention, and usage behavior. The data was then separated into two models using a multiple linear regression technique. Performance expectancy, effort expectancy, social influence, hedonic motivation, and perceived risk are the five independent variables in the first model, with behavior intention as the dependent variable. The second model includes two exogenous variables: behavior intention and facilitating condition, as well as an endogenous variable, usage behavior. Table 9 shows the results of multiple regression analysis.

- *Table 9: Multiple regression analysis results (First model)*

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	133.342	5	33.335	68.846	.000b
	Residual	72.146	149	.484		
	Total	205.488	154			
a .Dependent Variable :Behavior Intention) BI(						
b .Predictors :Performance Expectancy) PE(, Effort Expectancy) EE(, Social Influence) SI(, Hedonic motivation (HM), and Perceived Risk) PR(						
Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	)Constant(	-.535	.609		-.880	.380
	PE	.472	.171	.295	2.762	.006
	EE	.353	.050	.421	7.071	.000
	SI	.389	.090	.221	4.327	.000
	HM	.376	.085	.204	4.011	.000
	PR	-1.193	.068	-1.196	-2.852	.000
a .Dependent Variable :Behavior Intention) BI(						

- *Table 10: Multiple regression analysis results (Secord model)*

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.017	2	44.508	115.342	.000b
	Residual	58.268	151	.386		
	Total	147.285	153			

a .Dependent Variable :Use Behavior )UB(
b .Predictors :Behavior Intention )BI(, Facilitating Condition )FC(

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	)Constant(	1.410	.433		1.161	.176
	FC	.289	.080	.268	3.607	.000
	BI	.475	.063	.561	7.567	.000

According to Table 9, all five variables, namely performance expectancy (PE), effort expectancy (EE), social influence (SI), hedonic motivation (HM), and perceived risk (PR), have a substantial impact on behavior intention (BI) to utilize social media for business. The most powerful influence on behavior intention is effort expectancy (Beta = 0.421), followed by performance expectancy (Beta = 0.295), social influence (Beta = 0.221), and hedonic motivation (Beta = 0.204). On the one hand, risk perception has a negative impact on conduct intention (Beta = -1.196).

The predictors of use behavior (UB) were behavior intention (BI) and the facilitating conditions (FC). Table 10 shows that behavior intention (Beta = 0.561) and the facilitating conditions (Beta = 0.268) both have a significant favorable impact on use behavior (UB). The summary of hypothesis testing is shown in Table 11 based on multiple regression analysis.

• *Table 11: Hypothesis testing summary*

Hypotheses	Results
H1: Behavioral intention (BI) to use social media for business reasons is highly influenced by performance expectancy (PE).	Supported
H2: Behavioral intention (BI) to use social media for business is highly influenced by effort expectancy (EE).	Supported
H3: Behavioral intention (BI) to utilize social media for business is highly influenced by social influence (SI).	Supported
H4: Behavioral intention (BI) to use social media for business reasons is highly influenced by hedonic motivation (HM)	Supported
H5: Behavioral intention (BI) to use social media for business reasons is highly influenced by perceived risk (PR).	Supported
H6: Facilitating conditions (FC) have a substantial impact on use behavior (UB) when it comes to using social media for business.	Supported
H7: When it comes to using social media for business, behavioral intention (BI) has a strong positive impact on use behavior (UB).	Supported

## DISCUSSION AND CONCLUSION

All hypotheses (H1-H7) are accepted, as evidenced by the results. As a result, Venkatesh et al. (2012)'s UTAUT2 model was effective in assessing the behavior intention to utilize social media for business objectives in Thailand. This indicates that Thai business owners are serious about using social media for marketing objectives. The findings from descriptive data reveal that Thai business owners consider social networking sites like Facebook, LINE, and YouTube to be the top three most important business apps, respectively. Mobile devices (Mean = 4.66) are also the most often used devices for using social media for commercial purposes. As a result, a newcomer to the digital competitive arena should consider using social media as a strategic instrument for reaching out to the target.

However, the findings show that five factors: performance expectancy (PE), effort expectancy (EE), social influence (SI), hedonic motivation (HM), and perceived risk (PR) have a significant impact on Thais' behavior intention (BI) to use social media for business purposes, while perceived risk has a significant negative impact. The findings are consistent with those of earlier studies by McCann & Barlow (2015) and Nawi, Al Mamun, Nasir, Raston, & Fazal (2017).

According to the findings, contemporary Thai business owners believe that social media can help them perform better in their businesses. Nonetheless, companies should evaluate the amount of effort and simplicity of use involved with the system, as well as how well it fits their business goals and resources. Furthermore, Thai business owners should assess if the degree to which an individual believes he or she should use the new social media system pertains to their business platform. Surprisingly, the findings revealed that favorable conditions had a good impact on each business owner's required knowledge base and resources in order to engage in the use of a certain social platform.

Despite the fact that Thai firms recognize the importance of social media and have a strong desire to use it to improve their business performance. Perceived risk has a considerable negative impact on activity intention, according to the findings. It's possible that they were concerned about social media network system failures. It's possible that others have gained access to your online social network account data. Furthermore, people are uneasy about sharing personal information on social media sites. The findings corroborated Jaruwachirathanakul and Fink's (2005) study, which found that perceived risk has a detrimental impact on the desire to embrace new technology.

Consciously, the Thai government and SMEs support institutions should closely monitor and keep internet commerce rules, regulations, and clear directions up to date. Both Thai business owners and customers have expressed a strong desire to use social media to achieve business goals and improve performance.

In short, the findings provide useful insights into how Thai business owners can carefully analyze the elements that influence their decision to adopt and use social media for commercial reasons. In particular, social media has grown in importance as one of the most significant avenues for Thai firms to reach out to online potential clients. Since social media has both benefits and dangers (Kaplan & Haenlein, 2010; McCann & Barlow, 2015), it has the ability to raise sales, cut costs, improve customer service, build brand awareness, drive traffic to firms' websites, and strengthen business-to-business interactions. As a result, the researchers anticipate that the findings will provide clear viewpoints and directions for students, scholars, and educational institutions.

## **LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH**

There were a few limitations to our research that needed to be addressed. To begin, the respondents were a small group of people (154 samples) who were asked to fill out a questionnaire. The information was gathered entirely through an online poll conducted during the COVID-19 epidemic. It was convenience sampling via online focused on Bangkok and Bangkok's outskirts. As a result, the findings of this study cannot be applied to the entire Thai population. Second, this research was conducted in Bangkok's most populous neighborhood. As a result, further study should be undertaken across a larger area in various parts of Thailand in order to obtain more dependable and accurate results. Finally, as behavior research progresses, the target sample could be drawn from a variety

of age groups, educational backgrounds, and average income levels. As a result of the many criteria, variables, and surroundings, different perspectives and study outcomes may emerge.

## REFERENCES

- AlSharji, A., Ahmad, S.Z., & Bakar, A.R.A).2018.(Understanding social media adoption in SMEs *.Journal of Entrepreneurship in Emerging Economies.*
- Chua, P.Y., Rezaei, S., Gu, M.L., Oh, Y., & Jambulingam, M).2018.(Elucidating social networking apps decisions :performance expectancy, effort expectancy and social influence *.Nankai Business Review International, 9*)2(, 118-142.
- Electronic Transactions Development Agency (ETDA). 2021. Thailand Internet User Behavior 2020. Retrieved from <https://www.eta.or.th/th/Useful-Resource/publications/Thailand-Internet-User-Behavior-2020.aspx>
- Featherman, M.S., & Pavlou, P.A).2003.(Predicting e-services adoption :a perceived risk facets perspective *.International journal of human-computer studies, 59*)4(, 451-474.
- Kaplan, A.M., & Haenlein, M).2010.(Users of the world, unite !The challenges and opportunities of Social Media *.Business horizons, 53*)1(, 59-68.
- Jaruwachirathanakul, B., & Fink, D).2005.(Internet banking adoption strategies for a developing country :the case of Thailand
- Martins, C., Oliveira, T., & Popovic, A).2014.(Understanding the Internet banking adoption :A unified theory of acceptance and use of technology and perceived risk application *.International Journal of Information Management, 34*)1(, 1-13.
- McCann, M., & Barlow, A).2015.(Use and measurement of social media for SMEs *. Journal of small business and enterprise development.*
- Muangtum, N. (2021). Summary of Digital Stat 2021 from We Are Social report, in depth in Social media section. Retrieved from <https://www.everydaymarketing.co/trend-insight/social-media-digital-stat-thai-2021-from-we-are-social/>
- Nawi, N.B.C., Al Mamun, A., Nasir, N.A.B.M., Raston, N.B.A., & Fazal, S.A).2017.(Acceptance and usage of social media as a platform among student entrepreneurs *.Journal of Small Business and Enterprise Development.*
- Nordhoff, S., Louw, T., Innamaa, S., Lehtonen, E., Beuster, A., Torrao, G., ... & Merat, N. (2020). Using the UTAUT2 model to explain public acceptance of conditionally automated (L3) cars: A questionnaire study among 9,118 car drivers from eight European countries. *Transportation research part F: traffic psychology and behaviour, 74*, 280-297.
- Nor, K.M., Shanab, E.A.A., & Pearson, J.M).2008.(Internet banking acceptance in Malaysia based on the theory of reasoned action *.JISTEM-Journal of Information Systems and Technology Management, 5*)1(, 03-14.
- Venkatesh, V., Morris, M.G., Davis, G.B., & Davis, F.D).2003.(User acceptance of information technology :Toward a unified view *.MIS quarterly, 425-478.*
- Venkatesh, V., Thong, J.Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly, 157-178.*
- San Martín, H., & Herrero, Á).2012.(Influence of the user's psychological factors on the online purchase intention in rural tourism :Integrating innovativeness to the UTAUT framework *.Tourism Management, 33*)2(, 341-350).

# THE LITERATURE REVIEW ON TRANSFORMATIONAL LEADERSHIP AND JOB SATISFACTION

NAPHOB CHAISUPANAT<sup>1</sup>, SUPATTRA PRANEE<sup>2</sup>  
<sup>1,2</sup> *Suan Sunandha Rajabhat University, Bangkok, Thailand*  
*Email: name\_d\_d@hotmail.com*

## ABSTRACT

To achieve goals in today's competitive business world Leaders must play a key role in pursuing success and encourage employees to work successfully, efficiently and achieve results for oneself family and organization. Transformational Leadership influencing followers and inspiring them to act beyond their perceived abilities (Odumeru, 2013). Transformational Leadership increases commitment, engagement, loyalty, and increased follower productivity. (Bass , 1996). Bass said there are four elements of Transformational Leadership is the Idealized Influence ,Inspirational Motivation ,Individualized Consideration and Intellectual Stimulation. (Antonakis et al., 2003). Job Satisfaction influences performance and innovation about the organization's performance in the hospitality industry. (Kanapathipillai, 2021).When Job Satisfaction is higher, it results in higher productivity and employee behavior in the organization. (Indarti, 2017). From studying the impact of Job Satisfaction acting as a mediator between work environments training and development and organizational, efficiency It was found that Job Satisfaction played a large role in mediating the work environment, training and development and organizational efficiency. (Chaudhry, 2017). Nanjundeswaraswamy (2016) It is thought that operating an organization in a harsh business environment, organizations must maintain skilled and competent employees through a humane job design process that improves employee job satisfaction. The model for measuring the components associated with Job Satisfaction is the Job Description Index. It consists of Pay, Co-Worker, Work and Supervisor, (Vitell & Davis, 1990).

**Keywords:** Transformational Leadership, Job Satisfaction

## INTRODUCTION

Transformational Leadership refers to the behavior of leaders that influences their followers and inspires them to take action beyond their perceived capacity. Transformational leadership inspires people to achieve amazing results, freeing employees to work. As well as giving decision-making power when trained, this has resulted in positive changes in the attitudes of followers and the organization as a whole. Transformational Leadership is the Idealized Influence, Inspirational Motivation, Individualized Consideration and Intellectual Stimulation. Job Satisfaction refers to the relationship of a person's job assessment with concerns that are important to them. These emotions and feelings can greatly influence a person's working attitude. Job Satisfaction is associated with superior performance, and work values increase employee motivation, less absenteeism and turnover. Job Satisfaction consists of Pay, Co-Worker, Work and Supervisor.

## 1.1 Transformational Leadership.

A review of relevant research on transformational leadership found that Transformational Leadership has a significant impact on employee performance (Rita M' R', 2018)., (Atan, 2019). And influencing employee retention (Yamin, 2020). Transformational Leadership has a positive correlation between leadership, employee independent motivation and employee innovation (Gupta, 2020). Transformational Leadership has a positive effect on learning culture, organization, cultural intelligence and employee performance (Nam, 2019). Transformational Leadership and Job Satisfaction were significantly correlated with innovative work behaviors. (Murphy, 2020). The components that were correlated with Transformational Leadership variables were: Idealized Influence , Inspirational Motivation , Individualized Consideration and Intellectual Stimulation. (Bass & Avolio, 1995).

## 1.2 Job Satisfaction.

From the review of research related to Job Satisfaction found that higher Job Satisfaction results in higher productivity and corporate citizenship behavior. (Indarti, 2017). From studying the impact of Job Satisfaction acting as a mediator between work environments training and development and organizational, efficiency It was found that Job Satisfaction played a large role in mediating the work environment, training and development and organizational efficiency. (Chaudhry, 2017). Transformational Leadership and Job Satisfaction have a positive influence on job performance. (Supriadi, 2020). The correlation model for Job Satisfaction was the Job Description Index, consisting of Pay, Co-Worker, Work and Supervisor. (Vitell & Davis, 1990).

# LITERATURE REVIEW

## 2. Body of paper

### 2.1 Concepts and Theories of Transformational Leadership.

Transformational Leadership is how leaders' behavior influences their followers and inspires them to go beyond their perceived abilities. Transformational Leadership Inspire people to achieve unexpected or amazing results, gives employees the freedom to do specific tasks, as well as empowering decision-making. Once trained, this creates a positive change in the attitudes of followers and the organization as a whole. (Odumeru , 2013). Transformational Leadership often exhibits four different behaviors, known as L's. All four of these behaviors are Motivating Motivations , Ideal Influence, Intellectual Stimulation and Individual Consideration. (Bass , 1999). Transformational Leadership has the ability to adapt to different situations, share common consciousness, self-management, act to increase motivation, morale, inspire and deliver followers through different mechanisms. Transformational Leadership increases commitment engagement, loyalty, and increased follower productivity. (Bass , 1996). Bass says transformational leadership influences positive expectations on followers. They inspire, empower, and motivate their followers to work beyond their normal limits (Johnson, 1994). Transformational Leadership also focuses on followers and their individual and development needs. (Riggio, 2009). Transformational Leadership is essential in working with complex employees and organizations. In addition to inspiring leaders to help guide them through an uncertain environment, employees are challenged and feel empowered, this nurtures them to become loyal and highly competent. Transformational Leadership has four components. (Johnson, 1994). Which is sometimes called 4 L's as follows :

1. Idealized Influence is a leader's ability to act as a role model, behave, be ethical, earn the respect and trust of employees. (Bass, 1985). It is said that the most common and most important element of Transformational Leadership is the charisma, which is the charisma that can inspire others to be dedicated to their work. Talents are particularly relevant to performance measures, such as satisfaction with leaders. (Lowe et al.,1996). Talent involves five elements, including charisma, social crisis, a concept that provides radical solutions. A group of followers who believe in the abilities of the leader and the special rewards given to the creators of the work. (Weber ,1968). Weber (1968) also listed vision as one of the five elements that lead to charisma. It states that charismatic leaders exhibit a number of behaviors, including focusing on tasks, clearly speaking to ideals and goals.(House ,1977). McClelland (1975) proposes that vision affects to achieve the integration of corporate values and goals , which encourages individuals to adopt the behavior of a leader as a model. (Rafferty, 2004).

2. Inspirational Motivation is the level at which leaders instill a strong sense of purpose among their employees. Through demonstrating a vision that captivates and inspires employees . Downton (1973) defines inspiration as the action or power that drives an intellect or emotion. Bass (1985) said charismatic leaders use attraction and emotional dialogue to motivate followers to transcend self-interest for the benefit of the team. As an emotional attribute to the process of persuasion, he said that motivational leaders add emotional properties to the process of influence through the use of inspirational and emotional quotes. Yukl (1981) suggests that inspiration refers to the extent to which leaders motivate employees' enthusiasm for group work and speak to ensure they are able to accomplish assignments and achieve objectives.

3. Individualized Consideration is the level at which leaders are able to pay attention, sympathetic, have generosity and support for the needs of each employee. Bass (1985) argues that individual consideration occurs when leaders develop a workforce orientation and show individualized interest and response to their individual needs appropriately. Individual advocacy is behavior on the part of a leader that indicates that the leader respects his followers and values his followers' feelings and needs. (Podsakoff et al., 1990). House (1996) states that leadership behaviors directed towards satisfying the needs and preferences of their subordinates, for example, show concern for the welfare of their subordinates and create a psychologically friendly and supportive work environment. (Rafferty, 2004).

4. Intellectual Stimulation is the level at which leaders can motivate and foster employee creativity through challenging new assumptions, take risks and persuade employees to create ideas and processes for solving problems, behaviors that increase followers' interest in and awareness of problems and develop the ability and tendency to think about problems in new ways ( Bass, 1985). The cognitive stimulation effect can be seen by increasing the ability of employees to create ideas. An understanding of problem analysis and the quality of the pieces they create (Bass & Avolio, 1990). Cognitive stimulation increases employee attention and awareness of problems and increases their ability to think about problems in new ways. (Rafferty, 2004).

From a research study on Transformational Leadership It can be used to synthesize factors related to change leadership variables as shown in Table 1.

Table 1: Transformational Leadership Variable Synthesis

Author/ year	Idealized Influence	Inspirational	Individualized	Intellectual Stimulation	nurture	supportive leadership	vision
Rita, M., Payangan, O. R., Rante, Y., Tuhumena, R., & Erai, A. (2018).	x	x	x	x			
Lum, K. (2018).	x	x	x	x			
Nam, K. A., & Park, S. (2019).	x	x	x	x			
Faupel, S., & Stüb, S. (2019).	x	x	x	x			
Santoso, H., Abidinagoro, S. B., & Arief, M. (2019).	x	x	x	x			
Alshehhi, S., Abuelhassan, A. E., & Nusani, M. (2019).	x	x	x	x			
Li, H., Sajjad, N., Wang, Q., Muhammad Ali, A., Khaqan, Z., & Amina, S. (2019).	x	x	x	x			
Purwanto, A., Bemarto, I., Asbari, M., Wijayanti, L. M., & Hyun, C. C. (2020).		x	x	x	x		
Basyir, L., Madhakomala, R., & Handaru, A. (2020).	x	x	x	x			
Amor, A. M., Vázquez, J. P. A., & Faña, J. A. (2020).		x	x	x		x	x
Angriani, M. R., Eliyana, A., Fitrah, H., & Sembodo, P. (2020).	x	x	x	x			
Senjaya, V., & Anindita, R. (2020).	x	x	x	x			
Murphy, W. H., & Anderson, R. E. (2020).	x	x	x	x			
Kishen, K., Syah, T. Y. R., & Anindita, S. R. (2020).	x	x	x	x			
Luu, D. T., & Phan, H. V. (2020).	x	x	x	x			
Winasis, S., Djumamo, D., Riyanto, S., & Ariyanto, E. (2021).	x	x	x	x			
Almohtaseb, A., Almahameed, M., Sharai, F., & Dabbouri, E. (2021).	x	x	x	x			
Nurtjahjani, F., Batilmurik, R. W., & Pribadi, J. D. (2021).	x	x	x	x			
Total	16	18	18	18	1	1	1

Based on the literature review and literature review synthesis, according to Table 1, the compositional measures of transformational leadership variables are: Idealized Influence, Inspirational Motivation, Individualized Consideration and Intellectual Stimulation. (Bass & Avolio, 1995).

## 2.2 Concepts and Theories of Job Satisfaction.

Job Satisfaction is the relationship of a person's job assessment to the concerns that are important to them and these feelings and emotions associated with them greatly influence a person's attitude to work. (Roodt et al., 2002). Employee job satisfaction is associated with superior performance, higher employee motivation and lower rates of absenteeism, reduced turnover and burnout against arguments. (Ngo et al., 2009). Swamy et al. (2015). Identified employees with job satisfaction as an important corporate asset. Nanjundeswaraswamy (2016) It is thought that operating an organization in a harsh business environment, organizations must maintain skilled and competent employees through a humane job design process that improves employee job satisfaction. Job satisfaction has a positive influence on innovative behavior through organizational

efficiency. (Tang, 2019) . Higher job satisfaction results in higher productivity and corporate citizenship behavior . (Indarti, 2017). Transformational leadership and job satisfaction have a positive influence on job performance. (Supriadi , 2020) .

From the literature, the factors related to Job Satisfaction variables can be synthesized as shown in Table 2.

Table 2: Job Satisfaction Variable Synthesis

Author/ year	Job Description Index (JDI)	MSQ	hierarchy of needs	BIAJS
Xeni, M. J. (2014).	x			
Indarti, S., Fernandes, A. A. R., & Hakim, W. (2017).				x
Chaudhry, N. I., Janko, M. A., Mushraque, T., Mahesar, H. A., & Ghani, Z. (2017).				x
Atiq, S., Wahid, S., Javaid, N., & Karwal, M. (2017).			x	
Nikpour, A. (2018).	x			
Sudibjo, N., Bernarto, I., & Yuliana, Y. (2018, February).	x			
Luu, K. (2018).		x		
Alshehhi, S., Abuelhassan, A. E., & Nuseri, M. (2019).	x			
Tang, Y., Shao, Y. F., & Chen, Y. J. (2019).		x		
Qaiser Danish, R., Ali, N., Fawad Ali, H., Afzal Humayon, A., Bilal Ahmad, M., & Gohar, A. (2019).	x			
Al Idus, S., Almar, A. S., & Abdussakir, A. (2019).	x			
Tang, Y., Shao, Y. F., & Chen, Y. J. (2019).				x
Ni, G., Zhu, Y., Zhang, Z., Qiao, Y., Li, H., Xu, N., ... & Wang, W. (2020).	x			
Senjaya, V., & Anindita, R. (2020).		x		
Kishen, K., Syah, T. Y. R., & Anindita, S. R. (2020).			x	
Supriadi, S., Minarti, S. M. S., Paminto, A. P. A., Hidayati, T. H. T., & Pahitani, S. P. S. (2020).	x			
Luu, D. T., & Phan, H. V. (2020).		x		
Basyir, L., Madhakomala, R., & Handaru, A. (2020).			x	
Linda, M. R., Trismiyanti, D., & Yonita, R. (2021).	x			
Pepe, A., Addimando, L., Dagdukec, J., & Veronese, G. (2021).	x			
Butakor, P. K., Guo, Q., & Adebanji, A. O. (2021).		x		
Kanapathipillai, K. (2021).		x		
Total	10	6	3	3

Based on the literature review and literature review synthesis, according to Table 2, the correlation model for the Job Satisfaction component is the Job Description Index, consisting of Pay, Co-Worker, Work and Supervisor. (Vitell & Davis, 1990).

### 2.3 Relationship between Transformational Leadership and Job Satisfaction

Transformational Leadership and Job Satisfaction these are variables that are related in many ways. From the literature review found that the features of Idealized Influence ,Inspirational Motivation ,Individualized Consideration and Intellectual Stimulation affect employee job satisfaction in terms of Pay, Co-Worker, Work and Supervisor. resulting in better corporate performance. Transformational Leadership has a positive and significant influence on Job Satisfaction and organizational change commitment. Job Satisfaction is significantly positively associated with the employee's emotional commitment and the normative commitment to organizational change. (Luu, 2020).

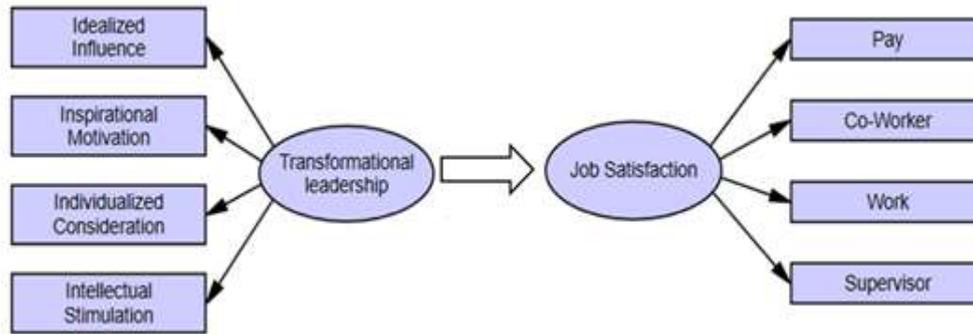
The ability of Transformational Leadership to communicate in an organization directly influences employee turnover and Transformational Leadership and organizational communication influences through work engagement on employee turnover. ( Basyir, 2020) . Transformational Leadership has a positive effect on

Job Satisfaction and has a significant positive effect on employee performance. (Alshehhi S' A', 2019). There is a strong positive correlation between Transformational Leadership and Job Satisfaction of HR Employees, Despite Covid-19 Transformational Leadership helps employees work more efficiently and increases employee Job Satisfaction and corporate commitment. Transformational leadership is considered a highly competent tool in crisis management and organizational management. .(Almohtaseb, 2021) . Transformational Leadership It has a positive influence on earnings goals and influence through Job Satisfaction mediators and Transformational Leadership has a direct influence on job satisfaction.(Lum, 2018). Transformational Leadership positively affects employee Job Satisfaction, Employee Job Satisfaction has a significant effect on organizational performance. High job satisfaction improves performance and Transformational Leadership positively influences organizational performance.(Kishen, 2020).

## CONCLUSION

In conclusion, Transformational leadership refers to the behavior of leaders that influences their followers and inspires them to take action beyond their perceived abilities. Transformational Leadership inspires people to achieve amazing results. It gives employees the freedom to work, as well as empowering them to make decisions that make a positive change in the attitudes of followers and the organization as a whole. Transformational Leadership consists of Idealized Influence ,Inspirational Motivation ,Individualized Consideration and Intellectual Stimulation. Job Satisfaction refers to the relationship between a person's job assessment and the emotional state that has a strong influence on a person's attitude to work, comprising Pay, Co-Worker, Work and Supervisor. From researching and reviewing the literature studying variables and their relationships according to the research conceptual framework. It can be summarized as the relationship of various variables according to the research conceptual framework as follows :

Figure 1: Relationship between Transformational Leadership and Job Satisfaction



## ACKNOWLEDGMENT

This article examines to study the concept, theories and measurement principles about Transformational Leadership and Job Satisfaction to use the information for further research.

## REFERENCES

- Al Idrus, S. A. (2019). The influence of business innovation with relationship of organizational learning and job satisfaction on market orientation. . *Journal of Science and Technology Policy Management*.
- Almohtaseb, A. A. (2021). The effect of transformation leadership on government employee job satisfaction during Covid-19. *Management Science Letters*, , 1231-1244.
- Alshehhi, S. A. (2019). Effect of transformational leadership on employees' performances through job satisfaction within public sectors in UAE. . *International Journal of Innovative Technology and Exploring Engineering*, , 588-597.
- Amor, A. M. (2020). Transformational leadership and work engagement: Exploring the mediating role of structural empowerment. *European Management Journal*, 169-178.
- Angriani, M. R. (2020). The Effect of Transactional and Transformational Leadership on Lecturer Performance with Job Satisfaction as the Mediation. . *Sys Rev Pharm*, , 1263-1272.
- Attiq, S. W. (2017). The impact of employees' core self-evaluation personality trait, management support, co-worker support on job satisfaction, and innovative work behaviour. . *Pakistan Journal of Psychological Research*, , 2.
- Bass, B. (1999). *Two Decades of Research and Development In Transformational Leadership*.
- Basyir, L. M. (2020). The effect of transformational leadership, organizational communication and job involvement toward withdrawal behavior. . *Management Science Letters*, , 1623-1632.
- Butakor, P. K. (2021). Using structural equation modeling to examine the relationship between Ghanaian teachers' emotional intelligence, job satisfaction, professional identity, and work engagement. *Psychology in the Schools*, 534-552.

- Chaudhry, N. I. (2017). Impact of working environment and training & development on organization performance through mediating role of employee engagement and job satisfaction. . *European Journal of training and development study*.
- Faupel, S. &. (2019). The effect of transformational leadership on employees during organizational change—an empirical analysis. *Journal of Change Management*, 145-166.
- Indarti, S. F. (2017). The effect of OCB in relationship between personality, organizational commitment and job satisfaction on performance. . *Journal of Management Development*.
- Kanapathipillai, K. (2021). The Impact of Training And Innovation on Organizational Performance in the Hospitality Industry in Malaysia: Job Satisfaction as Mediator. . *European Journal of Human Resource Management Studies*.
- Kishen, K. S. (2020). The Transformational Leadership Effect on Job Satisfaction and Job Performance. . *Journal of Multidisciplinary Academic*,, 47-51.
- Li, H. S. (2019). Influence of transformational leadership on employees' innovative work behavior in sustainable organizations: Test of mediation and moderation processes. . *Sustainability*.
- Linda, M. R. (2021). The impact of job satisfaction on organizational commitment with employee engagement as moderating variable. . *Journal of Management Info*,, 90-104.
- Lum, K. (2018). An examination of the mediating effect of job satisfaction in the predictive relationship between transformational leadership and turnover intention in the united states service industry . *Doctoral dissertation, Capella University*.
- Luu, D. T. (2020). The effects of transformational leadership and job satisfaction on commitment to organisational change: a three-component model extension approach. *The South East Asian Journal of Management*.
- Murphy, W. H. (2020). Transformational leadership effects on salespeople's attitudes, striving, and performance. . *Journal of Business Research*, 237-245.
- Nam, K. A. (2019). Factors influencing job performance: organizational learning culture, cultural intelligence, and transformational leadership. *Performance Improvement Quarterly*, 137-158.
- Ni, G. Z. (2020). Influencing mechanism of job satisfaction on safety behavior of new generation of construction workers based on Chinese context: the mediating roles of work engagement and safety.
- Nikpour, A. (2018). Psychological empowerment and organizational innovation: mediating role of job satisfaction and organizational commitment. . *International Journal of Organizational Leadership*, 106-119.
- Nurtjahjani, F. B. (2021). The Influence of Transformational Leadership Style on Work Engagement Remuneration Dimediation and Educator Motivation. *Jurnal Aplikasi Manajemen*.
- Pepe, A. A. (2021). Psychological distress, job satisfaction and work engagement: a cross-sectional mediation study with a sample of Palestinian teachers. . *Educational Studies*, , 275-291.
- Purwanto, A. B. (2020). Effect of transformational and transactional leadership style on public health centre performance. . *Journal of Research in Business, Economics, and Education*,.
- Rita, M. P. (2017). Moderating effect of organizational citizenship behavior on the effect of organizational commitment, transformational leadership and work

- motivation on employee performance. . *International Journal of Law and Management*,, 953-964.
- Rita, M. R. (2018). Moderating effect of organizational citizenship behavior on the effect of organizational commitment, transformational leadership and work motivation on employee performance. *International Journal of Law and Management*, 953-964.
- Santoso, H. A. (2019.). The Role of Digital Literacy in Supporting Performance Through Innovative Work Behavior: The Case of Indonesia's Telecommunications Industry. . *International Journal of Technology*, , 1558-1566.
- Senjaya, V. &. (2020). The Role of Transformational Leadership and Organizational Culture Towards Organizational Commitment Through Job Satisfaction Among Mining Industry Employees. . *Jurnal Aplikasi Manajemen*, , 767-782.
- Sudibjo, N. B. (2018). The role of perceived organizational support, job satisfaction, and work engagement in post graduate lecturers performance. . In *Conference Proceedings Jakarta Indonesia, ICABE* , 02-109.
- Suprpti, S. A. (2020). Leadership Style, Organizational Culture and Innovative Behavior on Public Health Center Performance during Pandemic Covid-19. . *Journal of Industrial Engineering & Management Research*, , 1(2), 76-88.
- Supriadi, S. M. (2020). Factors related to Nurses' Job Satisfaction and Performance at Private Hospitals in Samarinda City. Indonesia. *Journal of Arts and Humanities*, 42-54.
- Tang, Y. S. (2019). Assessing the mediation mechanism of job satisfaction and organizational commitment on innovative behavior: the perspective of psychological capital. *Frontiers in psychology*,, 10, 2699.
- Winasis, S. D. (2021). The effect of transformational leadership climate on employee engagement during digital transformation in Indonesian banking industry. *International Journal of Data and Network Science*.

# THE LITERATURE REVIEW ON INNOVATIVE WORK BEHAVIOR AND ORGANIZATION PERFORMANCE

PATHADA CHAISUPANAT <sup>1</sup>, SUPATTRA PRANEE<sup>2</sup>

<sup>1,2</sup> *Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: pathada1254@gmail.com1*

## ABSTRACT

In today's competitive business environment, product or process innovation is one of the things that make an organization more efficient. Innovation is essential to organizational development is the modification of organizational characteristics or organizational behavior, which has never been adapted before in response to the stimuli of a globalized context. To create initiatives and processes in an organization, group or role as well as new procedures or products that are advantageous in business operations. Innovative Work Behavior usually involves exploring new opportunities and ideas related to creative behavior, including applying new knowledge behaviors, implementing changes or developing processes to improve efficiency in order to win organizational competition. There are 4 components: Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. (scott & bruce ,1994). Organization Performance can be measured by the intended outcomes, goals and objectives,It is the profitability obtained from resource-intensive activities and is a measure of the success generated by business activities and the profitability of the business. Organization Performance consists of Financial ,Customer ,Internal Process and Learning and Growth. (Balaboniene, 2015). Innovative Work Behavior It has a positive and significant effect on the performance of the organization. Innovative Work Behavior and Organization Performance are variables that are related in many ways. Innovative Work Behavior of employees, interest in Idea Exploration , Idea Generation, Idea Championing and Idea Implementation to benefit the organization's Financial ,Customer ,Internal Process and Learning and Growth. (scott & bruce ,1994) .

**Keywords:** Innovative Work Behavior , Organization Performance

## INTRODUCTION

Innovative Work Behavior refers to individual behaviors that are intended to bring about initiatives and processes in an organization, group or work role, as well as new processes or products that are advantageous in business. Innovative Work Behavior usually involves exploring new opportunities and ideas related to creative behavior, including applying new knowledge behavior, implementing change or developing processes to improve efficiency in order to win organizational competition. The literature review found that Innovative Work Behavior has four components: Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. (scott & bruce, 1994).

### 1.1 Innovative Work Behavior.

A review of relevant research on Innovative Work Behavior found that the role of innovation is increasingly important in determining the survival and growth of a company (Santoso H' A', 2019). Innovative Work Behavior has an effect on improving employee productivity . Innovative Work Behavior mediates the relationship between motivation and performance (Khan, 2021). Innovative Work Behavior has a positive and significant effect on Organization Performance.

The importance of Innovative Work Behavior is the use of new knowledge, implementing changes or developing processes to improve efficiency in order to win organizational competition. Innovative Work Behavior consists of Idea Exploration, Idea Generation , Idea Championing and Idea Implementation. (scott & bruce ,1994).

### 1.2 Organization Performance

From a review of related research on Organization Performance, it was found that Organization Performance was measured by productivity, quality or accuracy of work produced,number of innovations, process improvements or new ideas, reputation for excellence in work, achievement of production or service goals, performance and the spirit of the unit's personnel (Williams et al. 1990), (Verbeeten ,2008). Intellectual capital and innovation mediate Organization Performance .(Alrowwad, 2020). Transformational leadership has a positive influence on organizational innovation and Organization Performance . (Noruzy, 2017). Organizational innovation acts as a medium, resulting in a higher influence on Organizational Performance for Transformational Leadership. (Khan H. U., 2018). The role of transformational leadership has an indirect influence on Organization Performance through employee retention. (Yamin, 2020) . Transformational Leadership and the atmosphere in the organization has a positive and significant effect on Organization Performance both directly and through mediation Innovative Work Behavior. (Suprapti, 2020). Transformational Leadership has a Great Influence on Innovative Work Behavior. (Atan , 2019).

## LITERATURE REVIEW

### 2. .Body of paper

#### 2.1 Concepts and Theories of Innovative Work Behavior

Innovative Work Behavior is very important because in running a business there are many business risks that make the company unsustainable, one of the biggest risks is the rapid change of business in terms of market, competition and technology that causes uncertainty. (Pudjiarti & Darmanto, 2020).

In order to win the competition, organizations need human resources who can come up with innovative ideas. Innovative work behavior is defined by Farr & Ford (1990) as individual behavior that is intended to provide initiatives and processes (in an organization, group or work role) as well as advantageous new procedures or products. Creativity is a key component of the Innovative work behavior. The process of innovation occurs when performance gaps are recognized and problems and ideas arise due to the need for innovation. (West , 2002).Innovative employees often want to educate, innovate and come up with new ideas to solve work problems that improve productivity (Amabile et al., 2005). DeJong & Den Hartog (2008) argue that innovative work behavior is often associated with exploring new opportunities and ideas (related to creative behavior). However, this may include behaviors, applying new knowledge, implementing changes or developing processes to improve efficiency. According to research by Kim &

Koo (2017) Innovative work Behavior has a strong influence on Organization Performance. In other words, the higher the innovative work behavior, the higher the individual efficiency. (Mufti, 2019). Innovative working behavior is a key factor that management scholars need to consider in order to gain an advantage to compete and create the sustainability of the organization. (Martins, 2003). In addition to research and development, the organization that operates in a highly competitive business environment it is also necessary. Innovative Work Behavior is essential to any business (Lee, 2019). To discover new ways to meet customer needs (Chowhan, 2017), (Hu, 2019) and maintain a competitive position in the business world. (Shalley, 2004). Since organizations depend on different factors to drive Innovative Work Behavior (Martins, 2003). Organizational leaders are the most prominent factor that can promote Innovative Work Behavior in the workplace and enable new change. It arises in elusive situations (Nazir S' Q', 2018), capable of solving complex problems with innovative solutions. (Williams, 2011). De Jong & Den Hartog (2010) states that Innovative Work Behavior refers to individual behaviors aimed at reaching, guidance and initiative in a group, work role. , Organization process, product, new idea or procedure that is useful. Factors that influence it include job challenges, independence, strategic interests, supportive situations, external contacts, differentiation and diverse needs. (De Jong & Kemp 2003). Altındağ & Köseadağı (2015); Kim & Koo (2017) found that Innovative Work Behavior had a significant impact on employee performance as individual discretionary behavior that exceeded expectations in a formal job description. (Nagarajan et al., 2005). personal environmental influence with the Innovative Work Behavior, it should be checked that the fit between the person and the environment consists of a three-dimensional perspective that includes the fit between the person and the job , the fit between the individual and the group and the fit between the individual and the organization. Edwards & Billsberry (2010) also stated that employees would be a good fit for the organization, work and colleagues. In other words, the right person for the right job and the right organization (Tyson, 1975). Cable & Edwards (2004) also stated that the fit between the individual and the environment directly and indirectly influence employee outcomes. Recently, researchers have focused on improving the quality of work life and organizational performance (Bernardez, 2011). Schouler & Youngblood (1986) stated that the quality of work life consists of the design of the work and the environment. To work is the behavior of an individual whose purpose is to achieve the intention of introducing and initiating new processes, ideas, products or procedures (De Jong & Den Hartog, 2010). Innovation and creativity are seen as determining competitive advantages (Berawi, 2017). Companies need to constantly show progress and innovation to stay competitive in the industry (Spanuth & Wald, 2017). In creating creativity, the human factor is important. (Chen et al., 2016). Leadership factors also determine how employees are encouraged to be creative. Innovative Work Behavior from employees leads to better performance .(Lin & Wong, 2014). Innovative Work Behavior measures include Idea exploration, Idea generation, Idea promotion, Championing and Implementation. (De Jong & Den Hartog, 2010; Kleysen & Street, 2001). Elements of Innovative Work Behavior (De Jong & Den Hartog, 2008) are measured in four dimensions: exploration of opportunities , generation ideas , being a champion and application ability (Luhglatno, 2021). The four dimensions to consider Innovative Work Behavior are Idea Exploration, Idea Generation, Idea Championing, Idea Implementation. (Li, 2019). Measure with opportunity exploration ,idea generation champion and application behavior. (Suprapti, 2020). Innovative Work Behaviors are Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. (scott & bruce , 1994) .

From a research study on Innovative Work Behavior It can be used to synthesize factors related to change leadership variables as shown

*Table 1: Innovative Work Behavior Variable Synthesis*

Author/ year	Idea exploration	Idea generation	Idea promotion	Championing	Implementation
Xeni, M. J. (2014).	x	x		x	x
Attiq, S., Wahid, S., Javaid, N., & Kanwal, M. (2017).	x	x	x	x	x
Orth, M., & Volmer, J. (2017).	x	x		x	x
Waheed, A., Xiao-Ming, M., Ahmad, N., & Waheed, S. (2017).		x	x		x
Garg, S., & Dhar, R. (2017).	x	x		x	x
Nikpour, A. (2018).	x	x		x	x
Al Idrus, S., Ahmar, A. S., & Abdussakir, A. (2019).	x	x			
Li, H., Sajjad, N., Wang, Q., Muhammad Ali, A., Khaqan, Z., & Amina, S. (2019).	x	x		x	x
Tang, Y., Shao, Y. F., & Chen, Y. J. (2019).	x	x		x	x
Qaiser Danish, R., Ali, N., Fawad Ali, H., Afzal Humayon, A., Bilal Ahmad, M., & Gohar, A. (2019).	x	x		x	x
Diyanto, A., Susanti, E., & Syah, T. Y. R. (2019).	x	x		x	x
Jason, V., & Geetha, S. N. (2019).		x	x		x
Kuniawan, R. A., & Ranihusna, D. (2019).	x	x		x	x
Van Zyl, L. E., Van Oort, A., Rispens, S., & Olckers, C. (2019).		x	x		x
Suprapti, S., Asbani, M., Cahyono, Y., & Mufid, A. (2020).	x	x		x	x
Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020).	x	x		x	x
Bannay, D. F., Hadi, M. J., & Amanah, A. A. (2020).		x	x		x
Nazir, O., & Islam, J. U. (2020).	x	x		x	x
Gashema, B. (2021).	x	x		x	x
Kanapathipillai, K. (2021).	x	x		x	x
<b>Total</b>	<b>16</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>20</b>

From literature review and literature review synthesis according to the factor synthesis table, the Innovative Work Behavior variables are Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. (scott & bruce , 1994).

## 2.2 Concepts and Theories of Organization Performance.

Organization Performance is a complex and multidimensional phenomenon in business documents. An organization's performance consists of an organization's results or actual results of an organization that can be measured by results. Intended goals and objectives. An organization's performance involves three areas that are relevant to the organization: financial performance. (Return on investment, profit, etc.) Return on equity (economic added value total shareholders, etc.) and the efficiency of the product/service market. (Market share, sales, etc.). (Al Khajeh, 2018). The Organization Performance is

the ability of an organization to exist and achieve a given goal with balanced results and costs. A company's performance refers to the level of success of the company. (Sulaiman et al., 2010). This is a classic method for determining general indicators of the economic efficiency of administrative work. The effect can be positive if the result is close to the ideal condition, fulfills the objective function and corresponds to the constraint system, but can be negative if the stated goal is not achieved. Performance is a multidimensional concept. (Morgan & Strong, 2003). It can refer to the degree to which an operation achieves its operational objectives. (major measures) and meeting customer expectations (secondary measures) (Sandybayev, 2019). Increasing organizational performance is a goal that every organization is pursuing. The Organization Performance be most easily defined as the performance of the company in relation to its goals and objectives. Historical measurements of an organization's performance are more or less limited to financial measures in terms of revenue, profit, net operating income, ROA (return on assets), ROE (return on equity). ) ROS } (Return on Sales) and most other income and profit measures. While it is very beneficial, conventional financial measures cannot provide an organizational advantage in today's competitive environment. (Wu & Liu, 2010). The new organizational concept requires additional measurement data to enable managers to make appropriate decisions and to allow shareholders to properly assess the company's performance. To measure performance is more important and to provide added value to stakeholders by incorporating non-financial information into performance criteria as well. This information can reflect intellectual capital and social responsibility, as well as promoting the level of organizational knowledge (Wu & Liu, 2010) New measurement concepts and Organization Performance models. have occurred in the business world such as EVA (Economic Value Added), MVA (Market Value Added). Integrated measurement concepts such as BSC with a Financial Perspective, Customer Perspective, Internal Process Perspective. , learning and growth perspectives, and other perspective models such as human resources, outcomes, stakeholder satisfaction. , Strategic Planning and Performance Process , creating value , corporate vision , corporate growth , competitive advantage, etc. In our review of the research literature, we identified seven performance measures: financial performance, the efficiency of innovation , growth efficiency , operational efficiency , competitive advantage, value creation and general performance measures. In most literature reviews, researchers avoid using specific performance measures such as ROA ,BSC or EVA, but use performance indicators that reflect more general organizational success. (Novak , 2017).

Business performance is a measure of the success generated by business activities and profits for the business. (Kristinae et al., 2019). The profitability gained from resource-intensive activities must be supported by knowledge gained from a knowledge-based perspective. (Bouwman et al., 2019). More efficient and effective organizational resources will affect business operations. Business success is also required as a market orientation data to see what consumers want. In addition to market orientation, there is also an opinion on the need for business context in the relationship process to improve business results by adapting to changing consumer, demand and market economies. (Curado et al., 2018). The business results obtained from KBV can be superior to business value as knowledge sharing is a mutual relationship between resources and effective management is a good business strategy. (Nakos et al., 2019). The format of the event is market-oriented information to promote product innovation to improve business results in previous research has had a significant positive effect on maintaining the efficiency of local product businesses (Falahat et al. al., 2020). Product innovation model must be unique and rare in order to achieve business performance. From collaborative action as a resource management strategy developed through knowledge of needs, business foundations

require innovation to improve efficiency based on knowledge related to market orientation .(Kristinae et al., 2019) . In order to improve business efficiency, it is necessary to have the ability and expertise to manage products and resources to maintain the business. (Christa, 2021). The Organizational Performance Measures Review found that the most widely used tool to measure the performance of public and business organizations is the Malcolm Baldrige National Quality Award (MBNQA), the European Foundation model for Quality Management (EFQM) and Balance Scorecard (BSC) . (Balaboniene , 2015).

The Balance Scorecard (BSC) transforms an organization's mission and strategy into a comprehensive set of performance tools and traditionally creates a strategic measurement system. Most organizations consider their activities through financial analysis. However, financial instruments cannot create a balanced picture of the key success factors of any organization because financial metrics tend to be historical. The Balance Scorecard (BSC) has four main perspectives: Financial, Customer, Internal Process and Learning and Growth. (Balaboniene, 2015).

The BSC was developed by Kaplan & Norton (1992) to include non-financial indicators as part of the company's reporting system from existing performance measures. BSC is one of the most popular, well known and most understood management tools. It is a comprehensive tool to assess performance in management documentation (Molina et al., 2014; Nazari, 2014). Performance measures and strategies used in BSC fall into four main groups: Financial, Customer, Internal Process, and Learning and Growth. Financial indicators include traditional financial measures such as profitability, risk and growth. The Customer indicator gives rise to the relationships an organization builds with its desired customers, such as market share and customer satisfaction. Internal Process Indicators focus on the methods and practices used within the organization to create value and ultimately improve those processes. The Learning and Growth indicator relates to priorities to create an environment conducive to innovative organizational change. and growth. The BSC framework can help organizations measure their financial and non-financial performance based on their strategy and vision. (Mehralian, 2017) ,(Quesado, 2018). A review of related research in the field of Organization Performance found that Organization Performance was measured by productivity, quality or accuracy of work produced, number of innovations, process improvements or new ideas reputation for excellence and efficiency. Achieve the production or service goals, performance and personnel spirit of the unit. (Williams et al. 1990), (Verbeeten ,2008). Intellectual capital and innovation mediate Organization Performance. (Alrowwad, 2020). Transformational Leadership has a positive influence on organizational innovation and Organization Performance. (Noruzy, 2017). Organizational innovation acts as a medium, resulting in transformational leadership having a higher influence on Organization Performance.(Khan H. U., 2018). The role of transformational leadership has an indirect influence on Organization Performance through employee retention. (Yamin, 2020). Transformational Leadership and the organizational climate has a positive and significant effect on Organization Performance both directly and through mediation Innovative Work Behavior. (Suprapti, 2020). Transformational leadership has a strong influence on Organization Performance. (Atan, 2019).

From the literature, the factors related to Organization Performance variables can be synthesized as shown in Table 2

Table 2: Organization Performance Variable Synthesis

Author/year	Financial	Customer	Internal Process	Learning and Growth	HR outcomes	business turnover	Effectiveness
Kareem, O., Azmin, A. B., & Ahmad, T. S. T. (2017).	x	x		x	x	x	
Naala, M., Nordin, N., & Omar, W. (2017).	x	x	x	x			
Mehralian, G., Nazari, J. A., Nooriparto, G., & Rasekh, H. R. (2017).	x	x	x				
Van Wingerden, J., & Van der Stoep, J. (2018).	x	x	x	x			
Lisbona, A., Palaci, F., Salanova, M., & Frese, M. (2018).	x	x		x			
Tüzün, I. K., Çetin, F., & Basım, H. N. (2018).	x	x	x	x			
Soltani, Z., Zareie, B., Milani, F. S., & Navimipour, N. J. (2018).	x	x					x
Navimipour, N. J., Milani, F. S., & Hossenzadeh, M. (2018).	x	x	x	x			
Otoo, F. N. K., & Mishra, M. (2018).	x	x	x		x		
Hoque, A. S. M. M. (2018).	x		x				
Mehralian, G., Nazari, J. A., & Ghosseinadeh, P. (2018).	x	x	x	x			
Rajapathirana, R. J., & Hui, Y. (2018).	x	x		x			x
Attar, M., Kang, K., & Sohaib, O. (2019).	x	x			x	x	
Obeid Alshamsi, A. A., Nusari, M., Abuelhassan, A. E., & Blumic, A. (2019).			x	x			x
Kurdi, B., & Alshuaidh, M. (2020).	x	x	x	x			
Migdadi, M. M. (2020).	x		x				
Pattnaik, S. C., & Sahoo, R. (2020).	x	x	x	x	x		
Yadegandehkordi, E., Nilashi, M., Shuib, L., Nasir, M. H. N. B. M., Asadi, S., Sumad, S., & Awang, N. F. (2020).	x	x	x	x			
Christa, U., & Kristina, V. (2021).	x	x		x			
Gandhiadi, G. K. (2021).	x			x		x	
Hashmi, A., Amirah, N., & Yusof, Y. (2021).	x		x			x	
Noor, T. M. (2021).	x	x	x			x	x
<b>Total</b>	<b>21</b>	<b>17</b>	<b>15</b>	<b>14</b>	<b>4</b>	<b>5</b>	<b>5</b>

From literature review and literature review synthesis the correlation model for the Organization Performance variables were Financial, Customer, Internal Process, and Learning and Growth. (Balaboniene, 2015).

### 2.3 Relationship between Innovative Work Behavior and Organization Performance

Innovative Work Behavior and Organization Performance these are variables that are related in many ways. Innovative Work Behavior in Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. Affects Organization Performance in terms of Financial, Customer, Internal Process and Learning and Growth. (Suprapti, 2020) studied the effects of Change leadership and organizational atmosphere on organizational performance through Innovative Work Behavior, found that transformational leadership and the organizational atmosphere has a positive and significant effect on Organizational Performance both directly and through mediation Innovative Work Behavior, and Innovative Work Behavior has a positive and significant effect on Organization Performance. (Mufti, 2019) A study of the correlation between personal-environmental

balance, quality of work life, and Innovative Work Behavior and the personal performance of employees of PDAM Tirta Panguripan of Kendal, found a positive correlation and Significance between the balance of a person and the environment , quality of work life With personal performance with Innovative Work Behavior as a medium. (Santoso, 2019). A study of the relationship between transformational leadership, Innovative Work Behavior, Organization Performance, and digital literacy, as a mediator between Innovative Work Behavior and Organization Performance. This shows that innovation in technology can be used as a key element in driving a company's competitiveness, especially in the high-tech industry. The role of innovation is becoming more and more important and to determine the survival and growth of a company, it was found that there was a significant and positive correlation between Transformational Leadership and Innovative Work Behavior. Innovative Work Behavior was also significantly positively correlated with Organization Performance, and digital competence enhanced the relationship between Innovative Work Behavior and Organization Performance.

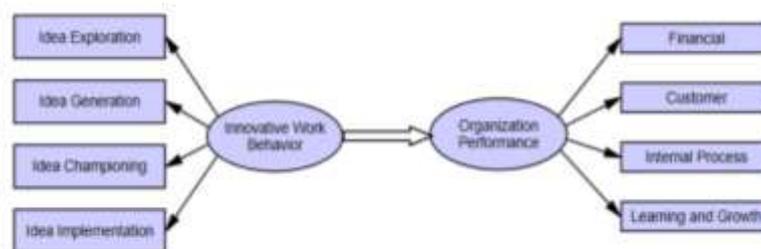
(Luhglatno, 2021). A study of the influence of open innovation mediation (ODOI) between Innovative Work Behavior and employee performance in an organization found that open innovation can mediate the impact of Innovative Work Behavior on performance. Innovative Work Behavior has the effect of increasing open innovation and thereby improving employee performance. (Khan J' &', 2021). A study of factors influencing employee performance in Pakistan, the influence of direct and mediated public service incentives Innovative Work Behavior and performance were significantly positively correlated. Innovative Work Behavior mediated the relationship between PSM and Organization Performance.

## CONCLUSION

In a nutshell, Innovative Work Behavior refers to individual behaviors that are intended to bring about initiatives and processes in an organization, group, or role, as well as new processes or products that are advantageous in business operations. Innovative working behavior is often related to the exploration of new opportunities and ideas, consisting of four components: Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. (scott & bruce, 1994). And taking into account Organization Performance in order to obtain each variable component and the quality of the measurement. The organization's performance variables have components such as Financial, Customer, Internal Process and Learning and Growth.

From researching and reviewing the literature studying variables and their relationships according

To the research conceptual framework. It can be summarized as the relationship of various variables according to the research conceptual framework as follows:



*Figure 1: Relationship between Innovative Work Behavior and Organization Performance*

## ACKNOWLEDGMENT

This article examines to study the concept, theories and measurement principles about Innovative Work Behavior and Organization Performance to use the information for further research.

## REFERENCES

- Afsar, B. A.-G. (2020). Cultural intelligence and innovative work behavior: the role of work engagement and interpersonal trust. *European Journal of Innovation Management*.
- Al Idrus, S. A. (2019). The influence of business innovation with relationship of organizational learning and job satisfaction on market orientation. . *Journal of Science and Technology Policy Management*.
- Attar, M., Kang, K., & Sohaib, O. (2019, January). Knowledge sharing practices, intellectual capital and organizational performance. In *Proceedings of the 52nd Hawaii International Conference on System Sciences*.
- Attiq, S. W. (2017). The impact of employees' core self-evaluation personality trait, management support, co-worker support on job satisfaction, and innovative work behaviour. . *Pakistan Journal of Psychological Research*, , 2.
- Bannay, D. F. (2020). The impact of inclusive leadership behaviors on innovative workplace behavior with an emphasis on the mediating role of work engagement. . *Problems and Perspectives in Management*, , 479.
- Christa, U. &. (2021). The effect of product innovation on business performance during COVID 19 pandemic. . *Uncertain Supply Chain Management*,, 9(1), 151-158.
- Diyanto, A. S. (2019). The employee innovation intervening role on relationship between work engagement and employee performance. . *Journal of Multidisciplinary Academic*,, 123-129.
- Evipania, R., Gandhiadi, G. K., & Sumarjaya, I. W. (2021). Optimalisasi Masalah Penugasan Tidak Seimbang Menggunakan Modified Hungarian Method. *E-Jurnal Mat*, 10(1), 26.
- Garg, S. &. (2017). Employee service innovative behavior: The roles of leader-member exchange (LMX), work engagement, and job autonomy. *International Journal of Manpower*.
- Gashema, B. (2021). Predicting innovative work behaviors through transformational leadership: The moderating role of corporate social responsibility. . *International Journal of Research in Business and Social Science*, (2147-4478), 10(1), 69-84.
- Hashmi, A., Amirah, N., & Yusof, Y. (2021). Organizational performance with disruptive factors and inventory control as a mediator in public healthcare of Punjab, Pakistan. *Management Science Letters*, 11(1), 77-86.
- Hoque, A. S. M. M. (2018). The effect of entrepreneurial orientation on Bangladeshi SME performance: Role of organizational culture. *International Journal of Data and Network Science*, 2(1), 1-14.
- Johnson, C. E. (1994). Ch. 7: Normative Leadership Theories" (PDF). *Meeting the Ethical Challenges of Leadership*. SAGE Publications.
- Kanapathipillai, K. (2021). The Impact of Training And Innovation on Organizational Performance In The Hospitality Industry In Malaysia: Job Satisfaction As Mediator. . *European Journal of Human Resource Management Studies*.
- Kurdi, B., Alshurideh, M., & Alnaser, A. (2020). The impact of employee satisfaction

- on customer satisfaction: Theoretical and empirical underpinning. *Management Science Letters*, 10(15), 3561-3570.
- Li, H. S. (2019). Influence of transformational leadership on employees' innovative work behavior in sustainable organizations: Test of mediation and moderation processes. *Sustainability*.
- Lisbona, A. P. (2018). The effects of work engagement and self-efficacy on personal initiative and performance. *Psicothema*, , 89-96.
- Mehralian, G. N. (2017). TQM and organizational performance using the balanced scorecard approach. *International Journal of Productivity and Performance Management*.
- Mehralian, G., Nazari, J. A., & Ghasemzadeh, P. (2018). The effects of knowledge creation process on organizational performance using the BSC approach: the mediating role of intellectual capital. *Journal of Knowledge Management*.
- Migdadi, M. M. (2020). Knowledge management processes, innovation capability and organizational performance. *International Journal of Productivity and Performance Management*.
- Navimipour, N. J., Milani, F. S., & Hosseinzadeh, M. (2018). A model for examining the role of effective factors on the performance of organizations. *Technology in Society*, 55, 166-174.
- Nazir, O. &. (2020). Influence of CSR-specific activities on work engagement and employees' innovative work behaviour: An empirical investigation. *Current Issues in Tourism*, , 3054-3072.
- Nikpour, A. (2018). Psychological empowerment and organizational innovation: mediating role of job satisfaction and organizational commitment. *International Journal of Organizational Leadership*, 106-119.
- Noor, T. M. (2021). Collective Organizational Engagement & Work Engagement as Anchor Strategies to Sustain Green Organizational Performance A Case Study on Indonesian Organizational Services. *Inovbiz: Jurnal Inovasi Bisnis*, , 78-90.
- Obeid Alshamsi, A. A., Nusari, M., Abuelhassan, A. E., & Bhumic, A. (2019). Towards a better understanding of relationship between Dubai smart government characteristics and organizational performance. *Development*, 14(17), 21-23.
- Orth, M. &. (2017). Daily within-person effects of job autonomy and work engagement on innovative behaviour: The cross-level moderating role of creative self-efficacy. *European Journal of Work and Organizational Psychology*, , 601-612.
- Otoo, F. N. K., & Mishra, M. (2018). Measuring the impact of human resource development (HRD) practices on employee performance in small and medium scale enterprises. *European Journal of Training and Development*.
- Pattnaik, S. C., & Sahoo, R. (2020). Employee engagement, creativity and task performance: role of perceived workplace autonomy. *South Asian Journal of Business Studies*.
- Qaiser Danish, R. A. (2019). Spirit and innovation at work in software houses of Pakistan: How does job satisfaction intervene the relationship?. *European Online Journal of Natural and social sciences*, 66.
- Rajapathirana, R. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation & Knowledge*, 3(1), 44-55.

- Suprpti, S. A. (2020). Leadership Style, Organizational Culture and Innovative Behavior on Public Health Center Performance during Pandemic Covid-19. . Journal of Industrial Engineering & Management Research, , 1(2), 76-88.
- Tang, Y. S. (2019). Assessing the mediation mechanism of job satisfaction and organizational commitment on innovative behavior: the perspective of psychological capital. *Frontiers in psychology*,, 10, 2699.
- Tüzün, I. K., Çetin, F., & Basim, H. N. (2018). Improving job performance through identification and psychological capital. *International Journal of Productivity and Performance Management*.
- Van Wingerden, J. &. (2018). The motivational potential of meaningful work: Relationships with strengths use, work engagement, and performance. . *PloS one*.
- Van Zyl, L. E. (2019). Work engagement and task performance within a global Dutch ICT-consulting firm: The mediating role of innovative work behaviors. . *Current Psychology*, , 1-12.
- Waheed, A. X.-M. (2017). Impact of Work Engagement and Innovative Work Behavior on Organizational Performance; moderating role of Perceived Distributive Fairness. *International Conference on Management Sci*.
- Xerri, M. J. (2014). Examining the relationship between organisational justice, job satisfaction and the innovative behaviour of nursing employees. *International Journal of Innovation Management*, .
- Yadegaridehkordi, E., Nilashi, M., Shuib, L., Nasir, M. H. N. B. M., Asadi, S., Samad, S., & Awang, N. F. (2020). The impact of big data on firm performance in hotel industry. *Electronic Commerce Research and Applications*, 40, 100921.

# EMPLOYEE MOTIVATION AND JOB PERFORMANCE: A STUDY OF EMPLOYEES IN BANGKOK

RATIRATH NA SONGKHLA<sup>1\*</sup>, PANNALIN SUCHOOKORN<sup>2</sup>, MONTIPA VILASTHIP<sup>3</sup>, ORAPHAN DECHA<sup>4</sup>, PEERANTHON SAENSOOK<sup>5</sup>, SUEBPONG JINDAPON<sup>6</sup>

<sup>1,2,3,4,5,6</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*  
*Email: ratirath.na@ssru.ac.th*

## ABSTRACT

This research is a quantitative study that aims to 1) study the motivation of employees 2) study the job performance of employee and 3) study employee motivation that affect the job performance. The samples group is 405 employees of private company in Bangkok using simple random sampling method. The questionnaires were analyzed by a statistical program to find percentage, mean, standard deviation. Pearson's Simple Correlation Coefficient Statistics, Kramersv coefficients, Toleranve, VIF, and stepwise multiple regression statistics. The statistical significance was set at 0.05 level. The findings were as follows: 1). most employees of the company were female, aged 25 - 34 years old, bachelor's degree, most of the status were single and had average monthly income 15001 - 20000 Baht 2). overall employee motivation and the five aspects are at a high level. 3). the job performance and in each aspect was at a low level in overall and in each of the 3 aspects: the quantity of work, quality of work, time in working 4). correlation between employee motivation that affects job performance had a relationship of not more than .80, making all 5 independent variables in this research. There was no multidisciplinary relationship between the factors such as motivation for work, individual achievement, recognition or acceptance, responsibility, welfare and salary, job security affect job performance 5). employee motivation model affecting the job performance is  $.192 + (.173 * \text{Responsibility}) + (.224 * \text{Occupational security}) + (.170 * \text{Recognition}) + (.197 * \text{Welfare and Salary}) + (.187 * \text{Individual success in work})$ . It can describe employee motivation affects job performance of by 96.5 percent. The standard error in forecasting is  $\pm .07700$  6). Therefore, it can be concluded that employee motivation factors affect the job performance.

**Keywords:** Employee motivation, Job performance

## INTRODUCTION

Today's world is in the age of globalization and plague, making economic changes happen quickly and constantly. The goal of the work is at the heart of the successful management, which Pittaya Borwornwattana (1998) has said that high-performing organizations will be successful organizations to achieve their goals. The employee motivation has a significant impact on work, which is one of the key factors that motivate a person to create a responsible portfolio. Therefore, the satisfaction of the

workforce in the organization affects the success of the work and the organization as well as the happiness of the workers. It is also a reflection of the performance of the performance of the organization. If any agency Understand the importance of productivity to people in their units and understand the factors or elements that affect efficiency. It is also always aware that the feeling of enthusiasm for work can change at any time according to the circumstances or by time.

Therefore, the researchers are interested in studying the work incentives that affect the performance of one of the company's employees so that they are satisfied with their work and increase operational efficiency by improving and improving their work incentives in accordance with the needs of employees in the current situation. Finally, the result when employees are satisfied and effectively performing for the organization is increased performance and increased productivity of employees in the organization.

### Objectives of Research

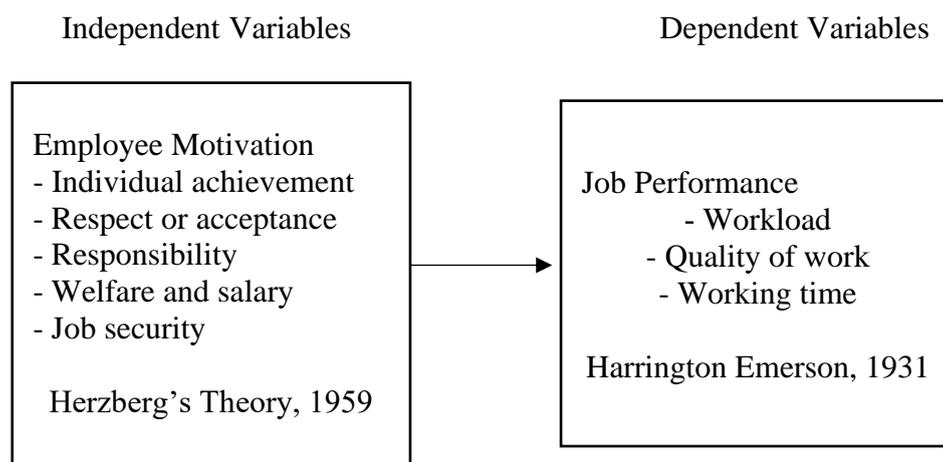
1. To study the level of opinion on employee motivation of employee of private company in Bangkok
2. To study the level of opinion on job performance of employee of private company in Bangkok
3. To study employee motivation and job performance of employee of private company in Bangkok

### Research Hypothesis

Employee motivation has positive affect towards job performance of employees in Bangkok

### Conceptual Framework

Based on literature review and related research, The researchers have taken it as a guide to the research of the subject. Employee motivation that affects the performance of employees of a private company. Employee motivation applies the theory of (Herzberg's Theory, 1959) and job performance applies the theory of Harrington Emerson (1931). Thus, the research framework is defined as follows:



*Figure 1: Motivational conceptual framework that affects performance*

## RESEARCH METHODOLOGY

### Population of Sampling Group

The samples used in this research included employees of private company in Bangkok, calculating the size of the sample based on Krejcie Morgan et al. (1970).

### Research Instruments

The research instrument of this research is a questionnaire that the researchers have created based on the use of data obtained from the study of concepts and theories from related research to study work incentives that affect the performance of employees of the company.

### Validation of the Tests

The validation of the tests was conducted on content validity based on IOC (Index of Item- Objective Congruence) by 3 expertise considering the congruence index of questions at 0.5 value up and any question reaches 0.5 value to be deemed that it was in consistent with the research' s objectives and can be practically applied. Moreover, reliability was also sought through try-out method with a similar group of 30 population to find out reliability value based on Cronbach's Alpha Coefficient and the reliability obtained was equivalent to .889.

### Data Collection

Questionnaire were distributed by mail. A total of 550 questionnaires were distributed by mailing, which received a total of 442 copies, so the researchers reviewed them and found that there were 405 complete questionnaires.

### Data Analysis and Statistics

1. Description Statistics: the researchers using statistics tools which are frequency and percentage, mean and standard deviation for describe demographic characteristics of samples.

2. Inferential Statistics Analysis: the researchers using multiple regression analysis to test following hypothesis: Employee motivation has positive affect towards job performance of employee of private company in Bangkok.

## RESULTS AND FINDINGS

### 1. Demographic characteristic analysis

Employees of private companies in Bangkok of 405 people, mostly male, age 25-34, bachelor's degree, single status, average monthly income 15,000-20,000 Baht.

### 2. Level of opinion on employee motivation of employee of private company in Bangkok

*Table 1 Average and Standard Deviation of employee motivation of employee of private company in Bangkok*

Employee motivation	Opinion Level		
	$\bar{x}$	S.D.	Interpretation
1. Achievement	3.60	.481	High

2. Respect or acceptance	3.51	.458	High
3. Responsibility	3.52	.512	High
4. Welfare and salary	3.46	.517	High
5. Job Security	3.44	.516	High
Overall	3.51	.413	High

From Table 1, the results of employee motivation analysis showed that overall opinions were at high level ( $\bar{x} = 3.51$ , S.D. = .413 ). The opinion towards achievement is the highest one ( $\bar{x} = 3.60$ , S.D. = .481 ), second only to responsibility, opinions are very high ( $\bar{x} = 3.52$ , S.D. = .512 ) and the aspects of being praised or accepted, opinions are very high ( $\bar{x} = 3.51$ , S.D. = .458 ) and welfare and salary reviews are very high ( $\bar{x} = 3.46$ , S.D. = .517 ), respectively. As for the last order, in job security, opinions are very high ( $\bar{x} = 3.44$ , S.D. = .516).

### 3. Level of opinion on job performance of employee of private company in Bangkok

*Table 2 Average and Standard Deviation of the job performance of employee of private company in Bangkok*

Job performance	Opinion Level		
	$\bar{x}$	S.D.	Interpretation
1. Workload	3.57	.463	High
2. Quality of work	3.52	.482	High
3. Working time	3.56	.462	High
Overall	3.55	.414	High

From table 2, job performance analysis showed that overall, opinions were  $\bar{x}$  very high (= 3.55, S.D. = .414), and on the first side, the workload was the highest one (= 3.57 $\bar{x}$ , S.D. = .463), second only to working time. Lastly, the quality of the work, the opinion is very high ( $\bar{x} = 3.52$ , S.D. = .463).

### 4. Employee motivation and job performance of employee of private company in Bangkok

*Table 3 Correlation Coefficients Between Employee motivation and job performance of employee*

factor	Z	X1	X2	X3	X4	X5
1. Z	1.00					
2. X1	.801*	1.00				
3. X2	.822*	.648*	1.00			
4. X3	.829*	.720*	.659*	1.00		
5. X4	.802*	.478*	.649*	.601*	1.00	
6. X5	.823*	.587*	.595*	.572*	.630*	1.00

\*Statistically significant at .05

- Z represents performance.
- X1 represents the employee motivation of achievement factor
- X2 represents the employee motivation of respect or acceptance factor
- X3 represents the employee motivation of responsibility factor
- X4 represents the employee motivation of welfare and salary factor
- X5 represents the employee motivation of job security factor

From Table 3, the correlation coefficient between work incentives affects employee performance. It was found that the relationship was no more than .80 (Stevens, 1996), making the five independent variables in this research not multicollinearity, so the five independent variables could be used. In stepwise multiple regression analysis, which brings variables to the model one by one.

*Table 4 Analysis Results Examine Employee motivation and job performance of employee*

Model	df	SS	MS	F	p-value
Regression	2	10.929	10.929	7.692	.000
Residual	97	4.958	0.51		
Total	99	15.887			

Model	df	SS	MS	F	p-value
Regression	2	13.793	6.897	319.413	.000
Residual	97	2.094	.022		
Total	99	15.887			

Regression	3	14.646	4.882	377.670	.000
Residual	96	1.241	.013		
Total	99	15.887			

Regression	4	15.009	3.752	405.800	.000
Residual	95	.878	.009		
Total	99	15.887			

Regression	5	15.330	3.066	517.138	.000
Residual	94	.557	.006		
Total	99	15.887			

\*Statistically significant at .05

From Table 4, the results of the analysis examined the suitability of the employee motivation and job performance of employee of the company, finding that the achievement aspects of the person at work regarding the recognition or acceptance of responsibility and welfare and salary and job security, the p-value is .000, which is less

than .05, that is, reject the main assumption. (H0) means that the employee motivation has positive affect towards job performance of employee.

*Table 5 Analysis Results Examine Employee motivation and job performance of employee*

order	model	B	t	Collinearity Statistics	
				Tolerance	BRIGHT
Model 1	constant	-	7.935*	-	-
	Responsibility	.829	14.698*	1.000	1.000
Model 2	constant	-	5.952*	-	-
	Responsibility	.533	11.861*	.673	1.487
	Job Security	.518	11.516*	.673	1.487
Model 3	constant	-	3.957*	-	-
	Responsibility	.377	9.505*	.516	1.938
	Job Security	.411	11.046*	.588	1.700
	being praised or accepted	.329	8.125*	.495	2.019
Model 4	constant	-	3.917*	-	-
	Responsibility	.332	9.660*	.493	2.029
	Job Security	.340	10.169*	.521	1.920
	being praised or accepted	.258	7.133*	.446	2.243
	Welfare and Salary	.221	6.262*	.465	2.150
Model 5	constant	-	2.857*	-	-
	Responsibility	.222	7.089*	.381	2.627
	Job Security	.288	10.408*	.487	2.053
	praised or accepted	.194	6.418*	.409	2.445
	Welfare and Salary	.245	8.863*	.454	2.202
	Achievement	.255	7.359*	.399	2.509

\*Statistically significant at .05

From table 5, the results of the all-factor relationship Check results of Model 1 – Model 5 showed that the highest VIF (Variance Inflation Factor) of 1.094, which is no more than 5 Tolerance, is the least, is .914, which is not lower than 0.001, and the highest Eigen Value of 2.763, which is no more than 10.0, suggests that the independent variable analyzed in the model. There is no relationship that does not produce a plural relationship between factors. Therefore, data is appropriate for stepwise multiple regression analysis (Hair, J.F. et al., 2010).

To analyze employee motivation and job performance of employee. Stepwise Multiple Regression Analysis is used to bring variables to the model one at a time, as table 6.

*Table 6 Proper Subject Analysis of Employee motivation and job performance of employee*

Performance	Model 1	Model 2	Model 3	Model 4	Model 5
<b>constant</b>	1.243	.676	.377	.318	.192
<b>Responsibility</b>	.648	.417	.295	.259	.173
<b>job security, respect or acceptance</b>		.402	.319	.264	.224
<b>Welfare and salary</b>			.288	.226	.170
<b>Achievement</b>				.171	.197
					.187

<b>R<sup>2</sup></b>	.688	.868	.922	.945	.965
<b>S.E.</b>	.22492	.14694	.11370	.09616	.07700
<b>F</b>	216.037*	319.413*	377.670*	405.800*	517.138*
<b>p-value of F</b>	.000	.000	.000	.000	.000

\*Statistically significant at .05

From Table 6, when applying a person's achievement variables to work for further analysis. It found that the power to explain the performance of the company's employees increased to 96.5 percent with a forecasting standard tolerance of  $\pm .07700$ . respected or accepted, and welfare and salary, and achievement. It is statistically significantly correlated with the job performance at .05 level and later when the responsibility variable is shared at .05 as well, which means job security, responsibility, praised or accepted, welfare and salary and achievement of persons in work affects the performance of an employee. Regression equations can be written in the form of standard scores as follows: work incentives that affect the performance of employees of a private company. =  $.192 + (.173*\text{responsibility}) + (.224*\text{job security}) + (.170*\text{respected or accepted}) + (.197*\text{welfare and salary}) + (.187*\text{success of working persons})$

## DISCUSSION AND CONCLUSION

Based on the findings of this research, the researchers discussed the following detailed results:

1. Based on the findings of this research, overall motivation for a person's success in work. The respect for welfare and salary responsibilities in work security is very high. It shows that the motivation to work is the preservation process of the persistence of a person, aiming to have the person in the organization perform in accordance with the organization expectations and expectations of the person, and that expectations can lead the organization to achieve its objectives, that the organization survives in accordance with the concept of Siriwan Serirat (2009) that the behavior of the person to fulfill the objectives according to human needs, the incentives will occur from inside and outside the person, it can be seen that the incentive is a stimulus or the creation of stimuli to help achieve actions that are a condition that encourages the practice to work with diligence. Eager to devote time, physical strength, will power and intelligence to the work, with a sense of responsibility alongside the willingness to use the inner power of the workers to achieve their goals in the hope of receiving rewards in return. In line with Herzberg's Theory (1959), it says that motivation to work is a factor that affects the work of people in the organization, studying a person's attitude towards work to find ways to reduce work dissatisfaction. To make the employees feel good in trying. Enhance the efficiency of the work.

2. Based on this research findings, overall performance, work volume, quality of work, working time is very high. It shows that performance depends on the internal and external environmental factors of the person, in line with the concept of the Sanya Sanyawiwat (1998). The organization applies for unity, peace, and total happiness, is good for the common good and the recipients, but it is labor-intensive and budget-intensive and conforms to the theory 12 Principles of Harrington Emerson's (1931) says that an individual's performance is due to the parenting environment each person has. Physical, mental, physical condition Education, knowledge, aptitudes are not the same, which may be measured by assessments from supervisors and colleagues, among others, including clear targeting, common reasons, considering the possibility of work, giving good advice,

being completely correct, maintain work discipline with fairness. Reliable ready-to-work information periodical results are reported, standardized, on time, standardized performance. The required standards can be practiced, providing good, effective workers with rewards.

## RECOMMENDATIONS

### 1. Recommendations for further application

1.1 According to the research, employee motivation in term of the achievement, the recognition or acceptance, responsibilities, welfare and salary, and job security, the overall picture is very high. Thus, organizations should focus on motivating employees. It is to consider the best suitability and justice.

1.2 According to the research, performance in the workload, quality of work, and the time of work, the overall level is very high. Thus, it is important to continuous performance optimization and engagement to reduce workload and reduce resource consumption. Also, in line with Na Songkhla, R. et al (2020) who studied about the mediation effects of organizational engagement in the Pharmaceutical Industry in Thailand suggested that organizational engagement is an important mediator who could be valuable to the organization to look for employee satisfaction.

### 2. Recommendations for future research

2.1 This research is a quantitative research, therefore, to study the employee motivation that affect the job performance of employees. Qualitative methods should be used to gain insights.

2.2 This research explored the employee motivation using the concept of Herzberg's Theory (1959). In the future research, more studies should be studied in the rest to continue improving the performance of employees of this private company.

2.3 This research explored job performance using the concept of Harrington Emerson (1996). In the three elements, including the quantity of work, the quality of work, the time of work, in the future research, it is worth studying more about the rest to continue improving the performance of the employees.

## REFERENCES

- Borwornwattana, P. (1998). *Public Organization Theory*. Bangkok: Pimluck. (in Thai)
- Cronbach, L. J. (1990). *Essentials of psychological testing (5th ed.)*. New York: Harper & Row.
- Krejcic, Robert V. and Morgan, Earyle W. (1970). *Educational and Psychological Measurement*. New York: Minnisota University
- Harrington Emerson. (1931). *The Twelve Principles of Efficiency*. New York: The Engineering Magazine.
- Herzberg, Frederick and others. (1959). *The Motivation to work*. New York: John Wiley and Sons.
- Na Songkhla, R., Decha, O., Prugsarporn, S., and Vaiyavuth, R. 2020. *The Mediation Effects of Organizational Engagement between HRM Practices and Employee Job Satisfaction in the Pharmaceutical Industry in Thailand*. *Systematic Reviews in Pharmacy*, 11(2), 566-575.  
<https://dx.doi.org/10.5530/srp.2019.2.04>.
- Sanyawiwat, S. (1998). *Managerial Community Development*. Bangkok: Emmy Trading. (in Thai)
- Serirat, S. (2009). *New Marketing Management*, Bangkok:Thammasarn. (in Thai)

# RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND THE OPERATIONAL EFFICIENCY OF PRIVATE COMPANY EMPLOYEES IN BANGKOK

PANNALIN SUCHOOKORN<sup>1\*</sup>, RATIRATH NA SONGKHLA<sup>2</sup>, MONTIPA VILASTHIP<sup>3</sup>, ORAPHAN DECHA<sup>4</sup>, PEERANTHON SAENSOOK<sup>5</sup>, SUEBPONG JINDAPON<sup>6</sup>

<sup>1,2,3,4,5,6</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: pannalin.su@ssru.ac.th*

## ABSTRACT

This research is a study on the relationship between organizational culture and the operational efficiency of private company employees in Bangkok with a purpose to examine the organizational culture as well as the operational efficiency and to explore the relationship between both factors. The population used was 400 private company employees by using questionnaires to collect data whereas data analysis and processing was undertaken through statistical packages which are number, percentage, mean, standard deviation and inferential statistics were used for hypothesis testing with defined result of statistical significance level of .05.

The results of the research were found that informants were mostly male, age 25-34, bachelor's degree, single, average monthly income 30,001-35,000 Baht. The results of an analysis of opinions on the organizational culture of private company employees in Bangkok revealed that the overall of the following aspects consisting of unity, adaptation, participation, result orientation and commitment were at high level. In terms of work quality, work quantity and time spending aspects, an overall were also at high level. The relationship between operational efficiency and the aspect of the source variables were related with the p-value of .000. with statistical significance level of .05 and the analysis of the relationship between organizational culture and the source variables, the overall aspect of the dependent variables with a p-value of .000 were highly correlated with statistical significance level of .05. This can be concluded that no matter what style of organizational culture an organization applies, it always results in its operating result.

**Keywords:** Organizational Culture, Operational Efficiency, Private company employees

## INTRODUCTION

In competitive world of private sector, an organization requires continuous growth and competitiveness within existing resources to achieve its goal as planned. Employees therefore are essential resource contributing to competitiveness and they should be linked to an organization under corporate value to create their commitment. The captioned value appears in a form of organizational culture or corporate culture that refers to shared belief, value and tradition of employee behavior expressed via words, thoughts, learning, acts or behavior arisen within an organization that can result in organizational

achievement or failure. In other word, the organizational culture influences employees to perform their duties to achieve an organizational goal with commitment towards shared belief and value. The study on organizational culture affecting organizational success has been undertaken since the 80's as shown in the success of Japanese companies when compared with American ones during such a period. According to emerging literatures on successful leading companies at top rank of Fortune magazine, these companies contain a similar factor; shared value and norm of employees that contribute to their operating result and internal working especially for core belief and value in line with policy. Employee performance also affects the operational efficiency in terms of applying leader vision practically together with creating a strong culture enabling highly consistency of value and behavior and eventually leading to development of working and effectiveness of an organization (Warasantikul, 2004 as cited in Boonprasert, 2014).

Effective working of employees relies on their strong cooperation and devotion and such a cooperation may arise due to many significant reasons. One of them is job satisfaction of employees since it strives them to be anxious to work intentionally and voluntarily and helps an organization to finally achieve its goal with effectiveness. As job satisfaction plays a vital role towards all employees, management at all level should focus on and bring it to be one of elements for work analysis and defining a guideline of human resource management for their job satisfaction leading to effective working and highest benefits as well as goal achievement as planned (Boonyarit, 2015).

In this study, the researchers are of interest in examining the relationship between the organizational culture and operational efficiency of the private sector employees in Bangkok under the hypothesis how the organizational culture is important and what are the factors affecting the operational efficiency of the captioned employees in order that the research findings can be applied for organizational working to gain more operational efficiency. The data on organizational culture and operational efficiency gained from the research will help an organization's operation to be systemic and reliable as well as useful for further applying as a principle and guideline of human resource development contributing to effective operation of various organizations in both private and government sectors.

### **Objectives of Research**

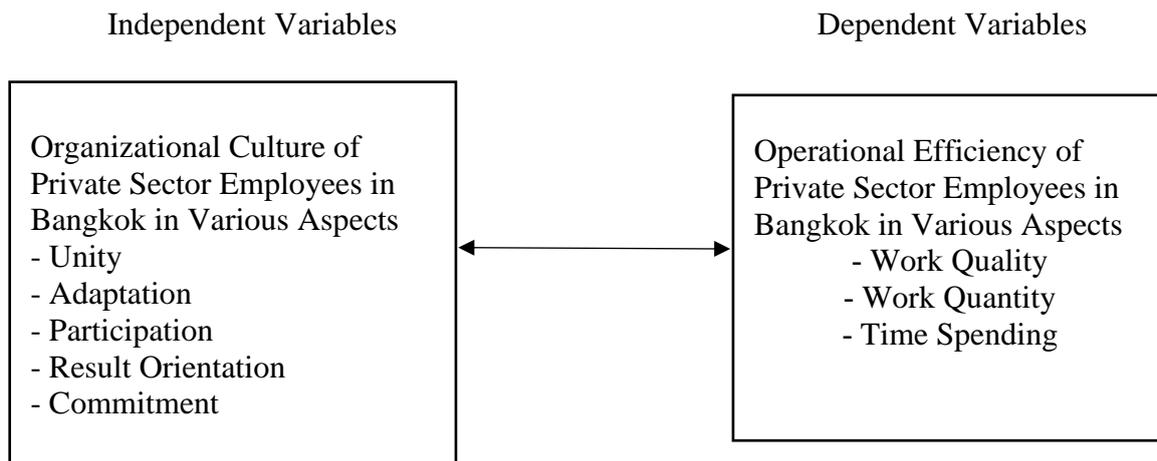
1. To examine the organizational culture of the private sector employees in Bangkok.
2. To examine the operational efficiency of the private sector employees in Bangkok.
3. To explore the relationship between the organizational culture and operational efficiency of the private sector employees in Bangkok.

### **Research Hypothesis**

1. The organizational culture of the private sector employees in Bangkok is at high level.
2. The operational efficiency of the private sector employees in Bangkok is at high level.
3. The organizational culture correlates with the operational efficiency of the private sector employees in Bangkok.

### **Conceptual Framework**

After review of concepts and theories related to relationship between the organizational culture and operational efficiency of the private sector employees in Bangkok, Peterson and Plowman, 1953's (as cited in Taranut, 2018) and Denison, 1990's concepts (as cited in Limprasert, 2014) were selected to be used as the conceptual framework of this research.



## RESEARCH METHODOLOGY

### Population of Sampling Group

The population used for this research was the private sector employees in Bangkok and the exact number was not specified, known only a large number as calculated by (Roscoe, 1969, pp.156-157) for sampling group determination.

### Sampling

The accidental sampling was used and it is a non-probability one in which the population is randomly selected on the purpose of collecting a full required number and subject to the researchers' convenience.

### Research Instruments

The research instrument of this research is a questionnaire that the researchers constructed from data collection gained from related concepts and theories in order to explore the relationship between the organizational culture and operational efficiency of the private company employees in Bangkok. The questionnaire was divided into 3 parts; Part 1 – Demographic Characteristics; gender, age, educational level, marital status, average monthly income and affiliation in a form of a check-list questionnaire containing 6 items, Part 2 – Organizational Culture of the private company employees in Bangkok within 5 aspects; Unity, Adaptation, Participation, Result Orientation and Commitment totally 25 items, Part 3 – Operational Efficiency within 3 aspects; Work Quality, Work Quantity and Time Spending totally 15 items. For the questions in Part 2 and 3, they are Likert's 5-rating scale; highest, high, medium, less, least, respectively.

### Validation of the Tests

The validation of the tests were conducted on content validity based on IOC (Index of Item- Objective Congruence) by 3 expertise considering the congruence index of questions at 0.5 value up and any question reaches 0.5 value to be deemed that it was in consistent with the research' s objectives and can be practically applied. Moreover, reliability was also sought through try-out method with a similar group of 30 population to find out reliability value based on Cronbach's Alpha Coefficient and the reliability obtained was equivalent to .989.

## Data Collection

After clarification on direct questionnaire and its items and obtaining the sampling group's permission, the data was collected and the content validity was later conducted for completeness. In case of incomplete ones, additional inquiries were made until getting completeness of each item and the analysis for obtained data was later calculated by the statistical computer program.

## Data Analysis and Statistics

After undertaking the content validity and completeness of all captioned questionnaires, data analysis by the statistical computer program was proceeded under the following process:

1. Description Statistics: to describe demographic characteristics of the sampling group as the qualitative variables using statistics of frequency and percentage whereas using minimum, mean and standard deviation for demographic characteristics of quantitative variables. In view of the relationship between working motivation and operational efficiency of the private sector employees in Bangkok uses the value of mean and standard deviation.

2. Inferential Statistics Analysis: to handle the hypothesis testing as follows: to analyze the relationship between the organizational culture and operational efficiency of the private sector employees in Bangkok based on Pearson's Product Correlation Coefficient and principle of correlation interpretation (Wongrattana, 1998); if  $r$  value range is greater than 0.7, it shows that the correlation value is at high level, range between 0.3 - 0.7 = medium, range lower than 0.3 = low level, and range equivalent to 0.0 = no correlation, respectively.

## RESULTS AND FINDINGS

1. Analysis results of demographic characteristics revealed that 400 private sector employees in Bangkok are mostly male at the age between 25-34 years with educational level of bachelor's degree, single status and average monthly income of Baht 30,001-35,000.

2. Results of opinion towards organizational culture of the private sector employee in Bangkok revealed that overall of the following aspects; unity, adaptation, participation, result orientation and commitment was at high level.

*Table 2.1 Average and Standard Deviation of Organizational Culture of the Private Sector Employee in Bangkok on Aspect Basis and Overall*

Organizational Culture	Opinion Level		
	$\bar{x}$	S.D.	Interpretation
1. Unity Aspect	4.04	.674	High
2. Adaptation Aspect	4.02	.660	High
3. Participation Aspect	3.89	.761	High
4. Result Orientation Aspect	4.00	.720	High

5. Commitment Aspect	4.02	.684	High
Overall	3.99	.695	High

3. Results opinion towards the operational efficiency of the private sector employees in Bangkok revealed that overall in view of work quality, work quantity and time spending aspects was at high level.

*Table 3.1 Average and Standard Deviation of the Operational Efficiency of the Private Sector Employees in Bangkok on Aspect Basis and Overall*

Operational Efficiency	Opinion Level		
	$\bar{x}$	S.D.	Interpretation
1. Work Quality Aspect	3.95	.753	High
2. Work Quantity Aspect	3.84	.811	High
3. Time Spending Aspect	3.87	.792	High
Overall	3.89	.781	High

4. Results of relationship analysis between the operational efficiency and independent variables; unity, adaptation, participation, result orientation and commitment revealed that overall in view of work quality, work quantity and time spending aspects, the p-value was equivalent to .000 showing correlation with statistical significance level of 0.5.

5. Results of relationship analysis between the organizational culture and independent variables; adaptation, participation, result orientation and commitment revealed that overall in view of work quality, work quantity and time spending aspects, the p-value was equivalent to .000 showing high level of correlation with statistical significance level of 0.5.

*Table 5.1 Relationship between Organizational Culture and Unity*

Opinion on Organizational Culture	Unity		
	$r$	p-value	Interpretation
Work Quality Aspect	.969*	.000	Correlation is at high level.
Work Quantity Aspect	.958*	.000	Correlation is at high level.
Time Spending Aspect	.970*	.000	Correlation is at high level.
Overall	.971*	.000	Correlation is at high level.

\*At statistical significance level of .05

*Table 5.2 Relationship between Organizational Culture and Adaptation*

Opinion on Organizational Culture	Adaptation
-----------------------------------	------------

	<i>r</i>	p-value	Interpretation
Work Quality Aspect	.976*	.000	Correlation is at high level.
Work Quantity Aspect	.969*	.000	Correlation is at high level.
Time Spending Aspect	.982*	.000	Correlation is at high level.
Overall	.981*	.000	Correlation is at high level.

\*At statistical significance level of .05

*Table 5.3 The Relationship between Organizational Culture and Participation*

Opinion on Organizational Culture	Participation		
	<i>r</i>	p-value	Interpretation
Work Quality Aspect	.983*	.000	Correlation is at high level.
Work Quantity Aspect	.992*	.000	Correlation is at high level.
Time Spending Aspect	.993*	.000	Correlation is at high level.
Overall	.995*	.000	Correlation is at high level.

\* At statistical significance level of .05

*Table 5.4 The Relationship between Organizational Culture and Result Orientation*

Opinion on Organizational Culture	Result Orientation		
	<i>r</i>	p-value	Interpretation
Work Quality Aspect	.973*	.000	Correlation is at high level.
Work Quantity Aspect	.966*	.000	Correlation is at high level.
Time Spending Aspect	.978*	.000	Correlation is at high level.
Overall	.978*	.000	Correlation is at high level.

\* At statistical significance level of .05

*Table 5.5 The Relationship between Organizational Culture and Commitment*

Opinion on Organizational Culture	Commitment		
	<i>r</i>	p-value	Interpretation
Work Quality Aspect	.977*	.000	Correlation is at high level.
Work Quantity Aspect	.974*	.000	Correlation is at high level.

Time Spending Aspect	.982*	.000	Correlation is at high level.
Overall	.983*	.000	Correlation is at high level.

\* At statistical significance level of .05

## DISCUSSION AND CONCLUSION

Further to the research findings, significance was later discussed as per below details:

1. Overall, for the organizational culture in view of the following aspects; unity, adaptation, participation, result orientation and commitment, all are at high level showing that the organizational culture is mutually shared understanding, belief, value, tradition and norm among members or most of people in an organization as a social norm for organizational behavior and life style and it is the relationship between an organization and employees. Additionally, undertaking activities need to be in a form of inherited belief, symbol, worship and practices differentiating organization members (Warapornwimonchai, 2011 as cited in On-Norm, 2015). The organizational culture affects business operating result based on flexibility & security criteria and internal & external orientation of an organization. This is in line with Denison, 1990 (as cited Limprasert, 2014) stating that an organization needs to focus on building on members' capability, pay attention on member requirement to create their sense of ownership with common responsibility as well as empowering them to participate in decision-making on their organizational operation. The organizational culture is working among member creativity in order to keep up with the changes, requirements of business and macro environment and forces members to adapt themselves to be able to rapidly respond to the changes of macro environment under awareness of clear vision and achievement goal.

2. Overall, the operational efficiency in view of work quality, work quantity and time spending aspects appear at high level showing that an individual efficiency refers to effort, readiness, active working capability for good and quick result of working with quality and goal achievement. The operational efficiency is a key factor of driving an organization towards achievement of operating result. Satisfactory and progressive productivity in both manufacturing and service as well as satisfaction of both customers and organizational members rely on capability of efficiency development of an organization (Laksana, 1999 as cited in Jansanga, 2018). The operational efficiency comprises work quality, work quantity, time spending and cost that are main factors of an operation. This is in line with the concept of Peterson and Plowman, 1953 (as cited in Taranut, 2018) stating that work quality is required to be standardized from which a manufacturer and customers gain worthwhile advantages and satisfaction. Products should be standardized with proper quantity of work as expected and in consistent with the production plan or goal. Time is duration spent at production process of an operation that should be in line with the principle and suitable for the works. All incurred cost of operation should be suitable for works and method based on low investment but highest return basis for effective operation under consistency, continuity and similar standard. These will enhance employees to realize that their working time spent are worthwhile for devotion with satisfaction and proud of participation as well as willpower and intention of working.

3. The organizational culture correlates with the operational efficiency. Overall in view of organizational culture aspect,  $r$  value for unity aspect = .971 showing high correlation level, adaptation aspect = .981 showing high correlation level, participation aspect = .995 showing high correlation level, result orientation aspect = .978 showing high correlation level, and commitment aspect = .983 also showing high correlation level, respectively. This is in line with the concept of Boonprasert, 2014 stating that culture and operational efficiency affect employee capability and enable them to work effectively with highest quality. This is deemed as a belief, value and tradition of employee in which they can participate. This can be concluded that no matter what style of organizational culture an organization applies, it always results in its operating result.

## RECOMMENDATIONS

### 1. Recommendations for further application

1.1 The research findings revealed that for the organizational culture, overall, in view of the following aspects; unity, adaptation, participation, result orientation and commitment, all are at high level. Since establishing the organizational culture requires time consuming, supportive working system should be continuously set to contribute to an establishment of the organizational culture. Nevertheless, the private sector employees may not be pleased to change their working behavior. An organization therefore should motivate them for more cooperation such as by appreciation rendered to employees who perform well in compliance with the supportive criteria of building an organizational culture.

1.2 For the operational efficiency, overall, in view of the following aspects; work quality, work quantity and time spending, all are at high level. Superiors should emphasize and encourage employees to be capable of working effectively such as availing an opportunity of fully showing capability of resourcefulness, problem solving to achieve in quality of work result within timeframe.

### 2. Recommendations for future research

2.1 This research is only a survey one on the relationship between the organizational culture and operational efficiency of the private sector employees in Bangkok conducted through the questionnaire as the research instrument. Thus, to gain more in-depth data on this captioned topic, it is recommended to proceed data collection through an interview method.

2.2 It is recommended to study on the relationship between new generation attitude towards an old organizational culture of the private sector employees for effective change and adaptation that will be beneficial to organization management and competitively progressive operation enabling employee development to be more qualified and effective as well.

## REFERENCES

- Anosha Rojanapanich, A. & Lertpongmanee, K. (2020). Organizational Culture Management for the Improvement of Thai OTOP Entrepreneurial Competency Sustainability. *Muban Chonbueang Rajabhat University Research Journal (Humanities and Social Science)*, 8(2), 139–156.  
<https://so03.tci-thaijo.org/index.php/hssj/article/view/249301>
- Boonprasert, M. (2014). *Influence of Organizational Culture, Behavior, and Quality of Life on Work Success Level of Operational Employees at Private Companies in Huay Kwang District*. [Master's independent studies, Bangkok University].

- Dspace at Bangkok University.  
<http://dspace.bu.ac.th/jspui/handle/123456789/1575>
- Boonyarit, N. (2015). *A Study of Factors Affecting Work Efficiency of Employees of Chonburi Provincial Administration Organization*. [Master's thesis, Burapha University]. [digital\\_collect.lib.buu.ac.th](http://digital_collect.lib.buu.ac.th).  
[http://digital\\_collect.lib.buu.ac.th/dcms/files/56710142.pdf](http://digital_collect.lib.buu.ac.th/dcms/files/56710142.pdf)
- Chanthaphatpong, S. (2015). *Factors Affecting Work Efficiency of IT Bank Employees at a Private Bank*. [Master's independent studies, Bangkok University]. DSpace at Bangkok University. <http://dspace.bu.ac.th/jspui/handle/123456789/2043>
- Dyer, C. (2018). *The Power of Company Culture: How any business can build a culture that improves productivity, performance and profits*. Kogan Page.
- Gambi, L.D.N., Boer, H., Gerolamo, M. C., Jørgensen, F. & Carpinetti, L.C. (2015). The relationship between organizational culture and quality techniques, and its impact on operational performance. *International Journal of Operations & Production Management*. Emerald Group Publishing Limited.
- Jansanga, K. (2018). *The Factors Affecting the Performance Efficiency of Government Officials in the Samphanthawong District Office, Bangkok*. [Master's independent study, Siam University]. [e-research.siam.edu](http://e-research.siam.edu).  
<https://e-research.siam.edu/wp-content/uploads/2019/10/MPA-2018-IS-The-Factors-Affecting-Working-Efficiency-of-Public-Servants-compressed.pdf>
- Klinlaor, W. (2017). *Organization Culture and Morale of Teacher in Municipal School of Local Education Group 1*. [Master's thesis, Silpakorn University]. [ir.su.ac.th](http://ir.su.ac.th).  
<http://ithesisir.su.ac.th/dspace/bitstream/123456789/1364/1/55252394.pdf>
- Limprasert, N. (2014). *Leadership, Organization Culture and Communication Process Influencing Employees' Teamwork Efficiency in Bangkok and Metropolitan Areas*. [Master's independent studies, Bangkok University]. DSpace at Bangkok University. <http://dspace.bu.ac.th/jspui/handle/123456789/1837>
- Maichan, A. (2017). *Factors Affecting Performance Efficiency among Employees in Machine Installed Production Line, Songkhla*. [Master's thesis, Prince of Songkhla University]. [core.ac.uk](https://core.ac.uk) <https://core.ac.uk/download/pdf/154815316.pdf>
- Na Phathalung, S.K. (2014). *Employees' Opinion towards Organizational Culture of Companies in Nikompattana Sub-district, Nikompattana District, Rayong Province*. [Master's thesis, Rambhai Barni Rajabhat University].  
[etheses.rbru.ac.th](http://etheses.rbru.ac.th).  
<http://www.etheses.rbru.ac.th/showthesis.php?theid=171&group=17>
- Nitijiravong, A. (2016). *Effectiveness of Performance of Municipal Officials According to the Operational Plan of Bangkok Municipality*. [Master's independent study]. Thammasat University. Thammasat University Library.  
[http://ethesisarchive.library.tu.ac.th/thesis/2016/TU\\_2016\\_5803010528\\_5518\\_5177.pdf](http://ethesisarchive.library.tu.ac.th/thesis/2016/TU_2016_5803010528_5518_5177.pdf)
- On-Norm, M. (2015). *A Relationship between Organizational Culture and Work Happiness of Revenue Officers in Mueang District, Nakhon Ratchasima*. [unpublished master's thesis]. Rajamangala University of Technology Isan.
- Petchprom, N. (2019). *Organizational Culture and Quality of Work Life Affecting Work Efficiency of Employees of Thailand Post Company Limited* [Master's independent study, Technology Rajamonkol Tannaburi University]. DSpace at Rajamangala University of Technology Thanyaburi.  
<http://www.repository.rmutt.ac.th/dspace/handle/123456789/3748>
- Roberts, D. & Rollins, T. (1998). *Work Culture, Organizational Performance, and Business Success: Measurement and Management*. Praeger.

- Roscoe, J.T. (1969). *Fundamental Research Statistics for the Behavioral Sciences*. New York: Holt, Rinehart and Winston.
- Sampaokaew, C. & Kerdtip, C. (2019). The Relationship between Organizational Culture and the Happiness in School as Perceived by Teachers under the Jurisdiction of Pattani Primary Educational Service Area Office. *Journal of Education, Prince of Songkla University, Pattani Campus*. 30(2), 177-185. [http://edu.psu.ac.th/images/serc/140420\\_154617.pdf](http://edu.psu.ac.th/images/serc/140420_154617.pdf)
- Satjaweerakul, K. & Pongsart, K. (2018). Strategic Organizational Cultures that Affect Organizational Success: A Case Study of Nissan Vehicle Dealers in Thailand. *Journal of Roi Et Rajabhat University*. 12(1), (1-10).
- Sengsai, W. (2018). *The Causal Relationship of Some Factors Affecting the Employee Performance in A Beverage Company in Nakhon Pathom Province* [Master's thesis, Silpakorn University]. [ir.su.ac.th](http://ir.su.ac.th). <http://ithesis-ir.su.ac.th/dspace/bitstream/123456789/2042/1/59602361.pdf>
- Taranut, S. (2018). *A Study on Efficiency in Operations of the Local Government Officers at Chomthong District, Chaingmai Province*. [Master's independent study, Chiangmai Rajbhat University]. [www.graduate.cmru.ac.th](http://www.graduate.cmru.ac.th) [http://www.graduate.cmru.ac.th/core/km\\_file/385.pdf](http://www.graduate.cmru.ac.th/core/km_file/385.pdf)
- Wongrattana, C. (1998). *Technique in using Statistic for Research*. 7<sup>th</sup> edition. Bangkok: Chulalongkorn University Book Center.

# THE UNIQUE CHARACTERISTIC AS A GOOD PERFORMANCE AND FAMOUS ONLINE INFLUENCER IN ONLINE CONTENT AND BE SUCCESS IN E-COMMERCE MARKET

PEERANTHON SAENSOOK<sup>1\*</sup>, PANNALIN SUCHOOKORN<sup>2</sup>, RATIRATH NA SONGKHLA<sup>3</sup>, MONTIPA VILASTHIP<sup>4</sup>, ORAPHAN DECHA<sup>5</sup>

<sup>1,2,3,4,5</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: peeranthon.sa@ssru.ac.th*

## ABSTRACT

Recently, Social media is the one distribution which an influent factor for all, somebody uses for getting news, learning education, watching an entertainment, as well as accessing many products across the border area, which they can approach it easily. The opportunities, driving the researcher is looking forward to seeing the great opportunity to create the unique character in order to be as the good performance, famous person and use business strategies to develop in e-commerce scale.

The interesting topic of the issue is searching for the tricks that can be useful who would like to be an influencer, which good performance, be famous person, and unique character through self –understanding how to present to the online public area and understanding about internal and external factor of the e-commerce market.

Finally, this issue is used a contemplative learning process (Paonrach Yodnane, 2021) to find the characteristic of influencer as well as is used marketing strategies, such as SWOT, PESTEL, Business canvas model for clear understanding, which internal, and external factors, moreover it is provided the development plan that it can be used and developed to the real situation, along with limitation that the researcher focused on students who is studying in the major of International trade innovation in Suansunandha Rajabhat University, Thailand, and able to make a chance in e-commerce market.

**Keywords:** Nique Character, Performance, Online influencer, E-commerce, Online content

## INTRODUCTION

In 2021, the online media era, the online media can be tools that reduce the barrier of E-commerce. Hence, these are driven the media rapidly changed from the original distribution to online communication (Selva, 2015), which everyone is able to approach products whatever they want, to easily get information, and non-limit to order the finished goods every corner of the world

The supporting factors, driving this issue is able to be the business opportunities for E-commerce. Firstly, according to Michel Jittavanich, (PORNWASIN, 2016) mentions the percentage of internet user who has been accessing online applications at 62

percent, and spending time more than half proportion on Youtube (PORNWASIN, 2016). An interesting point, the people prefer to watch video content, and study by online media especially, Youtube at 61 percent. On the other hand, only 11 percent who prefer to watch video content through an original distribution (television) (PORNWASIN, 2016). Hence, if we can find the unique character and be able to be famous in online market, driving people who are interested in this field are able to stay in the area as consistency position. More over understand about main environment factors along with internal factors will drive us be success in E-commerce effectively.

### **1. Objective**

- 1) To educate the process of a contemplative learning process to find the unique character as a good performance and famous influencer in online market.
- 2) To educate the external and internal factor that can support an influencer in E-commerce market.

## **LITERATURE REVIEW**

This proposal is mentioned the unique characteristic as a good performance and famous online influencer in Thailand and be success in E-commerce market. It is focusing on the both dimensions of The Unique Characteristic as A Good Performance And Famous Online Influencer that is possible to create and search for the unique character that be the one tool to drive people who interested in E-commerce market and be well know people and good opportunity in online market from these points are shown the relationship between online influencer and E-commerce market.

Online media such as Facebook, and Youtube channel, according to (Magasic, Michelangelo, 2016) from 2005-2015 there were Youtube accounts more than 1 billion users. According to (Chau, 2010), the function of online media is the interesting system by thumb up, thumb down, subscribe, follow bottom, sharing bottom as well as comments space are installed below the content. The functions are made influencers and participators are able to participate not difficultly, this interesting point can anticipate the relationship between customers and creators that they can get reaction, and continually extend to E-commerce market scale.

From the all objectives are related and made this paper is able to analyze the performance of influencer through a contemplative learning process to create the unique character and use the business model to analyze the behavioral customers who have been participating in online channel, which how it can attract the customer's needs as well as the direction to create an influencer who can touch the e-commerce customer (Westenberg, 2016).

## 5.1 Conceptual Framework

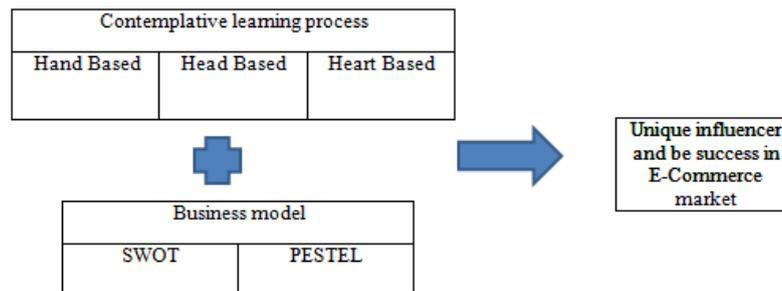


Figure 1:

Conceptual

Framework  
Reference: The Author

## 5.2 A contemplative learning process

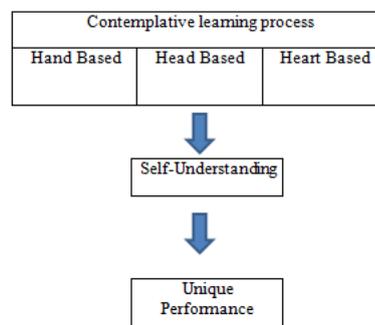


Figure 2: A Contemplative learning process

Reference: The development of Individual Characteristics of an Announcer/MC through a Contemplative leaning process, (Paonrach Yodnane, 2021)

A contemplative learning process is focusing on three main based, which are the important of our body (Paonrach Yodnane, 2021)

1. Hand Based is the learning process via real experience and practice issue
2. Head Based is the learning process via memory, lecture, and self-reflection in order to understand in the mind and real self as well as strength and weakness of self, which are able to develop in advance.
3. Heart Based is the learning process via group activity and group reflection that drive the participant really know yourself not only self-reflection, but also group reflection, which drive people know and understand self as comprehensive dimensions.

### 5.2.1 Process of a contemplative learning process

In the process of a contemplative learning process is focusing on five processing in order to find the unique character.

1. Observation process to analyze people by activity in order to find pros and cons of people

2. Crating and design the activity that can be supported for all three main based such as co-experiences, and experience sharing by professional in each field, which performance, and marketing online.
3. Adaptation the result from all activity and self-reflection in order to make it more obviously in self.
4. Evaluation with self-reflection by reflection note and add more Transformative learning and participation and feedback and discussion.
5. Conclusion, it is performed the outcome of understanding in all three main based, which Hand Based, Head Based, and Heart Based.

From the previous research can be illustrate that a contemplative learning process is the one process is able to search and find the unique character from inside and show the outside performance, and drive people who would like to be as online influencer can be famous and success in online market, moreover, they will understand themselves, which strength and weakness that be adapt and develop in the future.

### 5.3 Business models

The development plan of the online media content has concerned the external and internal factors in order to analyze the online evidence effectively. According to (OSTERWALDER, 2004), mentioned the core of business model, driving this issue is able to be success in the real market.

#### 5.3.1. SWOT ANALYSIS

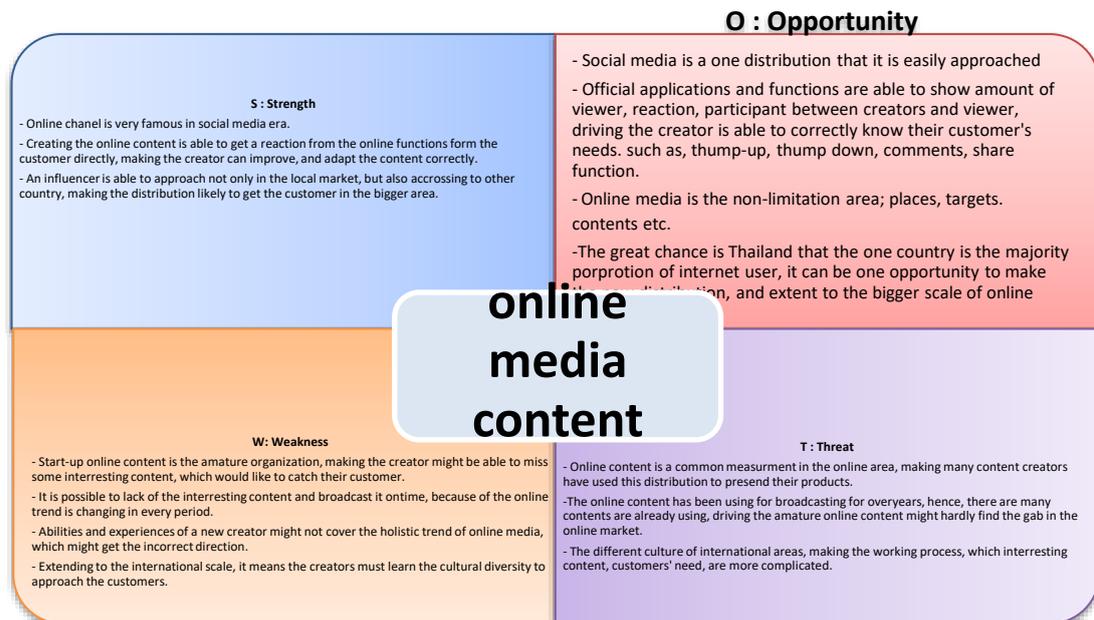


Figure3: SWOT analysis model.

Reference: The Author

SWOT analysis model, the primary element of business models that can identify internal, and external factors, driving the online media is able to analyze an evidence, gap in online market to explore the product under limitation and opportunities (OSTERWALDER, 20040).

### 5.3.2 PESTEL analysis

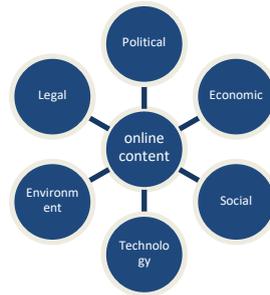


Figure4: PESTEL analysis model

Reference: The Author

P=Political – Censorship policy, From the first target, the author is focusing on the local area, the second is international area, it means this online content must concern the policy in each part in order to create the content to customers correctly.

E=Economic – The main permanent factor of business, such as the strong economy area, which able to pay, and spend, considering the product is able to effectively approach to customers,

S=Social – Social media is the one part of electronic society, which it is easily reach from the internet users around the world, non-limitation to explore, share comprehensive information; entertainment, education, especially commerce. From the social factor, making the online content can be one distribution that likely to be increasingly used.

T=Technology – It cannot reject that this factor is the main factor of social media era, everyone can use the devices on their hands, which they can find, order, study whatever, and whenever they want, driving the online content can access to the target effectively. In addition, the ability to use the technology (High technology level) will support the online content to be success in the development plan.

E=Environment- The issue focuses on the behavior of customer, for good example, each country there are specific needs, cultural diversity, different needs, or similar behavior. Hence, this factor will provide the external factor to indicate the way of online media.

L= Legal- The main factor and policy in each place that indicate the way of online business, it can be said that if a country allows, or supports the online market, making the product is able to get the good return, so it can show the limitation of each place that the online creator must concern.

From all of both dimension is driving the author knows that if we can find the unique self, understand yourself, it be able to perform as a good influencer in online market, moreover understanding in internal factors and external factors are useful and increase the opportunity in E-commerce market.

## RESEARCH METHODOLOGY

OBJECTIVE OF THE RESEARCH	
OBJECTIVES OF RESEARCH	RESEARCH QUESTIONS
To educate the process of a contemplative learning process to find the unique character as a good performance and famous influencer in online market.	How to get the unique character as a good performance and famous influencer in online market via a contemplative leaning process
To educate the external and internal factor that can support an influencer in E-commerce market.	How to know the internal and external factors in order to analyze the situation in E-commerce market

Table 1. Objectives of the research

This part is provided the actionable plan, making the business goes to the existing way. The issue has reviewed the previous researches, and assumed the actionable plan in order to arrange the business development plan, which adapt in the real situation. Hence, this issue is arranged the research questions and questionnaire are related. In additional, the procedure of this issue will be provided the research process, and research concept for analyzing the feasible ways to develop the organization along with the creating online content to be success in online market (Westenberg, 2016). Following, the objective research, two themes are shown, 1) To educate the process of a contemplative learning process to find the unique character as a good performance and famous influencer in online market. 2) To educate the external and internal factor that can support an influencer in E-commerce market. These are provided the main factors, driving the results are following the reasons.



Figure5: The reasons of objective research.

Reference: The Author

It can be seen that the first of objective research is focusing on unique online influencer, it is illustrated that approachable site is position that it is useful for the business, which the unique character can provide memorable image to all audience or customer and after that we can do the business in e-commerce or online market. Moreover, the reaction of external and internal factors will support and create the one permanent strategy, driving the online influencers is able to keep the customer to be certain customers, (Jean Burgess, Joshua Green, 2009), not only the company is able to recognize the customers trend through application (Nada Dabbagh, Anastasia Kitsantas, 2011). In addition, we will get the trick to make memorable image for a unique online influencer with the online content, which suitable content, this point is able to link with the next objective of the research, It

can be anticipated that if an online influencer is able to create the online content to customers correctly, it will be broadcast the online content effectively.

The other interesting point is an earning, according to (Gordon M. Bodnar, Gregory S. Hayt and Richard C. Marston, 1998), mentions that money is the blood of organization, driving the company can be flowed.

For good example (hub, 2017), it is provided information regarding to how much money you will get from online channel. It is shown the four distributions of income

(1) CPM (Cost per 1,000 impressions) vs CPC (Cost per click) is calculated by viewers who access video content.

(2) EGEP (Estimated Gross Earnings Per 1,000 Views)

(3) EEPS (Estimated Earnings Per Subscriber)

(4) EVBE (Estimated Variance Based on Video Engagement)

And (5) Advertisement of product, and time in (Based on each advertisement)

Hence, following the good opportunity of earning, driving online distribution is able to get money, not only the product or content that an influencer will get a good return from their customers, but the new platform of income that they are able to get also. In additional, according to (Mary J. Culnan, Patrick J. McHugh, Jesus I. Zubillaga, 2010), is mentioned that limitation, which official sites, and advertisements, driving the objective questions can find out the feasible way to support a financial company, as well as run the business effectively.

From the feature point of the first objective that it is linking to the next objective research, which non-limitation, so it is able to extend to the E-commerce area. The feature of exploring to the online scale is linked to the first objective. The point is analyzing the gap of opportunity, which an influencer is able to approach, and across to see their target without limitation via their unique performance, moreover, the creators able to create and develop the content on their hand effectively through online functions (Jean Burgess, Joshua Green, 2009). Therefore, participation is the important factor, driving the online content is feasibility and success in online market.

The supporting feature, it will be linked with the sampling, and participants of this research, according to (Westenberg, 2016), teenager is the one group is majority proportion who has been accessing online sites, moreover, the interesting statement that is related with this objective, is keeping contact continually, according to (licensemag, 2016), is taking about the new Youtubers who would like to produce a video content are increasing, some of Youtuber could be success in field, some of them could not be success, because of video content must broadcast continually, which it will be solved in the practical way of this research below, from this point, it is able to show the feasible way to get a chance to success in the online market, as well as solve the problem that an influencer has encountered ever.

Eventually, this research design is expected that creating a unique online influencer will educate the factors in order to use the results of objective research to develop an influencer to be success in online market.

## RESULT

From the previous researches, and the online influencer who the author has done an interview can be illustrated that there are opportunities to explore the online content to the online market and e-commerce market, which using the online functions to participate with the internet users for improving the content, following the trend of online targets, and using the tools of online application for analyzing the amount of internet users who are accessing in the online content. Moreover, the good interesting point is about the online application tools are shown the way to avoid a mistake of online contents, and risk situation. For good example from the successful online creators on Facebook Fanpage.

### 7.1 The tools of online application for analysing the feasibility of online content.

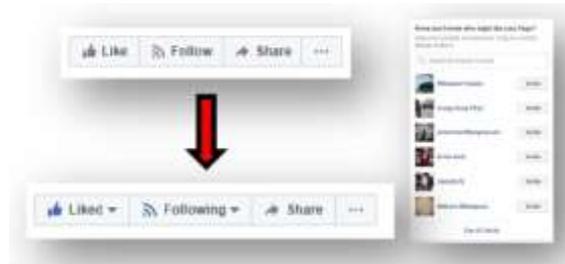


Figure 6: the primary tools of online business  
Reference: The Author

More like, More Followers, More sharing; the primary tools of online functions, It can be seen that the bottoms are shown above, it easily click and share to each other, This point is shown the optional media application that it is the benefit of the new business platform (Westenberg, 2016).

### 7.2 Analysis time schedule to post on social media application



Figure 7: analysis time schedule  
Reference: The Author

Following this figure6, it is analysed the suitable time to post on social media site, which duration is the most famous, even a few viewers. This graph is illustrated clearly that the suitable for publishing could be the afternoon time, around 14.00-16.00, and minimal participators around 22.00-23.00 (the result of hole week). Moreover, this graph is also shown the dates are the most participated, which Saturday, and Friday (191,970, 191,713 viewers, respectively). Accounting for these figures are able to anticipate and show the average of broadcasting statistic that can be used and adapted for start-up business guideline effectively.

### 7.3 Additional functions.



Figure 8: Additional tools  
Reference: The Author

The additional tools, these are provided the business online is possible to get more participators, likes, followers, and sharing, these tools are activities of product, showing the product movement. Moreover, (Jean Burgess, Joshua Green, 2009), activities are arranged is the one core of online content participation, driving the product is able to get in touch with their audiences.

### 7.4 Post contents continually, and keep a concept clearly, Boosting post.



Figure 9: Boosting post  
Reference: The Author

According to (OSTERWALDER, 2004), it is illustrated one strategy to gain money through media online, using media link for sharing is the one tool can get more participants and make more customers who have never known a product to know, after they are participating with media sites, In additional , Khon Khee teaw, Thai blogger, also use this point to contribute their Facebook fanpage, it has been added posting through pictures and video contents, not only posting on media sites, but also post a content continually.

Boosting strategy is the one core of online business, it can be seen that the figure from figure 8 is shown the effective boosting that pretty clearly that after boosting the creator is able to get more participants, moreover, the holistic of progressive site that every part can be going up after the people reached.

## CONCLUSION AND DISCUSSION

The issue is mentioned the unique characteristic as a good performance and famous online influencer in online content and be Success in e-commerce market. It is focused on A contemplative learning process, which is able to find the unique character that will be

useful for online influencer as well as online content and analyze with internal and external factors for online and e-commerce market

Recently, marketing online is the one distribution, considering a marketing platform has been rapidly changed, which easy approaching, participating, and reaction between internet users and producers (Saboo, Alok R, Kumar, V, Ramani, Girish, 2016). Following the changing trend from original distribution to the new direction, making the international opportunity in this filed is able to be as feasible business in the future.

The remarkable opportunities are mentioned by the previous researchers, (Pongwittayapanu, 2014) mentioned the benefit of video online (one tools of online media distribution) not only transferring the worth of meaning more than 1.8 million words in one minute, but also the capable technological devices, which can approach in everywhere, and every time. According to (Jean Burgess, Joshua Green, 2009) the reaction in online distribution; comments, product posting, and customers question are the key of online media content, which effectively indicate the way of the product development.

Eventually, all the important opportunities for the unique influencer are shown above, driving the online influence is able to success, famous as well as be well known in online business scale

From the conceptual framework, and themes are made this research is able to throughout and find the conceptual issue answer. These are noticeable seen that

A contemplative learning process will create the unique influencer, which understanding in mind, strength and weakness point to show in online area, understanding how to create online content from analytic tool of online applications The relationship between customers and audiences, which trend, needs, and creating online contents, which creating the online follow the trend of internet users, are related. In other perspective that the issue is focusing on the way to explore the scale to be famous influencer in online market, it can be seen that it is possible to get rid of the barrier, or limitation of the market, and use the effective online as the business tools in the field.

From the previous researches, driving the author is able to reviews conclusion that the participants, which focused on the teenagers group; students in SSRU, and Chinese students are able to use effectively with this issue, according to (Westenberg, 2016) teenagers have got the influent effect form video sharing, and participatory culture (Chau, 2010), are driven teenager are interested in online content can create the online contents effectively.

The good opportunity that the technology has rapidly increased, making the bar of communication has reduced, and affected to the new creators, which they are able to get more chances to explore the online content to the international scale. (Henry, 2009). It is affected to internet users who would like to access the media are unlimited area, which across the border area. There is not limitation, and easy approaching information (Nada Dabbagh, Anastasia Kitsantas, 2011). Hence, the suitable of content is the important thing, do not make it like a criminal speech (Jytte Klausen, Eliane Tschaen Barbieri, Aaron Reichlin-Melnick, and Aaron Y. Zelin, 2012), and try to change it to the positive way, as for education (Magasic, Michelangelo, 2016), good inspiration to explore the idea, and sharing video information to each other. (Nada Dabbagh, Anastasia Kitsantas, 2011)

Interaction point, in advantage perspective (Chau, 2010) between internet users and creators (Global, 2016) are able to easily participate, driving this distribution has made the intimate the good relationship in the online channel, moreover, this point is shown above, making the creators correctly understand the trend, continually keep their customers, and effectively extent to the bigger scale.

In disadvantage perspective, according to (Westenberg, 2016) non-sub-consciousness, which using the useful of technology, making some of online creator is focusing on the high return without sub-consciousness. Hence, it is possible to occur the bad situation between internet users and online content creators. Therefore, not only the external factors that is used in the business model part, but the social responsibility should be concerned seriously also.

Hence, from all figures, A contemplative learning process the business model, research methodology, the previous researches, as well as the objectives research above, are able to say that relationship between internet users, and creating online content are related. Furthermore, there are gap of online market that drive this kind of distribution is possible in the real situation and indicate to the progressive way in the future.

### **1. Recommendation**

According to Westenberg (2016) mentioned the interview of Youtubers and Online creators that they recommend to teenager, which create video sharing in order to explore a new idea to global online media sharing. However, creating the own channel, it is not easy, new creators should understand the environment factors of media and personal needs, and individual behavior in order to produce the true productive media to internet users and responsibility for social media society.

In additional, the new distribution that non-limitation, which it is not only the area that is unlimited, but also the contents, products, or goods that the creators can create the new things at all time, follow the trends of international customers, making the new business that will be founded in the future is able to pay less of capital, but likely to get high return.

Finally, this conceptual issue can review the previous researches that are able to be useful for the next research of people who are interested in the new distribution for extent the business to the international scale.

### **2. Acknowledgement**

The author would like to thank the Research and Development Institute, Suan Sunandha Rajabhat University, Bangkok, Thailand for financial support

## **REFERENCES**

- Paonrach Yodnane, 2021, The development of Individual Characteristics of an Announcer/MC through a Contemplative leaning process, Journal of communication arts, Chulalongkorn University.
- AHMEDABAD. (2013). *Pestel Analysis and Study of Various Sectors of Gujarat*. Technological University.
- Barbara Means, Yukie Toyama, Robert Murphy, Marianne Bakia, Karla Jones. (2009). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-*

- Analysis and Review of Online Learning Studies*. U.S.A.: U.S. Department of Education Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service.
- Bill Winterberg. (2014). 7 Tips to Enhance Your Online. *Journal of Financial Planning*, 40.businessmodelinnovationmatters. (2012). Understanding Facebook Business Model. Retrieved from <https://businessmodelinnovationmatters.wordpress.com/2012/04/10/understanding-facebook-business-model/>
- Chau, C. (2010). *Youtube as a participatory culture*.
- Chau, C. (2010). *Youtube as a participatory culture* .
- Feng Zhu, Xiaoquan (Michael) Zhang. (2010). Impact of Online Consumer Reviews on Sales:The Moderating Role of Product and Consumer Characteristics. *Journal of marketing* , 133-148.
- Global, L. (2016, june). *10 Yotuber creators to watch*. special report . Retrieved may 2017, from <http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=d82908c6-3daa-4a0a-9948-abc54dd0c66c%40sessionmgr4006&vid=0&hid=4109>
- Gordon M. Bodnar, Gregory S. Hayt and Richard C. Marston. (1998). 1998 Wharton Survey of Financial Risk Management by US Non-Financial Firms. *Financial Management* , 27, 70-91.
- Guadri, D. M. (2013, June 10). *slideshare*. Retrieved May 2017, from [https://www.slideshare.net/Kaimrc\\_Rss\\_Jd/research-ethics-22755308](https://www.slideshare.net/Kaimrc_Rss_Jd/research-ethics-22755308)
- Henry, J. S. (2009). *Beyond free speech* . Newjersey, USA: Montclair.
- Henry, J. S. (2009). *Information & communication Technology Law*. Monicclair University, Justice studies . Newjersey, United state: Monicclair University. Retrieved from [http://www.byronking.com/art/wp-content/uploads/2012/10/Beyond\\_Free\\_Speech.pdf](http://www.byronking.com/art/wp-content/uploads/2012/10/Beyond_Free_Speech.pdf)
- House, F. (2016). Freedom of the Press 2016. Thailand. Retrieved from <https://freedomhouse.org/report/freedom-press/2016/thailand>
- hub, I. M. (2017). YouTube Money Calculator: Calculate How Much You Can Make.
- Jean Burgess, Joshua Green. (2009). Youtube online and participatory culture. *Youtube digital media and society series*.
- Jytte Klausen, Eliane Tschaen Barbieri, Aaron Reichlin-Melnick, and Aaron Y. Zelin. (2012). *The YouTube Jihadists*. Retrieved from <http://www.terrorismanalysts.com/pt/index.php/pot/article/view/klausen-et-al-youtube-jihadists/html>
- Klaus Schwab, World Economic Forum. (2017). The Global competitive report . World Economic Forum .
- licensemag. (2016). *10 YouTuber Creators to watch* .
- LSC, L. S. (2017). *MBA BUSINESS DEVELOPMENT*. London: LSC, London school of commerce.
- Magasic, Michelangelo. (2016). *Becoming 'YouTubers, Using webclips in the ELF classroom*. Tamagawa University. Japan: Tamagawa University, Center for English as a Lingua Franca. Retrieved from <http://hdl.handle.net/11078/357>
- mala, D. (2017). Making students, parents think twice. Bangkok Thailand : Bangkok Post .
- Marina Umaschi Bers, Gil G.Noam. (2010). *New Direction for Youth Develop*. United state.

- Mary J. Culnan, Patrick J. McHugh, Jesus I. Zubillaga. (2010). *How large U.S. companies can use twitter and other social media to gain business value*. Minnesota: University of Minnesota.
- Michael A. Stefanone, Derek Lackaff, Devan Rosen. (2017). The Relationship between Traditional Mass Media and “Social Media”: Reality Television as a Model for Social Network Site Behavior. In *The Relationship between Traditional Mass Media and “Social Media”: Reality Television as a Model for Social Network Site Behavior* (pp. 508-525).
- Nada Dabbagh, Anastasia Kitsantas. (2011). *Internet and Higher Education*. United States.
- Nada Dabbagh, Anastasia Kitsantas. (2011). *Personal Learning Environments, social media, and self-regulated learning: A natural*. United state: United state.
- Nakono. (2013). Social media market structure value chain. Retrieved from <https://www.nakono.com/tekcarta/analysis-insight/facebook/social-media-market-structure-value-chain/>
- NBTC. (2016). *Thailand Telecommunications Indicators Yearbook : 2015 - 2016*. Bangkok, Thailand: Thailand Telecommunications.
- OSTERWALDER, A. (2004). *The Business Model Ontology - a proposition in a design science approach*. Lausanne, Switzerland : UNIVERSITE DE LAUSANNE.
- Palys, T. (2003). *Research Decision: Quantitative and Qualitative Perspectives*. Ontario: Thomson Nelson.
- Pediatrics, t. A. (2017). *The Impact of Social Media on Children, Adolescents, and Families*. the American Academy of Pediatrics.
- Pell, D. (2014). How YouTubers Get Famous and Other Fascinating News on the Web.
- Pongwittayapanu, P. (2014). Thailand and Asia Social Media Data 2014. Bangkok. Retrieved from <https://www.slideshare.net/pawoot/for-share-thailand-zocial-award-2014-eng-version>
- PORNWASIN, A. (2016). *Thailand is still number one for YouTube viewers in Southeast Asia*. Bangkok, Thailand: The Nation.
- reporter, P. (2017). Govt plans online education survey . Bangkok: Bangkok Post .
- Saboo, Alok R, Kumar, V, Ramani, Girish. (2016). Evaluating the impact of social media activities on human brand sales. *International Journal of Research in Marketing*. , 33, 524-541.
- Selva, D. (2015). Social Tv between Audience and Political Engagement. *Social Tv between Audience and Political Engagement*.
- TERRY FREDRICKSON, SUCHIT LEESA-NGUANSUK. (2017). Thailand in social media world's top 10. Bangkok: Bangkok Post.
- Westenberg, W. (2016). *The influence of YouTubers on teenagers*. University of Twente. | P.O. Box 217, 7500AE Enschede | The Netherlands: University of Twente | P.O. Box 217, 7500AE Enschede | The Netherlands. Retrieved from [http://essay.utwente.nl/71094/1/Westenberg\\_MA\\_BMS.pdf](http://essay.utwente.nl/71094/1/Westenberg_MA_BMS.pdf)
- Westenberg, W. (2016). *The influence of YouTubers on teenagers*. The Netherlands: University of Twente | P.O. Box 217, 7500AE Enschede | The Netherlands.

# MANAGEMENT STRATEGIES OF NEW SPECIAL EDUCATION SPECIALTY CONSTRUCTION IN CHINESE UNIVERSITIES BASED ON SWOT ANALYSIS

**XIAOLAN MA<sup>1\*</sup>, SUTTIPONG BOONPHADUNG<sup>2</sup>**  
*<sup>1,2</sup>Educational Administration Program, Graduate School,  
Suan Sunandha Rajabhat University, Bangkok, Thailand  
Email: 527874907@qq.com*

## ABSTRACT

Special education specialty in universities is an important base for training special education talents. In order to promote its better and faster development and cultivate more applied talents to meet the needs of special education development, the special education specialty of Nanning Normal University was taken as an example in this paper, and SWOT analysis was adopted to systematically and deeply analyze the strengths, weaknesses, opportunities and threats of new special education specialty construction in Chinese universities. According to the results of the analysis, from the perspectives of accurately positioning talent training objective, increasing funds investment, strengthening the construction of teaching staff, improving practical teaching systems, innovating teaching methods, reforming academic evaluation mechanism, and increasing interschool exchanges, management strategies of new special education specialty construction in Chinese universities were proposed, so as to promote the development of new special education specialty.

**Keywords:** special education specialty, specialty construction, SWOT analysis, and management strategies

## INTRODUCTION

Special education is an integral part of the national education system, and the improvement of the quality of special education relies on the enhancement of the professional quality of teaching staff. Special education specialty in universities, as the front position of training special education teachers, plays an important role in training special education talents. Specialty construction not only concerns the quality of education in universities, but also serves as the close link between education and social needs, as well as the key point for universities to take the initiative to break through restrictions and highly adapt to social needs (Xu Yun & Gao Shan, 2019). The new special education specialty construction in universities has its particularity and certain difficulties due to its newly-built nature. Therefore, the new special education specialty construction should be adopted with corresponding construction strategies according to its professional development stage and characteristics. And the specialty construction should be actively and steadily promoted, to provide strong guarantee for the society to cultivate high-quality and high-level special education professionals.

## RESEARCH METHODOLOGY

SWOT analysis, also known as situation analysis, is a common strategic planning analysis method, which is widely used to analyze professional development strategies (She Wanbin, 2013) . SWOT analysis includes analysis of strengths, weaknesses, opportunities and threats. In this paper, by taking the special education specialty of Nanning Normal University as an example, SWOT analysis was used to make an in-depth and systematic analysis of the strengths, weaknesses, opportunities and threats of new special education specialty construction in Chinese universities, and on this basis, management strategies of new special education specialty construction in Chinese universities were put forward.

## LITERATURE REVIEW

### 3. Strengths, Weaknesses, Opportunities and Threats of New Special Education Specialty Construction

#### 3.1 Strengths

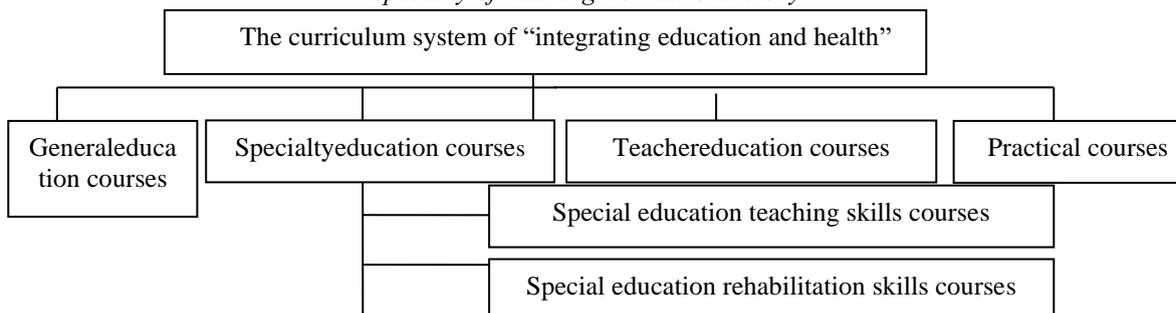
##### 3.1.1 Accurate positioning of specialty training objective

The special education specialty of Nanning Normal University, as a newly established major, has the greatest advantage of being able to clearly understand itself, closely follow the development trend of special education, accurately formulate talent training programs in the specialty construction, and cultivate special education professionals to meet the needs of regional special education reform and development. Through practice, discussion and in-depth investigation into front-line special education schools and various rehabilitation institutions for disabled children, the special education specialty of Nanning Normal University has determined the talent training objective as: “to cultivate specialized and versatile applied talents with solid basic theoretical knowledge of special education, strong teaching practice ability and certain scientific research ability, professional quality of integrated education participants, and capacity of engaging in all kinds of special children’s education and teaching as well as educational rehabilitation and related educational administration” (Ma Xiaolan & Shao Leyi, 2021) .

##### 3.1.2 Reasonable construction of specialized course system

Although the special education specialty of Nanning Normal University is a new major, it follows closely the development trend of special education reform and market demand in its curriculum setting. It takes the Professional Standards for Special Education Teachers (Trial), the Professional Certification Standards for Special Education and the Professional Competence Standards for Normal Students of Special Education (Trial) as the reference standards for teacher training, centering on the university’s school-running orientation, focusing on the goal of talent training, attaching great importance to the cultivation of “teaching and health” quality of students, and emphasizing the interdisciplinary integration. The curriculum setting of specialty education highlights the combination of educational teaching with educational rehabilitation, forming the curriculum system of “integrating education and health” of the specialty, as shown in Figure 1.

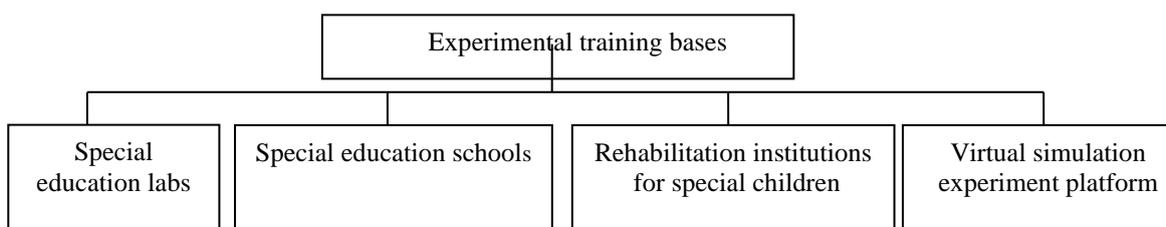
Figure 1: The Curriculum System of “Integrating Education and Health” of Special Education Specialty of Nanning Normal University



### 1.1.3 Gradual improvement of experimental training conditions

Since its establishment 5 years ago, the special education specialty of Nanning Normal University has made solid achievements in the construction of education and teaching practice (internship) base, and constantly improved the implementation conditions of teaching practice (Ma Xiaolan & Shao Leyi, 2021). First, a comprehensive laboratory for special education has been established within five years to provide assessment of cognitive ability, motor function, speech and language ability, emotional behavior and other fields for children with special needs; second, under the leadership and guidance of school leaders, all teachers in the major independently developed the “Virtual Simulation Teaching Experiment Platform for Children with Intellectual Disabilities” in 2019, which was awarded the provincial first-class course. With the help of this platform, through the intuitive and interactive practical teaching training, the “integration of education and health” teacher training was vigorously promoted; third, for the special education specialty of Nanning Normal University, 8 off-campus training bases with good operation were built, involving special education schools and rehabilitation institutions for special children, which can meet the practice needs of students of the specialty in terms of educational teaching and educational rehabilitation, as shown in Figure 2.

Figure 2: Experimental Training Bases for Special Education Specialty of Nanning Normal University



## 3.2 Weaknesses

### 3.2.1 Insufficient specialty precipitation

The special education specialty of Nanning Normal University was established in September 2016, which has been running for a short time and lacks relevant experience, still in the exploratory stage of specialty construction. Compared to other universities that have been running for many years, its brand advantage is not prominent, characterized by a lack of significant and symbolic teaching reform projects, and few scientific research projects and achievements (Hou Yule, 2018).

### 3.2.2 Lack of professional teachers

The development of special education specialty is inseparable from the special education teachers. The key to run special education well is to establish a team of special education teachers with sufficient quantity and qualified quality. As a newly established

specialty, the special education specialty of Nanning Normal University shows the following deficiencies in the teaching staff construction: First, the quantity of teachers is not sufficient. Although 2 teachers with high-grade professional titles were employed as course teachers of the specialty and 10 external internship instructors were also recruited, the rest of professional teachers cannot meet the teaching needs following the retirement of professional aged teachers and the transfer of several teachers, the ratio of teachers to students fails to meet the national certification standards for special education, and the teaching staff cannot meet the requirements of specialty construction; second, the professional background of teachers is not reasonable. Given that special education is a multidisciplinary specialty, the special education specialty of Nanning Normal University is currently short of teachers with medical and rehabilitation background; third, it's about the professional title of teachers. At present, there are no teachers with senior professional titles in special education specialty of Nanning Normal University, while a teacher's title is still in the state of uncertainty.

### **3.3 Opportunities**

#### **3.3.1 Strong support provided by national policies**

The 17th National Congress of the Communist Party of China proposed to “care for special education”, the 18th National Congress proposed to “support special education”, the 19th National Congress proposed to “do a good job in special education”, and the fifth Plenary Session of the 19th CPC Central Committee proposed to “improve the guarantee mechanism for special education”. In July 2021, the State Council issued the 14th Five-year Plan for the Protection and Development of Persons with Disabilities (hereinafter referred to as the Plan). One of the key tasks set out in the Plan is to “improve the care and service system for persons with disabilities, and improve the quality of public services such as rehabilitation, education, culture and sports for them(The State Council, 2021) ” .It can be seen that the Party and the state are attaching more importance to supporting special education, and increasing investment and support for it.Special education is facing unprecedented opportunities for development(She Wanbin, 2013) .

#### **3.3.2 Social demand for special education talents**

By the end of 2019, there were 2,192 special education schools in China, basically achieving full coverage of special education schools in counties with a population of 300,000 or more(The editorial department of this journal, 2021) , while integrated education has been comprehensively promoted and the construction of special education resource centers and ordinary school resource classrooms has been further strengthened. With the establishment of a large number of special education schools and private rehabilitation institutions for special children, the number of groups receiving special education is growing, and the social demand for special education professionals is also increasing. Special education teachers have ushered in a golden age of development.

### **3.4 Threats**

#### **3.4.1 Increasingly fierce homogenization competition**

At the moment, the number of Chinese universities offering special education has increased to 80, and the quantity of enrolled students and graduates is steadily increasing(Ministry of Education of the People's Republic of China, 2021) . In addition, other normal graduates also engage in the profession of special education. In the course of recruiting teachers for special education schools and rehabilitation institutions for special

children, both graduates of special education specialties and teachers of other disciplines will be considered. Therefore, graduate employment faces a relatively fierce situation. Compared to those of special education specialty that has been running for a long time and has formed its own characteristics, graduates of newly established special education specialty are not advantageous in employment.

### **3.4.2 Low student acceptance**

Due to the complexity of special education objects, students' recognition of special education is not high, their psychological acceptance of education for disabled children is low, and their intention to apply for special education is low (She Wanbin, 2013). The special education specialty of Nanning Normal University was taken as an example. According to the survey statistics, only 2 to 3 students applied for the special education specialty in their first choice in each session, while 1 or 2 students applied for changing the specialty. There are two main reasons why students seem to change their specialty: First, students themselves do not acknowledge the special education specialty, considering that it is not very meaningful to work for the disabled in the future; second, some parents have outdated ideas and do not understand or identify with special education, who reckon that their children are too hard to work in special education in the future, and they are all with some "abnormal" children.

## **4. Management Strategies of New Special Education Specialty Construction**

By taking the special education specialty of Nanning Normal University as an example, SWOT analysis was used to analyze the strengths, weaknesses, opportunities and threats of the new special education specialty construction in Chinese universities. And on this basis, according to the regional economic conditions and special education development situation of new special education specialty construction, the following management countermeasures of new special education specialty construction were put forward.

### **4.1 Accurately positioning talent training objective**

For the new special education specialty construction, the status quo of local social and economic development should be accurately analyzed to identify the entry point of integration with local social industry. According to the development trend of special education and talent market demand, based on the university orientation, the discipline characteristic, teaching mode and other objective conditions, in accordance with the general principle of specialty construction, the talent training scheme should be continually improved, the objective of talent training should be set more scientifically and reasonably, and the homogeneity of the same special education professional training in universities should be avoided (Guan Honghui, 2019).

### **4.2 Increasing financial input**

The specialty construction in universities is closely related to the investment of teaching funds, and the economic problem is one of the important factors affecting the specialty construction. Although the special education of higher education in China is developing rapidly at present, there are obvious differences among universities with different school history, different school level and different regions (Cultivation, Tuo Xiaojuan & Zhao Bin, 2018). All regions and universities should further strengthen the fund investment and policy guidance for the new special education specialty construction,

so as to improve the quality of running schools.

### **4.3 Strengthening the construction of professional teaching staff**

#### **4.3.1 Strengthening the introduction of high-level talents**

Universities offering special education should perfect policies of attracting talents and construct a sound high-level personnel work system and mechanism (Wang Tianjia, 2020). The talent introduction system should be implemented to introduce doctoral and other special education professionals from home and abroad, actively accommodate a number of academic leaders and academic backbones, and build a number of academic echelons and teaching teams in a planned and orderly way, “retaining” them.

#### **4.3.2 Improving the educational level of full-time teachers**

Universities should strengthen the training of on-the-job teachers, implement teacher promotion projects, provide a variety of domestic and foreign education promotion paths (Guan Honghui, 2019), as well as encourage teachers who have not obtained doctoral degrees to improve their own education through various ways, so as to improve their professional ability.

#### **4.3.3 Strengthening the training of on-the-job full-time teachers**

Guided by the construction of expert teachers, universities should carry out post-service training for on-the-job full-time teachers in different degrees and in different ways (Zhang Shuting & Wu Jiaojiao, 2021), such as delivering classroom teaching competitions, research project discussions, expert lecture learning, domestic and foreign exchanges, etc. Also, they should continuously improve and innovate the training mode, stimulate the enthusiasm of teachers to participate in training, and improve the effect of training, so as to promote the professional development of teachers (Luo Yao & Yang Yuanfang 2021).

### **4.4 Improving practical teaching systems**

With the expansion of the enrollment of students and the development of related professional evaluation and certification, the new special education specialty construction should further improve the effect of practical training for students of the specialty (Ma Xiaolan & Shao Leyi, 2021). Therefore, the existing experimental training labs should be re-planned according to the needs of teaching practice, with experimental teaching labs and rehabilitation skills training labs for special education constructed respectively. The cooperation with education practice base schools and rehabilitation institutions should be further strengthened, the “double tutorial system” between the teachers of the specialty and external advisors should be implemented, the practical teaching guidance to students should be enhanced, the practical teaching evaluation system as well as the quality of practical teaching should be improved, and the needs of practical teaching for students should be further satisfied, so as to cultivate qualified special education professionals (Ma Xiaolan & Shao Leyi, 2021).

### **4.5 Innovating teaching methods**

Special education teachers should make full use of a variety of teaching methods and means in class, to fully mobilize students’ learning enthusiasm and cultivate their ability to analyze and solve problems (Zhu Guangqian & Xu Xiangyun 2018). At the same time, teachers should focus on cultivating students’ concept of “education and health” and professional accomplishment (Ma Xiaolan & Shao Leyi, 2021).

#### **4.6 Reforming academic evaluation mechanism**

The Professional Standards for Special Education Teachers (Trial), Professional Certification Standards for Special Education and Professional Ability Standards for Normal Students of Special Education (Trial) should be closely combined with talent training, advocating all-round development of morality, intelligence, physique, aesthetics and labor, and actively exploring a scientific and reasonable academic evaluation mechanism for students (Zhang Shuting & Wu Jiaojiao, 2021). In order to better train applied special education professionals, students' self-evaluation, mutual evaluation, as well as teachers' evaluation should be combined, while the qualitative and quantitative evaluation, formative evaluation and summative evaluation should be combined. That's an important way to stress the assessment over practical ability and the process evaluation, as well as to promote the transformation of students' theoretical knowledge into practical ability.

#### **4.7 Increasing inter-school exchanges**

Since the new special education specialty construction is in the preliminary exploration stage, it is necessary to take the initiative to carry out exchanges and learning activities with universities that have established the special education specialty for a long time, such as Beijing Normal University, East China Normal University, Central China Normal University, Chongqing Normal University, etc., to jointly explore the development path of special education and learn from each other's strengths. The rich experience of other universities in talent training mode, curriculum setting and special education management should be learned to form inter-school exchanges of "interconnectivity and coordinated development".

### **CONCLUSIONS**

Professional construction is a key and important task in universities. The special education specialty in universities is an important base for training special education teachers. The construction of new special education specialty is in the coexistence of opportunities and challenges. Special education is the starting point for the disabled to obtain social equity rights. Important measures to promote the development of special education are to strengthen the special education specialty construction in universities and train applied professionals to meet the needs of the disabled (She Wanbin, 2013). Consequently, according to the regional economy and special education development needs, the new special education specialty construction should be strengthened in various aspects, so as to cultivate more and more excellent special education professionals, to serve the purpose of local special education development.

#### **Research limitations and future research directions**

In the research process, this study only interviewed the relevant responsible persons, all teachers and a small number of students of the newly established special education specialty, as well as the actual work of the researchers, and the research materials obtained were not detailed enough. In the future research, all students of the new special education specialty should be investigated in combination with the questionnaire method. At the same time, interviews with leaders and practice instructors of the newly-built special education professional education and teaching practice bases were added, so as to obtain more comprehensive and in-depth research materials.

### **REFERENCES**

- Xu Yun and Gao Shan. (2019). SWOT Analysis of Flight Attendant Specialty Construction in Higher Vocational Colleges from the Perspective of Deep Integration of Universities and enterprises -- A Case Study of Nanjing Institute of Tourism & Hospitality . *Contemporary Education Research and Teaching Practice*, (05), 100-102+146.
- She Wanbin. (2013). SWOT Analysis and Development Strategy of Special Education Specialty in Sichuan Universities. *Journal of Chifeng University (Chinese Philosophy and Social Sciences Edition)* (11), 243-247.
- Ma Xiaolan and Shao Leyi. (2021). Research on the Practice of "Integration of Education and Health" Teacher Training Mode for Special Education Specialty in Universities. *The Guide of Science and Education*, (20), 72-74.
- Ma Xiaolan and Shao Leyi. (2021). Research on the Practice of "Integration of Education and Health" Teacher Training Mode for Special Education Specialty in Universities. *The Guide of Science and Education*, (20), 72-74.
- Hou Yule. (2018). SWOT Analysis on the Development of Newly-Established Geography Science in Normal Universities: A Case Study of Geography Science in ABA Teachers University. *Journal of ABA Teachers University* (04), 124-128.
- The State Council. (July 2021) . The State Council issued the 14th Five-Year Plan for the Protection and Development of Persons with Disabilities. [Online]. Available: [http://www.gov.cn/zhengce/content/2021-07/21/content\\_5626391.htm](http://www.gov.cn/zhengce/content/2021-07/21/content_5626391.htm)
- She Wanbin. (2013). SWOT Analysis and Development Strategy of Special Education Specialty in Sichuan Universities. *Journal of Chifeng University (Chinese Philosophy and Social Sciences Edition)* (11), 243-247.
- Editorial Department of The Journal. (2021). The Reform and Development of Basic Education. *Yunnan Education*, (Z1), 22-25.
- The Ministry of Education of the People's Republic of China. (September 2021). Increasing Preferential Policies, Funds and Programs for Special Education -- The Enrollment Rate of Disabled Children in Compulsory Education Exceeds 95% in China. [Online]. Available: [http://www.moe.gov.cn/jyb\\_xwfb/s5147/202109/t20210927\\_567367.html](http://www.moe.gov.cn/jyb_xwfb/s5147/202109/t20210927_567367.html). 2021-9-27
- She Wanbin. (2013). SWOT Analysis and Development Strategy of Special Education Specialty in Sichuan Universities. *Journal of Chifeng University (Chinese Philosophy and Social Sciences Edition)* (11), 243-247.
- Guan Honghui. (2019). Research on the Construction of Specialty Groups of Local Undergraduate Colleges Based on SWOT -- A Case Study of Ningde Normal University. *Journal of Higher Education*, (24), 57-59.
- Qi Peiyu, Tuo Xiaojuan and Zhao Bin. (2018). Investigation on Specialty Construction Situation of Higher Special Education in China. *Contemporary Teacher Education* (01), 68-75.
- Wang Tianjia. (2020). Research on Paths to Retain and Attract Talents in Liaoning Province from the Perspective of Comprehensive Revitalization. *Theory Horizon* (10), 105-108.
- Guan Honghui. (2019). Research on the Construction of Specialty Groups of Local Undergraduate Colleges Based on SWOT -- A Case Study of Ningde Normal University. *Journal of Higher Education*, (24), 57-59.
- Zhang Shuting and Wu Jiaojiao. (2021). Research on the Reform of Applied Talents Training Mode for Special Education Under the Concept of OBE Education - A Case Study of the Special Education Department of Normal College of

- Guizhou University of Engineering Science. *Modern Business Trade Industry*, (30),61-62.
- Luo Yao and Yang Yuanfang.(2021). Research on Teacher Training Mode of Applied Universities from the Perspective of Teaching Academic Ability: A Case Study of Beijing Union University. *Journal of Beijing Union University* ,(04),11-16.
- Ma Xiaolan and Shao Leyi. (2021). Research on the Practice of “Integration of Education and Health”Teacher Training Mode for Special Education Specialty in Universities. *The Guide of Science and Education*,(20),72-74.
- Ma Xiaolan and Shao Leyi. (2021). Research on the Practice of “Integration of Education and Health”Teacher Training Mode for Special Education Specialty in Universities. *The Guide of Science and Education*,(20),72-74.
- Zhu Guangqian and Xu Xiangyun.(2018).The Construction of Administration Specialty in Universities from the Perspective of SWOT. *Journal of Qiannan Normal University for Nationalities*, (03),49-53.
- Ma Xiaolan and Shao Leyi. (2021) .Research on the Practice of “Integration of Education and Health”Teacher Training Mode for Special Education Specialty in Universities. *The Guide of Science and Education*,(20),72-74.
- Zhang Shuting and Wu Jiaojiao. (2021).Research on the Reform of Applied Talents Training Mode for Special Education Under the Concept of OBE Education - A Case Study of the Special Education Department of Normal College of Guizhou University of Engineering Science. *Modern Business Trade Industry*, (30),61-62.
- She Wanbin.(2013).SWOT Analysis and Development Strategy of Special Education Specialty in Sichuan Universities.*Journal of Chifeng University (Chinese Philosophy and Social Sciences Edition)*,(11),243-247.

# OPEN INNOVATION AND AUDIT QUALITY OF NON-BIG FOUR AUDIT FIRMS - AN EXPLORATION BASED ON CONSTRUCTING GROUNDED THEORY

**DONG WANG & MUHAMMAD SHAHID KHAN**

*Sunandha Rajabhat University, Bangkok, Thailand*

*E-mail: 516766412@qq.com;shahid.kh@ssru.ac.th*

## ABSTRACT

The purpose of the study is to make an exploration of open innovation (OI) and audit quality (AQ) of non-big-four audit firms from China based on constructing grounded theory. It provides qualitative evidence that knowledge management (KM) and information and communication technology (ICT) are the main motivations of open innovation (OI) to affect audit quality (AQ). Audit partners, senior auditors, and audit assistants from the audit teams of non-four audit firms were selected to discuss the research topic in individual interviews. Audit firms can take advantage of OI with KM and ICT to improve AQ. The study constructs a conceptual model to explain the relationship between OI and AQ, which belongs to a relatively new cross research field and possibly not only makes theoretical contributions to KM, ICT, OI, and AQ but also gives some practical advice to the Non-Big Four audit firms and teaching of accounting, auditing and financial management majors in universities.

**Keywords:** Open innovation (OI), audit quality (AQ), knowledge management (KM), information and communication technology (ICT)

## INTRODUCTION

### 1.1 Background of the study

With the rapid rise of production, Knowledge-intensive Business Services (KIBS) play the important role in the economic world. KIBS are the companies such as advertising, consulting, information and audit firms, etc. This kind of enterprise especially emphasizes innovation and knowledge service quality, making it easier to survive in the service industry. Based on their reputation and technical advantages, Big-Four audit firms have entered China's market one after another, monopolizing the audit business of large enterprises to a certain extent. The regulatory environment strictly requires audit firms to make sure of their audit quality. China's audit firms have a series of problems such as relatively low knowledge level, small scale, low efficiency, and price competition in the competition with the Big-Four audit firms. The following table 1 shows the Big-Four audit firms' occupation rank, which occupied the top four in China's audit market. The practical problem provides a challenge to the existing theory, which urgently requires the theoretical circles to turn their attention to the research.

Table 1: Ranking information of China's audit firms in 2020

Names	Ranking	Scores	Numbers of CPA
PWC (Big-Four)	1	975.40	1390
EY(Big-Four)	2	947.30	1645
Deloitte(Big-Four)	3	914.88	1239
KPMG(Big-Four)	4	891.18	973
PAN-CHINA	5	888.80	1846
BDO	6	871.28	2216
Shine Wing	7	849.10	1739
MOORE	8	832.11	1679
BAKER TILLY	9	821.75	1254

Source: China Institute of Certified Public Accountants: [www.cicpa.org.cn](http://www.cicpa.org.cn)

## 1.2 Statement of problems

Audit quality is affected by several factors, from the professional training, experience, and skills of auditors, the fair allocation of tasks to the whole audit team, the allocation of audit time, audit expenses, the independence of auditors, the types of auditors (big four or non-big four) and the rotation of auditors (Crucean & Hategan, 2019). The study makes an exploration of OI and AQ of non-big-four audit firms from China, which is based on the scarce existing relevant research studying the relationship between OI and AQ. The problems of the study are as follows:

What's the relationship between OI and AQ?

Is there any motivation between OI and AQ?

## 1.3 Objectives of the study

The purpose of the study is to make an exploration of OI and AQ of non-big four audit firms from China based on constructing grounded theory. The main objectives of the study are as follows:

To investigate the relationship between OI and AQ.

To investigate the motivation of OI and AQ.

## 1.4 Significance of the study

The study has explored the aspects of OI, KM, ICT and AQ, and finds out the possible relationship between them, which belongs to a relatively new cross research field including OI, KM, ICT and AQ. Previous scholars have studied the above areas respectively, but there are few target areas as same as the study's choice. The study constructs a conceptual model to explain the relationship between OI, KM, ICT and AQ, which can possibly not only make theoretical contributions to OI, KM, ICT, and AQ but also gives some practical advice to the Non-Big Four audit firms and teaching of accounting, auditing and financial management majors in universities.

# LITERATURE REVIEW

## 2.1 Audit quality

The theory of agencies (Jensen & Meckling, 1976) shows the importance of AQ. When the enterprises want to transmit the signal of fairness and integrity of information disclosure to the market, the enterprises tend to choose high-quality audit firms at the international level. The Big-Four audit firms are considered to be "high-quality" auditors, they provide higher perceived and actual audit quality. Companies audited by Big-Four auditors have less debt in their capital structure and are less likely to issue debt (Okere et al., 2018). AQ is affected by several factors, from the professional training, experience and skills of auditors, the fair allocation of tasks to the whole audit team, the allocation of audit time and audit expenses, the independence of auditors, the types of auditors

(Big-Four or Non-Big Four) and the rotation of auditors are all aspects that cannot be ignored in the evaluation of audit service quality (Crucean & Hategan, 2019). The working pressure of auditors usually does not lead to the general decline of audit quality; In the initial audit of new customers, there is a significant negative correlation between work pressure and audit quality; The perception of job stress depends on the personal characteristics of auditors. Audit companies should pay more attention to the work pressure of auditors, reasonably allocate audit resources and ensure audit quality (Yan & Xie, 2016). The relationship between the characteristics of the audit team and audit quality showed that the more time and experience experienced team members spend, the better the audit quality would be (Aobdia et al., 2019). Work-life balance is related to audit quality but has little to do with employee satisfaction and audit quality (Khavis & Krishnan, 2018). It is found that partners with stronger risk tolerance are more likely to make false statements in their reports to customers and do not confirm losses in time (Pittman et al., 2019). The demand of the market for audit efficiency and audit quality has increased. The high requirements of the regulatory authorities and the new audit standards for the integrity of the audit process have increased the pressure on the audit work. Audit firms need to use knowledge transfer to increase efficiency and reduce costs (Vera-Munoz et al., 2006). The size of audit firms is positively correlated with AQ. This finding is consistent with previous studies (Guo & MO, 2015). The determinants of AQ do not necessarily include the size of the audit firms, and the professional training of auditors is the determinant of AQ. Therefore, audit firms should pay attention to the professional knowledge training carried out by professional institutions for auditors (Chersan, 2019). Starting from the fact that the size of audit firms is not always an important factor affecting audit quality, the personal education level of financial auditors is the decisive indicator of audit quality. Therefore, auditors and audit firms need to pay attention to ensuring the professional development of their employees, not just the training requirements imposed by professional organizations (Crucean & Hategan, 2019).

## **2.2 Open innovation**

OI has become a new paradigm for organizing innovation (Bogers et al., 2018). OI involves a wide range of external partners, namely users, consumers, suppliers, universities and competitors (Felin & Zenger, 2014). There are two important types of OI: outward and inward innovation and inward and outward innovation, which are also called inward and outward OI respectively (Bogers et al., 2018). The outside in part of OI involves opening the company's innovation process to a variety of external inputs and contributions. In academic research and industry practice, this aspect of OI has received the greatest attention (West & Bogers, 2014). The four-stage model of utilizing external knowledge in the process of OI includes acquisition, integration, commercialization and interaction. In the process of open innovation, enterprises use and commercialize the external sources of innovation through these four stages. (West & Bogers, 2014). Managers can use many OI mechanisms to encourage the inflow of knowledge across organizational boundaries, such as inflow or "from outside to inside" open innovation (Stanko et al., 2017).

Audit firms, as the form of KIBS rely on professional knowledge for innovation. More and more audit firms begin to realize the importance of external knowledge and rely on OI to obtain more professional knowledge. Although the existing researchers have recognized the importance of OI, they have studied on the influencing factors of OI. However, few studies pay attention to process of OI of KIBS. Few scholars pay attention to the important impact of the process of OI of KIBS with professional knowledge. This study takes KIBS with professional knowledge such as audit firms as the research objects.

### **2.3 Knowledge management**

According to Porter's value chain model, the knowledge chain model of knowledge management activities is proposed. The knowledge activities in the organization are divided into Primary Activities and Secondary Activities. The Primary Activities include five link auxiliary activities, including knowledge acquisition, knowledge selection, knowledge generation, internalization and externalization. The Secondary Activities including leadership, coordination, control and measurement of the knowledge (Holsapple & Singh, 2001). Nonaka proposed SECI model in the related research of knowledge sharing, and divided the process of knowledge sharing into stages: socialization, externalization, and internalization. In the socialization stage, the individuals in the organization pass on the experience and skills that originally existed in the individual brain, which are highly situational dependent and difficult to describe by communication, sharing and imitation with other individuals. After that, through the discussion and reflection among the organization groups, the knowledge that is not easy to describe is clearly expressed in language and words as much as possible, so as to complete the transformation from tacit knowledge to explicit knowledge, and thus enter the next stage of the knowledge spiral, that is, the externalization stage. Under the guidance and coordination of the organization, those personalized and discrete explicit knowledge can be reintegrated into new organizational knowledge and stored in the organization's documents, operation guides and manuals. However, the generation of new knowledge does not mean the end of knowledge creation and sharing. After individuals in the organization acquire new knowledge and form their own personal knowledge, they will continue to produce new personalized invisible knowledge in production practice, that is, the internalization process of knowledge spiral. At this time, knowledge is constantly recreated in this spiral transformation (Nonaka, 1996). The essence of organizational capability is knowledge integration. The degree of knowledge integration within an organization is bound to have a significant impact on the organization's innovation capability and innovation performance, so as to improve the organization's performance, create and maintain the organization's competitive advantage (Grant, 1996). Different types of knowledge combination, such as explicit and implicit, individual and collective, internal and external, will lead to different modes of knowledge sharing, such as process sharing, cultural sharing or professional sharing, and then lead to different tracks of knowledge integration (Andreu & Sieber, 2005). In order to acquire and understand new knowledge and technology from the external environment, enterprises must participate in the process of knowledge integration and application, which have a positive impact on innovation performance (Wang et al., 2018).

There is a direct impact of KM processes on the performance of organizations (Abualoush et al., 2018). AQ is produced from the procedures of audit projects. Project natures have impact on knowledge transfer, but few studies have systematically investigated the impacts of these natures (Ren et al., 2018). From the perspective of knowledge management research, scholars have studied knowledge management for a long time, but the discussion of introducing knowledge management into project management research has only increased in recent years. The study objects of KM applications chose by scholars were almost construction companies. Therefore, the study selects audit firms as the representative of knowledge service-oriented enterprises to enrich the relevant literature of project knowledge management.

### **2.4 Information and communication technologies**

When the technology is not so developed, the environment of audit companies is not so complex, and auditors generally work by hand. With the emergence and rapid expansion of forensic accounting and business, the accounting and audit industry

frequently used tools include technologies such as XBRL, analysis and data mining (Pan & Seow, 2016). Digitalization will enable audit firms to implement an innovative culture. They must constantly innovate and develop their audit processes and tools to meet the changing needs of customers process digitization, mainly to adapt to the changing environment (Manita et al., 2020; Richins et al., 2017).

In the social progress, ICT has played a great role in social and economic development, and then has a great impact on audit (Thabit, 2019). The use of audit IT by auditors remains low, and auditors have not made sufficient progress in the use audit IT. It is expected that effective IT governance mechanism will affect the performance of audit technology. The application of information technologies can have a positive impact on the practice of electronic audit (Thabit, 2019; Thottoli et al., 2019; Veerankutty et al., 2018). Auditors' use of IT has a significant positive impact on the success of electronic audit system (Supriadi et al., 2019). Information technology has developed rapidly in just a few years. It has been transformed into the integration of communication, and it has been transformed into ICT. Remote auditing and ICT have been widely used (Castka et al., 2020; Thabit, 2019).

Most of the literature mainly were focused on the impact of ICT on audit performance. There is no much attempt to explore the impact of effective role of OI between ICT and AQ. The study aimed to make an exploration of OI and AQ. The study finds audit firms can implement OI with ICT to improve AQ.

## **RESEARCH METHODOLOGY**

### **3.1 Method theory**

The research adopts a qualitative research design, which allows the research to focus on a social phenomenon by studying the social background and individuals and focus on how individuals understand their social environment (Lune & Berg, 2017) . The qualitative nature of this study can promote the discovery of new ideas and problems, which will enrich the literature in the previous research field. Unlike the verification emphasized in quantitative research, it assumes to find out the causal relationship. The search adopts the in-depth semi-structured interviews. From the perspective of implementation, in-depth interview does not need the prepared quantitative questionnaire, and usually uses non-random but still representative small sample research (Cypress, 2018; Mohajan, 2018; Power & Gendron, 2015). In-depth interviews were conducted with partners, senior managers and audit assistants to understand the relationship of OI and AQ in the study. When the research is finished, the revisions and improvement of the theoretical model on this basis is expected.

The study adopts constructing grounded theory. Two sociologists, Barney Glaser and Anselm Strauss, wrote the discovery of the grounded theory, describing the grounded theory developed from the observation of real life. The theoretical method is based on data development, rather than empirical testing based on theory. Grounded theory is a theory developed from data collection and analysis (Glaser et al., 1968). Therefore, grounded theory is defined as "the theory obtained from data, system collection and analysis through the research process"(Pandit, 1996). All theories are constructed by the researchers in the process of participating in practice and interacting with the subjects. The researchers themselves are a part of the world they study. The interaction of researchers in various forms constitutes the content of grounded theory research (Charmaz, 2000, 2006). Every research's method may be criticized. The key is that scholars can obtain a language of academic debate in their research. It is this continuous

debate that creates conditions for the emergence of different knowledge (Eaves, 2001). The author believes that the constructing grounded theory is more suitable for her own experience background and the research content. According to the grounded theory, the author carries out research in four steps: forming problems, collecting data, analyzing data and constructing theory. In essence, according to the needs of research, the above four steps are not carried out in a fixed order. Whenever the author has new discoveries and ideas, she would return to the source to collect data again after making a memorandum.

### 3.2 Sample selection

The author believes that the choice of interviewees should be paid attention to in the use of constructive grounded theory. It is important whether the researcher can enter the research site and conduct in-depth research. Constructing grounded theory emphasizes the need to constantly compare and collect data. Once the researcher has new ideas and starts collecting data again, the interviewees should cooperate with the researcher, otherwise the research work based on constructing grounded theory cannot be carried out. The author selected the cooperative audit firms by the following ways. At first, the author worked in a Non-Big Four audit firm 20 years ago. After four years of audit work, the author resigned. At the same time, the author's colleagues also resigned one after another in these 20 years and reorganized to work in other new audit firms which were selected to be the cooperative audit firms. Secondly, the author often cooperates with the partners of the audit firms to participate in the review of the projects as a financial expert. At last, the author is now engaged in audit teaching in universities. The above audit firms often ask the author to recommend graduates to work in their firms. Therefore, the author maintains long-term good relationships with the above audit firms, which provides good conditions for the smooth use of constructing grounded theory to carry out the study.

### 3.3 Data collection

The background of the research is the discussion on OI and AQ of China's Non-Big Four audit firms. Relevant data were collected through in-depth semi-structured interviews in qualitative research. During the data collection phase, a total of 13 respondents were interviewed. Among the interviewees, 3 are branch partners, 4 are audit senior managers and 6 are audit assistants. The interview time was from December 2021 to January 2022. Because this period is the peak season of audit work, some interviews were in the form of face-to-face plus online interview, which lasted an average of 1 hour. All interviewees were invited to discuss the contents, including but not limited to OI and AQ. Before the interview, the interviewer informed the interviewees that the author is currently studying for a doctorate degree majoring in innovation management at College of Innovation and Management, Sunandha Rajabhat University, and the interview is for writing a doctoral thesis. The interviews were conducted with the permission of the interviewees, and the interviewer guaranteed the confidentiality and anonymity of the interviewee throughout the whole process.

Table 2. Basic information of interviewees

Audit firms	Audit work years	Main interviewee's position	Interview duration	Interview method
A	35	Branch partner	30 min	Face-to-face
B	30	Branch partner	40 min	Face-to-face + online
C	20	Branch partner	80 min	Face-to-face + online
A	15	Audit senior manager	70 min	Face-to-face

B	10	Audit senior manager	89 min	Face-to-face +online
C	3	Audit senior manager	65 min	Face-to-face
D	2	Audit senior manager	63 min	Face-to-face +online
A	3	Audit assistants	70 min	Face-to-face
B	2	Audit assistants	75 min	Face-to-face
C	2	Audit assistants	65 min	Face-to-face
D	1	Audit assistants	68 min	Face-to-face +online
E	1	Audit assistants	78 min	Face-to-face +online
F	1	Audit assistants	75 min	Face-to-face +online

### 3.4 Data processing

When researchers compare the main categories and integrate these categories, the data will move in the direction of theme, concept and theory (Saldaña, 2009). Three types of coding: open coding, axial coding, and selective coding are used in the study (Pandit, 1996). The qualitative researchers who are new to the coding research are more suitable to use compromise coding for research. Forms of the data are diverse, including interview transcripts, on-site notes, journals, documents, diaries and so on (Saldaña, 2009). In this study, Nvivo12 was used to process the data, condense the data, and analyze the data. Words or phrases as open coding are used as the first step of data analysis, then axial coding, and selective coding (Pandit, 1996).

#### 3.4.1 Open coding

The author compares the data according to the categories of audit firm's environment, auditor characteristics, audit projects and other concepts involved in the audit firms. Then the author encoded the data and classified the data into as many conceptual categories as possible. The author got the Table 3. Categories and concepts of open coding (Part of examples) are as follows.

Table 3. Categories and concepts of open coding (Part of examples)

Categorization	Conceptualization	Statement Text
Learning ability	Learn to use office tools	A01: Learn to use, repair the copier, and its various functions: copying, scanning, concentration
	Learn ICT to help audit	A10: learn to use EXCEL, there are many technical tutorials for auditing on the Internet.
	Learn the professional knowledge	A50: New income, new leases, new debt restructuring, new non-monetary exchanges, etc., learning the knowledge is inherently difficult
Attitude	Attitude trouble	A02: He thinks he is very capable, you have to give me a better salary, otherwise he will leave the audit firm.
	Attitude important	A30: The office work is not easy, just go in how much you can learn all depends on your attitude. A20: More important than professional accounting knowledge is the attitude.
Patience	Patience of audit	A55: Be sure to check whether there are missing pages or missing pages, and the handwriting is not clear
	Patience of transfer knowledge	A40: The old birds are willing to teach, but no one will teach the basic knowledge. A48: The project manager will certainly not teach you by hand, he himself is too busy.
Control of AQ	Direct control of AQ	A60: After the project is undertaken, usually partners and project managers has responsibilities to control the whole process of the project.
		A66: Before we report the audit report, we will bring the partners who do not participate the project together

	Indirect control of AQ	to discuss the risk points in the whole process of the audit project. A70: Because you are a newcomer, the project manager will certainly not assign you very important tasks.
CPA test	CPA for audit work	A80: Taking part in CPA test can make my audit knowledge grows particularly fast.
	Audit work for CPA	A82: After doing the audit of the report of the construction project, I am also taking the CPA exam, which is useful for my CPA exam.
	Significance of CPA	A90: In the firm, whether the assistants pass CPA exams or not is a key threshold for their improvement.

### 3.4.2 Axial coding

When compiling the axial coding, the author mainly distinguished the various organic links between the main concept categories and the secondary concept categories basis on the audit firms' overall goal of OI and AQ, and reorganized the scattered data in a new way. Therefore, the author obtains the following table 4.

Table 4. Examples of axial coding

Main Categories	Categories	Implication of Categories
The role of open innovation in audit projects	Self-learning ability	No teaching of the basic knowledge, no time to teach.
	Practical learning	Strong practical experience learning required, a strong knowledge reserve to support the theory, disconnect between theory and practice.
	Team internal learning	Ask questions from senior manager, change knowledge among auditors.
	Communication with customers	Get enterprises' knowledge from customers, get more information about questions from customers, get knowledge from other enterprises in shared audit projects.
Audit firms' environment	Non-fixed team	Changing team members frequently, fresh team members, challenge for new communication.
	Lower salary	Lower salary without CPA certification, cannot support life.
	Hard-working	Much work pressure, no much free time, urgent task, too much overtime.
	Learning environment	Learning competition, encouraging learning, strong learning atmosphere, paid leaves of CPA tests.
	Simple interpersonal relationship	Easy to get along with, understand each other, care and love each other.
	Good career platform	Fast growth, high recognition of work experience, easy to be accepted by the society.
ICT functions for audit projects	Notice of new audit projects	Every day's browse, system tasks, system reminder.
	Set up audit team	Announcement of the number of missing auditors for new teams, balance the number of tasks completed by the audit and new tasks.

	Tools for audit work	Excel, accounting software, office apps.
ICT functions for KM	Supervision function	Insufficient study time, Unfinished learning tasks, punishment reminder.
	Convey knowledge	Knowledge systems, learning projects on systems, own account in systems.
	Basis of learning reward	System learning hours paid.
ICT functions for OI	More audit opportunities	Professional ability of ICT, problem solving ability of ICT.
	Speed up the exchange of internal and external knowledge	Improve audit speed, improve audit efficiency, reduce audit labor.

### 3.4.3 Selecting Coding

When compiling selective coding, the author integrated and compared the relevant conceptual categories of OI and AQ of audit firms. Then the author considered the relationship between them, and tried to contact the relationship between them in some way.

Table 5. Categories of typical relational structure.

Parties of relationship	Connection of relationship	Examples of Interview texts
ICT and KM	ICT has a significant impact on KM.	If we are working on the working paper now, we also need this information technology. There is an IT team that specifically checks the bank' interest.
ICT and OI	ICT has a significant impact on OI	We have a dedicated external pool of experts on system which is easier for us to communicate with the external experts. If there are dozens or hundreds of subsidiaries at the bottom, communication technology has really accelerated our efficiency. It is more advantageous for us to audit the group consolidated statements.
KM and OI	KM has a significant impact on OI	The advantage is that the personnel are recombined with the audit project, the new audit team will increase the team's new knowledge exchange, and at the same time carry out audit projects across regions. It also accelerates the integration with external knowledge, and the whole process is much more advanced than before.
OI and AQ	OI has a significant impact on AQ	The shared auditors can grasp the audit information of the acquirer and the acquired party at the same time, and in the audit process, they can confirm the audit information with each other, improve the integration of audit knowledge, and optimize the audit quality.

### 3.4.4 Credibility tests

The whole process included clustering, comparison, decomposition, establishing

logical evidence chain and so on. The study confirmed the research results through the triangulation of data sources, in which the information provided by one interviewee is mutually confirmed with the information provided by other interviewees to ensure the effectiveness or credibility of the research results.

## RESULTS AND LIMITATION

### 4.1 Results

The study summarized the data into several categories, namely, the role of OI in audit projects, audit firms' environment, ICT functions for audit projects, KM, OI, and the typical relationship structure of main categories are shown in Table 5. Taking "OI and AQ of China's Non-Big Four audit companies" as the core category, this paper makes a continuous comparative study and in-depth analysis of these main categories. ICT has generally promoted various modes of knowledge sharing (Phang & Foong, 2010; Thottoli et al., 2019). Agreed with the previous researchers, the study finds that ICT plays a direct and indirect role in KM, so ICT has a significant impact on KM. As a good tool, ICT accelerates the speed of OI. Therefore, ICT has a significant impact on OI. As audit firms serving with professional knowledge, KM has a significant impact on OI. In the environment of severe competition, OI can promote the better development of audit firms, especially through KM, which can enable audit firms to better serve customers with professional knowledge. Therefore, OI has a significant impact on AQ, which can enrich the theories of OI and AQ.

Project knowledge sharing and learning are facing more and more challenges (van Donk & Riezebos, 2005). Project-Based Organizations (PBOs) need a set of effective methods and technologies to guide and realize knowledge sharing and reuse within and between projects (Almeida & Soares, 2014; Desouza & Evaristo, 2004; van Donk & Riezebos, 2005). The use of audit IT by auditors remains low, and auditors have not made sufficient progress in the use audit IT. It is expected that effective IT governance mechanism will affect the performance of audit technology. The application of information communication can have a positive impact on the practice of electronic audit (Thabit, 2019; Thottoli et al., 2019; Veerankutty et al., 2018). The study explains that ICT is a better motivation to organize the auditors into new projects and audit teams, which can enrich the theories of ICT and KM of PBOs.

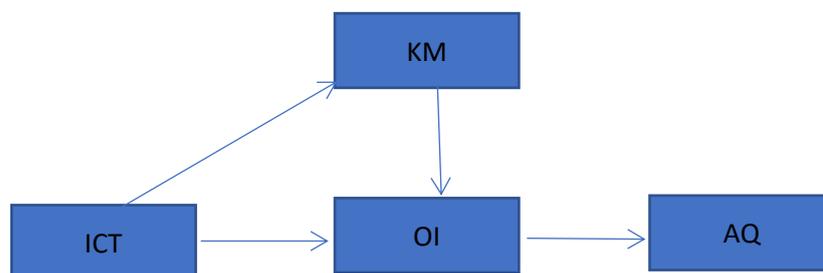


Figure 1. Model of the relationship of OI and AQ of Non-Big Four Audit Firms

The above model mainly explains that OI has a significant impact on AQ by the motivation of ICT and KM. The study uses the grounded research method basis on nvivo12 qualitative analysis to explore OI and AQ. Examples of frequency query results are as the following table 6.

Table 6. Examples of frequency query results.

Word	Length	Count	Weighted percentage (%)	Similar words
Work	4	599	1.17	Bring, bringing, exercise, exercised, exercises, form, forms, functions, go, going, make, making, operate, operating, operation, operations, play, played, process, run, shaping, solve, solving, studied, study, turn, turned, turning, work, worked, working, workplace, works
Audit	5	348	1.04	Audit, audited, auditing, audits
Project	7	437	1.04	Dsigned, external, figure, figures, labor, picture, pictures, plan, Planned, planning, project, projects, see, seeing, stick, task, tasks, throw, undertake
Accounting	10	292	0.64	Account, accountant, accounting, accounts, answer, answered, answers, bills, calculate, calculated, calculation, calculations, calculator, control, controlled, described, invoices, report, reported, reports
Knowledge	9	293	0.62	Initiative, know, knowledge, knows, learn, learned, learning, letter, letter

#### 4.2 Research limitation

The limitation of this study is that due to the peak time of audit firms, the sample numbers of branch partners is too small. It is necessary to increase the numbers of small and medium-sized partners as interviewees, so as to obtain qualitative evidence whether the scale affects OI and AQ.

### CONCLUSION

The study makes an exploration of OI and AQ of Non-Big Four audit firms from China, which is based on the scarce existing relevant research studying the relationship between OI and AQ. It provides qualitative evidence that KM and ICT is the main motivations of OI to affect AQ. Audit firms are suggested to take advantage of OI with KM and ICT to improve AQ. The study enriches and supplements the theories of OI and AQ. At the same time, the related research of KM and ICT possibly enrich the theories of KM and ICT. Audit firms should try to fill job vacancies with students who have been exposed to SAP R / 3 (Pan & Seow, 2016). Accounting, auditing and financial management majors in universities are suggested to focus much on ICT teaching and KM teaching in audit projects.

### REFERENCES

- Abualoush, S., Masa'deh, R. e., Bataineh, K., & Alrowwad, A. a. (2018). The Role of Knowledge Management Process and Intellectual Capital as Intermediary Variables between Knowledge Management Infrastructure and Organization Performance. *Interdisciplinary Journal of Information, Knowledge, and Management*, 13, 279-309. <https://doi.org/10.28945/4088>

- Almeida, M. V., & Soares, A. L. (2014). Knowledge sharing in project-based organizations: Overcoming the informational limbo. *International Journal of Information Management*, 34(6), 770-779.  
<https://doi.org/10.1016/j.ijinfomgt.2014.07.003>
- Andreu, R., & Sieber, S. (2005). Knowledge integration across organizations: how different types of knowledge suggest different 'integration trajectories'. *Knowledge and Process Management*, 12(3), 153-160.
- Aobdia, D., Choudhary, P., & Newberger, N. (2019). Which audit input matters. The Benefits and Costs of Audit Engagement Composition,[online] Available at <https://www.hec.edu/en/news-room/which-audit-input-mattersbenefits-and-costs-audit-engagement-composition>,[accessed in 08.10. 2019].
- Bogers, M., Chesbrough, H., & Moedas, C. (2018). Open Innovation: Research, Practices, and Policies. *California management review*, 60(2), 5-16.  
<https://doi.org/10.1177/0008125617745086>
- Castka, P., Searcy, C., & Fischer, S. (2020). Technology-enhanced Auditing in Voluntary Sustainability Standards: The Impact of COVID-19. *Sustainability*, 12(11). <https://doi.org/10.3390/su12114740>
- Charmaz, K. (2000). Constructivist and objectivist grounded theory. *Handbook of qualitative research*, 2, 509-535.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. sage.
- Chersan, I. C. (2019). Audit quality and several of its determinants. *Audit Financiar*, XVII(1), 93-105.
- Crucean, A. C., & Hategan, C. D. (2019). The determinants factors on audit quality: A theoretical approach. *Ovidius University Annals, Economic Sciences Series*, 19(2), 702-710.
- Cypress, B. (2018). Qualitative Research Methods: A Phenomenological Focus. *Dimens Crit Care Nurs*, 37(6), 302-309.  
<https://doi.org/10.1097/DCC.0000000000000322>
- Desouza, K. C., & Evaristo, J. R. (2004). Managing knowledge in distributed projects. *Communications of the ACM*, 47(4), 87-91.  
<https://doi.org/10.1145/975817.975823>
- Eaves, Y. D. (2001). A synthesis technique for grounded theory data analysis. *Journal of advanced nursing*, 35(5), 654-663.
- Felin, T., & Zenger, T. R. (2014). Closed or open innovation? Problem solving and the governance choice. *Research Policy*, 43(5), 914-925.  
<https://doi.org/10.1016/j.respol.2013.09.006>
- Glaser, B. G., Strauss, A. L., & Strutzel, E. (1968). The discovery of grounded theory; strategies for qualitative research. *Nursing research*, 17(4), 364.
- Grant, R. M. (1996). Prospering in dynamically-competitive environments: Organizational capability as knowledge integration. *Organization science*, 7(4), 375-387.
- Guo, Y., & MO, L. L. P. (2015). Audit Office Size and Audit Quality: The Influence of City-Level Industry Specialists and Audit Firm Tenure. 2015 American Accounting Association Annual Meeting
- Holsapple, C. W., & Singh, M. (2001). The knowledge chain model: activities for competitiveness. *Expert systems with applications*, 20(1), 77-98.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.

- Khavis, J., & Krishnan, J. (2018). Employee satisfaction in accounting firms, work-life balance, turnover, and audit quality.
- Lune, H., & Berg, B. L. (2017). *Qualitative research methods for the social sciences*. Pearson.
- Manita, R., Elommal, N., Baudier, P., & Hikkerova, L. (2020). The digital transformation of external audit and its impact on corporate governance. *Technological Forecasting and Social Change*, 150, 119751.
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*, 7(1), 23-48.
- Nonaka, L., Takeuchi, H., & Umemoto, K. . (1996). A theory of organizational knowledge creation. *International journal of technology management*, 11 (7-8), 833-845.
- Okere, W., Ogundipe, U. L., Lawal, Q., Eluyela, F., & Ogundipe, K. E. (2018). Auditors' choice and financing decision of selected quoted firms in Nigeria. *International Journal of Management, Accounting and Economics*, 5(2), 66-77.
- Pan, G., & Seow, P.-S. (2016). Preparing accounting graduates for digital revolution: A critical review of information technology competencies and skills development. *Journal of Education for business*, 91(3), 166-175.
- Pandit, N. R. (1996). The creation of theory: A recent application of the grounded theory method. *The qualitative report*, 2(4), 1-15.
- Phang, M. M., & Foong, S. Y. (2010). Information communication technologies (ICTs) and knowledge sharing: The case of professional accountants in Malaysia. *World Journal of Science, Technology and Sustainable Development*.
- Pittman, J., Stein, S. E., & Valentine, D. (2019). Audit partners' risk tolerance and the impact on audit quality. *Available at SSRN*.
- Power, M. K., & Gendron, Y. (2015). Qualitative research in auditing: A methodological roadmap. *AUDITING: A Journal of Practice & Theory*, 34(2), 147-165.
- Ren, X., Deng, X., & Liang, L. (2018). Knowledge transfer between projects within project-based organizations: the project nature perspective. *Journal of Knowledge Management*, 22(5), 1082-1103. <https://doi.org/10.1108/jkm-05-2017-0184>
- Richins, G., Stapleton, A., Stratopoulos, T. C., & Wong, C. (2017). Big data analytics: Opportunity or threat for the accounting profession? *Journal of Information Systems*, 31(3), 63-79.
- Saldaña, J. (2009). *The Coding Manual for Qualitative Researchers*. SAGE Publications Ltd.
- Supriadi, T., Mulyani, S., Soepardi, E. M., & Farida, I. (2019). Influence of Auditor Competency in Using Information Technology on the Success of E-audit System Implementation. *EURASIA Journal of Mathematics, Science and Technology Education*, 15(10). <https://doi.org/10.29333/ejmste/109529>
- Thabit, T. (2019). The Influence of Mobile Information Technologies in Enhancing the Electronic Audit. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3495738>
- Thottoli, M. M., Thomas, K., & Ahmed, E. R. (2019). Qualitative analysis on information communication technology and auditing practices of accounting professionals. *Journal of Information and Computational Science*, 9(9), 529-537.

- Van Donk, D. P., & Riezebos, J. (2005). Exploring the knowledge inventory in project-based organisations: a case study. *International Journal of Project Management*, 23(1), 75-83. <https://doi.org/10.1016/j.ijproman.2004.05.002>
- Veerankutty, F., Ramayah, T., & Ali, N. (2018). Information Technology Governance on Audit Technology Performance among Malaysian Public Sector Auditors. *Social Sciences*, 7(8). <https://doi.org/10.3390/socsci7080124>
- Vera-Mun˜oz, S. C., Ho, J. L., & Chow, C. W. (2006). Enhancing knowledge sharing in public accounting firms. *Accounting horizons*, 20(2), 133-155.
- Wang, M.-C., Chen, P.-C., & Fang, S.-C. (2018). A critical view of knowledge networks and innovation performance: The mediation role of firms' knowledge integration capability. *Journal of Business Research*, 88, 222-233. <https://doi.org/10.1016/j.jbusres.2018.03.034>
- West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. *Journal of product innovation management*, 31(4), 814-831.
- Yan, H., & Xie, S. (2016). How does auditors' work stress affect audit quality? Empirical evidence from the Chinese stock market. *China Journal of Accounting Research*, 9(4), 305-319. <https://doi.org/10.1016/j.cjar.2016.09.001>

# STUDY ON INNOVATION OF EMPLOYEE TRAINING SYSTEM OF B COMPANY

**QIANG HAO**

*Suan Sunandha Rajabhat University, Thailand*

*E-mail: 497199768@qq.com*

## ABSTRACT

Purpose of the study: The research is aimed to innovate the employee training system from the aspects of training demand analysis, training plan formulation, trainer team construction, training implementation monitoring, and training effect evaluation and design.

With the continuous development of China's economy, human resources have become one of the important resources to promote China's economic development. Competition between enterprises is in the final analysis the competition between talents. As an enterprise, improving the level of human resources is an important means to improve its competitiveness. Therefore, strengthening the training of enterprise employees, expanding the knowledge of enterprise employees and improving their professional skills and work efficiency is a necessary means for enterprises to deal with challenges and an important way for enterprises to develop human resources management strategy. Therefore, the importance of training is increasingly prominent, the use of training can significantly enhance the comprehensive ability of the company practitioners, so that they can better adapt to the corresponding positions, and significantly enhance the competitive advantage of the company. Many companies continue to increase the investment in employee training, hoping to improve the comprehensive strength of the company through employee training. However, some companies are not mature enough in employee training, which has brought some constraints to the sustainable development of the company. In order to improve employee ability, enterprises need to actively implement human resource development activities such as employee training. Innovative employee training system is the basic element to ensure the smooth implementation of employee training activities.

As a former employee of B Company, after participating in the new employee training and a series of subsequent training, he found that the existing training system of B Company is disconnected from the actual front-line business skills needs, and the employee participation is not high, which affects the effect of employee training. Therefore, it is particularly important to explore how to innovate the existing employee training system of B company to improve the effectiveness of employee training.

This article selects B Company as the research object to study its training system deeply. First, it expounds the relevant concepts and theories of training, introduces the basic general situation and training system of B Company, and analyzes the current situation of employee training system. Secondly, through the results of research investigation, find out the problems of the training situation, mainly including missing training demand analysis, training content targeted, training too monotonous, training plan and implementation, training evaluation, training related imperfect safeguards, listed the

problems because leadership attention to the training, training resources allocation, staff negative treatment, training management system, enterprise lack of learning atmosphere. Then, in view of the problems existing in the current employee training system, the employee training system of B Company will be innovated from four aspects: comprehensive analysis of the training needs, reasonable design of the training courses, careful formulation of the training plan, and improvement and implementation of the training plan. Finally, in order to ensure the smooth implementation of the optimized training system design, it puts forward the safeguard measures to strengthen the management attention, strengthen the training team construction, improve the training system, establish a learning enterprise culture, increase the investment in training resources, and improve the incentive mechanism. Through this investigation of B Company employees, I have a deep understanding of the training situation, analyze and design the training arrangements according to the training needs, implement the training plan, evaluate the training effect, improve the overall quality of employee training, maximize the income of training investment, and realize the double goal of improving employee professional quality and the growth of enterprise business efficiency.

**Keywords:** training, human resources, training system innovation

## INTRODUCTION

### 1.1 Research background

At present, China's economy has entered an important transformation period. Under the pressure and challenges of the new economic situation, all kinds of enterprises are facing huge challenges. In this context, in the face of industry competition, enterprise managers expect to accurately grasp the policy direction, comprehensively improve the service ability, and achieve the business strategic planning goals. However, in order to always have an advantage in the competition, it is necessary to develop human resources and have a high-quality talent team. There are many ways of human resources development, and at present, the most widely used and effective method is to organize staff training. Enterprises need to explore and study and develop high-quality and efficient employee training system from a strategic height, so as to improve their core competitiveness.

B company was founded in 1997, headquartered in Beijing, the main business is cooperation with Chinese university, focus on civil aviation talent training, is committed to training to adapt to social and economic development, conform to the strategic needs of civil aviation power, can in aviation and enterprises and institutions engaged in aviation service and management of senior management applied, technical and skilled talents. To build the first brand of the civil aviation talent training in China. B Company has now cooperated with 100 universities to train 100,000 aviation students. With the expansion of the company scale, according to their own development needs, B company needs to recruit talents, although in recent years gradually increased the investment in employee training, constantly develop and perfect training resources for staff training, but according to the survey, there are still training training system construction, training content practical low, training method, training management specification, make the staff training effect unsatisfactory, work efficiency lags behind obviously. Therefore, this article selects the employee training system of B Company as the research object, finds out the existing

problems, finds out the causes of the problems, and thus puts forward an innovative design scheme.

## **1.2 Research questions**

1.2.1 what is the current situation of the training system of B Company.

1.2.2 What are the deficiencies and problems existing in B Company employee training according to the investigation, and what are the reasons.

## **1.3 Research significance**

In the theoretical sense, so far Chinese scholars for B company such training enterprise research is less, in order to further supplement this field research, this paper choose B company as the research object, the employee training system innovation, hope on the basis of the previous related research results, for B company and other industry training theory system innovation contribution of a meager strength.

In terms of practical significance, the continuous optimization of the employee training system is an important guarantee to ensure the efficient and orderly development of the employee training work. It is hoped that through the research of this article, B Company can help to cultivate a talent team with strong professional ability, high professional quality and strong innovation consciousness in the innovation process of the training system. Make B Company to carry out training in a new mode.

## **1.4 Research objectives**

The research is aim to innovate the employee training system from the aspects of training demand analysis, training plan formulation, trainer team construction, training implementation monitoring, and training effect evaluation and design.

## **1.5 Research importance**

Through the investigation of B staff thorough understanding of the training situation, for China such enterprises are of reference significance, according to B company training demand analysis design training arrangement, carry out the training plan, evaluate the training effect, improve the overall quality of staff training, achieve such enterprise training investment maximization, achieve employee professional quality improvement and the growth of enterprise operating efficiency double goal.

## **1.6 Expected results of the study**

1. Understand the problems existing in B Company's training system through the investigation
2. Find the cause of the problem based on the problems found
3. Innovate and optimize the training system of B Company according to the problems and reasons

## LITERATURE REVIEW

### 2.1 Relevant concepts

#### 2.1.1 Employee training

Sun Zonghu, & Yao Xiaofeng (2009) believe that the enterprise employee training is the employee training implemented after analyzing the employee training needs and recognizing the content and focus of the employee training needs. The implementation of employee training mainly includes three links: determining employee training objectives, formulating employee training plan, trainee preparation and specific implementation of employee training plan.

Zhu Quanxin (2011) believes that training is an education and training mode that aims to help enterprises achieve strategic goals and improve their personal competitiveness. It refers to certain organization development business and talent training, through a variety of purposeful ways to organize employee training and training management activities, update employee knowledge, constantly develop new skills, improve employee motivation, attitude and behavior, to adapt to new business needs, better qualified work or higher positions, so as to promote the realization of organizational efficiency and organizational goals.

Yang Yixuan (2019) believes that the employee training of the enterprise is the common vision of the enterprise to guide full participation and achieve goals for enterprises and individuals, and by providing a growth process to promote employees to acquire knowledge and skills. Training is not only an important way to enhance the core competitiveness in the development of enterprises, but also an important function in the development of human resources. Enterprise leadership also attaches more and more attention to it, so there is more and more research on its training.

Wu Xiaoyuan (2021) believes that the enterprise employee training is an extremely important work in the human resources department, which not only affects the future development of the enterprise, but also is closely related to the economic value created by the enterprise. Enterprises need to be right

The employee training work has paid great attention to the production and operation of the enterprise as the goal, in the employee training work, choose various training methods, so as to promote the professional quality of the enterprise talent team, so that the market development needs of the enterprise can be met.

Wang Dongmei and Meng Haijuan (2021) believe that the training can improve the comprehensive ability of the employees themselves to a certain extent, and provide a stable and reliable talent guarantee for the development of the enterprise.

Human resources training and development has important value, through the training and development of human resources, can improve the quality, change the ability, guide the expectations and can meet the self-development, self-cultivation, adapt to the needs of society, obtain occupation and can promote social production, development of social economy, consolidate social politics, communication organization culture, etc.

#### 2.1.2 Employee training system

Zhao Shuming (1995) believes that the training system refers to the system established by enterprises containing all aspects of the training work. The establishment of the training system is to realize the orderly development of the training work, ensure the implementation of the training plan, and achieve the training objectives of the enterprise.

Li Qiao and Qu Jun (2005) believe that the so-called enterprise training system is a kind of closed-loop and systematic collection including training requirements analysis,

training plan formulation, training process implementation and training effect evaluation in the links of enterprise development and human resource management.

Yang Rong (2013) put forward a point of view, that is the training system must be based on a certain material basis, and it will be affected by various factors, in the process of development to adapt to the enterprise strategic goals, a comprehensive training system after the training, to achieve staff progress and enterprise development purposes.

## **2.2 Related theory**

### **2.2.1 Adult Learning Theory**

Han Qian (2017) on the theory of adult learning proposed by Malcolm Knowles, revealed the main characteristics of adult learning include: psychological tendency independent learning, cognitive process is given priority to with experience learning, learning task is to improve the social role, learning purpose is to solve problems, clear learning needs consciousness, learning motivation for internal motivation. In terms of independent learning, Knowles highlights the initiative of learning, emphasizing the participation of adult students in "self-diagnosis", such as personal participation in the formulation of learning plans, and objective evaluation according to their own learning needs. At the same time, he believes that the process of adult mastering knowledge is experience-oriented and pays attention to the role of experience in adult learning. As individuals mature and practice increases, experience is accumulated, and its role in adult learning increases. Therefore, the use of empirical methods can enhance the enthusiasm and initiative of adult students to participate in learning and training, so as to learn more knowledge.

Adult learning needs to follow four rules. One is the law of effect. Adult learning should be carried out in a pleasant environment and atmosphere. A comfortable environment and a psychological atmosphere of respect and encouragement can enhance the learning effect. The second is the law of practice. Adult learning requires a lot of practice to deepen impressions. The third is the law of association. Combining theory with practice is conducive to adults to master knowledge. Fourth, we must have the rules of preparation. Adults usually learn demand driven with some purpose.

### **2.2.2 Theory of Learning organization**

The American scholar, Peter M. Senge (1990) proposed the theory of "learning organization" in his book "The Fifth Discipline", which is well known in the management field. He believes that in order to achieve sustainable development, enterprises must build a learning organizational structure, which should include five elements, namely self-transcendence, change of mental model, establishing a common vision, group learning, and systematic thinking, collectively referred to as the "five practices". In the organization, only through learning and training, can the employees achieve the desired organizational form and performance level, and then improve the overall competitive advantage of the enterprise, so that the organization has a lasting vitality.

### **2.2.3 Theory of human capital**

Theodor • W. Schultz (1990) believes that human resources with professional skills are the most important part of the many resources of the enterprise. Comparing the investment-output ratio of human capital and material capital in the enterprise, human capital far exceeds that of material resources capital. Education plays a vital role in the economic development of society, and it is also very important in human capital investment. In addition, human capital theory is also a major problem in economics.

## **2.3 Related research**

### **2.3.1 Research on the theory of employee training**

Liang Jianhong (2000) advocated that under the background of knowledge economy development, knowledge-based talents have become an indispensable and important resource, so enterprises should pay attention to the development, management and use of human resources in the process of operation, build a complete scientific system for training, and constantly improve the quality of training.

Xiao Nan (2011) proposed that the design of effective training program will help to develop the potential of employees, stimulate the enthusiasm of the staff, promote the comprehensive level and professional skills, and establish the sense of innovation and competition, and finally improve the performance of the enterprise.

Qiu Haiyan (2011) pointed out through the list of Huawei employee training cases, and pointed out that the construction of the employee training system is not only to achieve faster and higher quality enterprise goals, but also to form an invisible corporate culture. Of course, for employees, it also brings their own capabilities.

Ningbo (2013) training system is not a static plan, it is a dynamic and balanced system, which needs to be adjusted according to the needs of the training objects and enterprises.

Bai Lin (2015), based on the adult learning theory, analyzed the training and development methods from the perspective of employee training needs, believing that enterprises should strengthen the attention to employee vocational education, and combine the Internet learning means to improve the learning ability of employees, so as to achieve a better training effect.

Cui Hai (2015) analyzed the current situation of the training system of a traditional automobile manufacturing enterprise, and redesigned the training system for the B Company using relevant theories, and then found through case analysis that the optimized training system played an effective role in improving the work efficiency of employees and reducing the cost of the enterprise.

Zhou Kun (2017) analyzed the problem of enterprise human resources training, and pointed out that in the current market competition, employee training is the key to improve the competitiveness of modern enterprises. The focus of employee training should be given consideration to the cultivation of professional skills and comprehensive quality, such as team communication and cooperation ability and innovation ability.

Min Daojun (2020) For the development of modern enterprises, to obtain more economic benefits, it is necessary to actively take feasible measures to obtain better internal training effect, according to the job characteristics and actual employee development needs.

## **2.4 Overview of the research framework**

This paper includes 5 chapters, and the first chapter is the introduction, which introduces the research background, research problems, research significance, research importance and other issues. The second chapter is a literature review, which introduces the concepts and theories related to the training, as well as the related research of some scholars, to provide theoretical support for the subsequent research. The third chapter is the research methodology. This paper uses quantitative research to study the relevant situation of B Company employee training through a questionnaire. Chapter IV: Results and Findings. Through the data analysis of the questionnaire, we can understand the training deficiencies of B Company, and analyze the causes of the above problems, as well as the innovative optimization of the training system. Chapter V is the conclusion and

prospect, summarizes the deficiencies of the B employee training system and the innovative optimization measures, and proposes the shortcomings studied in this paper.

## RESEARCH METHODOLOGY

This study is a quantitative study and the researcher collected the data by questionnaire.

## CONCLUSION

This paper summarizes and studies the relevant theoretical literature of employee training. The investigation and analysis found that the reason for the insufficient training status of B Company is that the training system is imperfect, and the previous research theory creates a solid theoretical foundation for the analysis of the perfect employee training system of B Company. This paper analyzes the research of the employees of B on the problems in the training: insufficient training demand analysis and poor training content, no innovative training course development and training methods, insufficient training plan and implementation, imperfect training evaluation system and other factors. So as to find out the reasons for the above problems are: insufficient management attention, imperfect training organization and training resources allocation, low staff enthusiasm for training, lack of training management implementation guarantee system and other reasons, The following innovative methods are proposed: coordinating the enterprise strategic objectives with the employees' own needs, combining the foresight and coherence of the training content, strengthening the training management and training effectiveness, attaching importance to the post-training evaluation, and innovating the training course system and training methods, Through the optimization of the training system, It can continuously improve the enthusiasm of the B company employees to participate in the training, Change the attitude of some employees towards attending the training, To further promote the improvement of employees' work skills, Employee training needs with job needs and organizational development needs, Thus to promote the long-term development of the organization.

## REFERENCES

- Jiyu liu. Research on the training and development system of YZ Group Management personnel. Doctoral dissertation, Shandong University
- Yang Yixuan.(2019). Research on the Optimization of Skills Training System of Guangdong Power Grid Company. Doctoral dissertation, Lanzhou University
- Sun Zonghu, & Yao Xiaofeng.(2009). Employee Training Management Practice Manual. People's Posts and Telecommunications Press
- Zhu Quanxin.S, Inc. Pre-job training research for new employees based on the COAST model. Doctoral dissertation, Lanzhou University
- Wu Xiaoyuan.(2021). On the strategy of enterprise employee training
- Wang Dongmei, & Meng Haijuan. Analysis of the current situation and development countermeasures of employee training in small and micro enterprises
- Zhao Shuming.(1995). Human resource management of Chinese enterprises. Nanjing University Press
- Lee Bridge, & Qu Jun.(2005). Business Management Training Manager Bookbook. Haitian Publishing House

- Yang Rong.(2013).HRM: Human resource management.Northeastern University of Finance and Economics Press
- Han Qian.Malcolm Knowles.Doctoral dissertation, Hebei University
- Peter Saint-Gee.(2009).The fifth practice: Art and practice of learning organization: the art & practice of the learning organization.Citic Press
- Liang Jianhong.(2000).Build a scientific system for talent training and use of commercial banks.Journal of Wuhan Training College of Agricultural Bank of China (5), 3.
- Xiao Nan.(2011).Research on Employee Training Improvement Scheme of Bank S Branch of A. Doctoral dissertation, Northwestern University
- Theodore W.By Schultz, Jiang Bin, & Zhang Heng.(1990).Role and role of human capital investment in —— education and research.Commercial Press
- Qiu Haiyan.(2011).The Huawei employee training system and its implications.Journal of Guangdong Radio and Television University
- Ningbo.(2013).Optimization design of human resources training system of NF Bank H Provincial Branch. Doctoral dissertation, Shandong University.
- Bai Lin.(2015).Research on Enterprise Employee Training and Development Based on Adult Learning Characteristics. Doctoral dissertation, Shanxi University.
- Cui Hai.Research on Basic Staff Training System of Production Department. Doctoral dissertation, Jilin University.
- Zhou Kun.(2017).Problems and countermeasures of enterprise human resources training.Enterprise Reform and Management (9X), 1.
- Min Daojun.A Study on employee training system optimization of A. Doctoral dissertation, Jiangxi University of Finance and Economics.

# RESEARCH ON THE MARKETING STRATEGIES OF CHINA GRAND CANAL MUSEUM BASED ON TOURISTS' TOURISM DEMANDS

LONGSHA ZHAO<sup>1,\*</sup>, JIAN WANG<sup>2</sup>

<sup>1</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

<sup>2</sup>*Yangzhou Real Estate Registration Center, China*

*Email: longsha.zhao@foxmail.com*

## ABSTRACT

This study uses qualitative interviews to explore the demands of tourists visiting the Grand Canal Museum of China. The results of the study showed that five dimensions of demands could be revealed based on the respondents' oral content: sensory experiences, educational learning, health issues, escapism, and transformative cultural experiences. Then, according to the specific demands, we analyze and summarize the existing marketing strategies of China Grand Canal Museum and their shortcomings. Finally, the existing marketing strategies are improved and innovated to propose marketing strategies for the China Grand Canal Museum that meet the demands of tourists.

**Keywords:** China Grand Canal Museum, Qualitative interviews, Tourist demands, Marketing Strategies, Transformative cultural experiences

## INTRODUCTION

Museums are the most popular cultural attractions (McKercher, 2004). It has the potential to add value to the community by attracting a large number of cultural tourists as an important cultural institution (Sahin, 2013). This potential has two positive effects: (1) The museum has become a catalyst for urban development and an important force in strengthening the local economy (Tien, 2010); (2) Museums can gain economic viability at a time of declining public funding (Virto et al., 2017). Since most museums are created and operated with government funding and support (Dou et al., 2021; Richani et al., 2016; Sahin, 2013), the importance of these positive effects is highlighted when public funding is reduced and additional funding is needed, and drives the marketing philosophy of the museums (Richani et al., 2016). This also includes the China Grand Canal Museum.

The China Grand Canal Museum is a non-profit museum that will begin operations on June 16, 2021 with funding and support from the Department of Culture and Tourism of Jiangsu Province, China. It is a collection of canal cultural relics, display, research, education in one, taking into account tourism and leisure and foreign exchange of thematic museums. It is located in Sanwan Scenic Area, Yangzhou City, Jiangsu Province. Due to its short existence, the museum's marketing strategies were not well developed. Therefore, in order to make the China Grand Canal Museum an important force for the economic development of its city, Yangzhou, as well as to obtain additional funds for its own development, it is necessary to study marketing strategies (Richani et al., 2016). As the

positioning of contemporary museum culture has shifted from "object-driven" to "visitor-driven", marketing strategies should be developed with the tourist in mind (Camarero & Garrido, 2012; Chhabra, 2009). The purpose of this paper is to summarize and analyze the existing marketing strategies of the China Grand Canal Museum on the basis of tourist-centered research, investigate the demands of tourists, and then improve and innovate marketing strategies.

Part 2 of this article presents the details of the method. In order to gain insight into the demands of tourists, semi-structured in-depth interviews were conducted with 20 tourists to understand the shortcomings of existing marketing strategies, as detailed in Section 3. Part 4 is the discussion. In the last section, we give conclusions and describe future work.

## RESEARCH METHODOLOGY

This study uses qualitative interviews (Komarac et al., 2017) to explore the specific demands of tourists as a way to reflect the shortcomings of the existing marketing strategies of the China Grand Canal Museum. This exploratory qualitative approach allowed us to support our study in a more detailed manner. In addition, it provides practical implications for innovative marketing strategies.

We used semi-structured in-depth interviews to collect textual and narrative data and to list specific examples of tourists' subjective perceptions. This open-ended interview is organized around four areas: (1) Where do visitors learn about the China Grand Canal Museum; (2) What features of the China Grand Canal Museum attract you to visit; (3) What are the shortcomings of existing marketing strategies; (4) What are the marketing strategies that tourists favorite.

Interviewees engaged with the research team at the China Grand Canal Museum in January 2022. This study ensured that respondents were self-defined museum tourists. Twenty domestic tourists participated in this study with informed consent. The interviews were conducted in the interviewees' native language (Chinese) and lasted between 20 and 40 minutes.

Table 1 shows the personal information of the respondents. Real names were hidden at the request of the respondents. There were equal numbers of men and women, ranging in age from 18 to 63 years. Most of the tourists came from Jiangsu province, while others came from eastern China. About half of the respondents were first-time visitors to the China Grand Canal Museum.

We recorded and summarized the interviewed content for analysis. In order to align the content of the interviews with the purpose of the study, meaningful statements are emphasized in this paper. Based on the interviews, we also conducted a thematic analysis to give a broader meaning to the interviews. After the initial analysis, the themes were summarized to further explore the innovation of marketing strategies.

*Table 1: Interviewees' personal information*

No	Gender	Age	Occupation	City of Residence	Number of visits
1	M	61	Teacher	Nanjing, Jiangsu	1
2	F	58	Teacher	Nanjing, Jiangsu	1
3	M	42	Lawyers	Suzhou, Jiangsu	1
4	F	40	Accountants	Suzhou, Jiangsu	1
5	M	20	College Students	Yangzhou, Jiangsu	2
6	F	18	College Students	Yangzhou, Jiangsu	2
7	M	19	College Students	Yangzhou, Jiangsu	2
8	F	19	College Students	Yangzhou, Jiangsu	2
9	M	21	College Students	Nanjing, Jiangsu	1

10	M	22	College Students	Nanjing, Jiangsu	1
11	F	21	College Students	Nanjing, Jiangsu	1
12	F	21	College Students	Nanjing, Jiangsu	1
13	M	38	Doctors	Xuzhou, Jiangsu	1
14	F	35	Teacher	Xuzhou, Jiangsu	1
15	M	63	Civil Service	Nantong, Jiangsu	1
16	F	60	Civil Service	Nantong, Jiangsu	1
17	M	29	Company Staff	Hangzhou, Zhejiang	1
18	F	28	Company Staff	Hangzhou, Zhejiang	1
19	M	35	Company Staff	Hefei, Anhui	1
20	F	31	Company Staff	Hefei, Anhui	1

## RESULTS

The data-driven survey summarized the needs of tourists visiting the China Grand Canal Museum into five dimensions: (1) sensory experiences; (2) educational learning; (3) health issues; (4) escapism; (5) transformative cultural experiences.

### 3.1 Sensory experiences

Respondents emphasized the importance of sensory experiences. Visuals are the main sensory experience of visiting a museum (Duan, 2005), As shown below.

*At the museum, I was able to see artworks that reflected the scenery of the Grand Canal. Can feel the beauty of the canal. This beauty is not the same as natural scenery, but reflects the attraction of ancient Chinese canal culture. (Interviewee 1#)*

*The Grand Canal is very beautiful. This beauty is a classical beauty with Chinese characteristics. (Interviewee 2#)*

According to the oral content of interviewees 1# and 2#, it is possible to prove that tourists visiting the China Grand Canal Museum is an example of experiential tourism with sensory experience.

*I loved the ancient artwork reflecting the canal culture, which embodies the classical beauty of China. However, I found only a small amount of promotional content in this area before visiting this museum. (Interviewee 15#)*

*In the museum, through virtual animation I saw the scenery of the ancient canals on both sides of the river. I was impressed by this beauty. However, I only saw a small amount of introductory content on the museum website before my visit. (Interviewee 16#)*

Based on the oral content of interviewees 15# and 16#, it can be shown that the exhibits and experience content in the museum enable visitors to have a sensory experience. However, there is less content on the museum's website to promote this sensory experience.

### 3.2 Educational learning

An important demand of tourists visiting museums is educational learning (Camarero & Garrido, 2012; Lin et al., 2018). As shown below.

*My child is learning the history of canal construction and I want him to learn what he can't learn from books. (Interviewee 3#)*

*I think children should not just learn about books inside the school, but also learn more about history in the museum. This kind of experience can make a deep impression on him. (Interviewee 4#)*

*The Beijing-Hangzhou Grand Canal is a great project of ancient China and a marvel of human civilization. I would love to let my own child know about this history and let him*

know how the canal was built. (Interviewee 13#)

*The Beijing-Hangzhou Grand Canal can reflect the ingenuity of the ancient Chinese. In textbooks, there are very few descriptions of the Beijing-Hangzhou Grand Canal. I want children to be able to learn more about the history of the canal at the museum. I also hope that the museum can be involved in teaching history in schools so that children can learn history better. (Interviewee 14#)*

The oral content of interviewees 3#, 4#, 13# and 14# indicates that tourists visiting the museum have a need for educational learning and want the museum to be involved in teaching history in schools.

### 3.3 Health issues

Tourism and health issues are related (Kim & Eves, 2012). Because the experience is pleasant and memorable, a combination of need and travel. Especially during a pandemic, a trip to a museum enables tourists to relax and gain a sense of well-being while visiting. This helps to dispel the fears associated with the pandemic and promotes healing of the trauma.

The following are examples of 19# and 20# interviewees.

*The pandemic made me feel mental stress and put me in an atmosphere of insecurity in my life. Coming to the museum tour can make me feel happy and make me forget the fear that the pandemic has brought me. (Interviewee 19#)*

*I saw the promotion about the virtual animation on the museum's website. When I came to the museum and saw the virtual animation, it was like being in the ancient canals, which made me feel happy and could cure the trauma of my soul. (Interviewee 20#)*

Based on the above dictation, it is clear that museums can bring a sense of well-being to tourists and help to dispel fears and cure the psychological wounds caused by the epidemic.

### 3.4 Escapism

This escape from reality is a change from the individual's daily life situation (Mak et al., 2012). Tourists want to experience something different from everyday life. This experience is very different from their life circumstances and daily experiences. The following are examples of 17# and 18# interviewees.

*I'm usually very busy at work, so I haven't had time to come out and play. This time, I took advantage of the holiday to travel to the museum with my lover and wanted to relax in a different environment. (Interviewee 17#)*

*My husband and I are usually very busy, and we just come home from work to play with our phones and watch TV shows. This time we came to visit the museum because we wanted to change our lifestyle and adjust ourselves a little. It just so happens that we saw the escape room game on the museum website, so we came to experience it. (Interviewee 18#)*

The above oral content reflects escapism as an important tourism demand. Tourists gain a profound experience in a different environment while being away from the familiarity of everyday life.

### 3.5 Transformative cultural experiences

Currently, cultural experiences and tourism are manifesting a trend of combination (Wang, 2020). How to make tourists feel the cultural heritage in tourism has become an important research theme. The following are examples of interviewees from 5-12#.

*I read about the escape room on the museum's website and thought it was a tourism product that combined with the canal culture. During the experience, I was able to feel the canal culture deeply. (Interviewee 5#)*

*The escape room of the museum is interesting. The theme distinguishes it from other games because it contains the history and culture of the canal. This culture attracted me to experience it. However, the number of tourists participating in the game per day was limited, so I had to wait in line. (Interviewee 6#)*

*I like the ancient streets of the canal built by the museum. Walking through the streets made me feel like I was back in ancient times. I was impressed by this experience. (Interviewee 7#)*

*On the bilibili (A famous video site in China), I saw a video of someone else coming to the museum to experience a virtual animation. This animation contains the scenery and canal culture on both sides of the canal. After watching this video I wanted to come to the museum for a tour. (Interviewee 8#)*

*The museum's exhibition was great and after the tour I was able to experience the canal culture deeply. Especially the ancient streets and the virtual animation made me feel like I was in ancient times. I hope the museum can open an account on bilibili and post more videos to promote itself and attract more visitors to experience it. (Interviewee 9#)*

*I really enjoyed the escape room game, which is a tour product that I hardly experience in other museums. This game embraces the culture of the canal behind it. Unfortunately, there is not much about this game on the museum's website. (Interviewee 10#)*

*As a younger generation, I use my mobile device a lot every day. But the museum shows very little content in WeChat and the content is updated very slowly. I hope the museum can update the content in WeChat frequently to promote the canal culture. (Interviewee 11#)*

*Compared with the Palace Museum and the Henan Museum, this museum is too low-profile. I think the canal culture is vast and profound, and the museum can fully learn from the well-known museums to attract more tourists to experience the canal culture in a promotional way. (Interviewee 12#)*

The above-mentioned oral content indicates that there is a strong demand for tourists to experience culture in the course of tourism. The museum, as an important cultural institution, should be a model for the combination of cultural tourism. The oral content reveals that visitors are interested in the ancient streets, virtual animation and escape room games offered by the museum. These tourism products are immersive experiences that spread canal culture to tourists, which is a transformative cultural experience.

## DISCUSSION

### 4.1 Existing marketing strategies and shortcomings

Based on the research team's online and offline surveys, as well as the oral accounts of visitors, discuss the existing marketing strategies of the China Grand Canal Museum.

#### (1) Focus on tourists' demands

In the context of modern society, the public is no longer just the recipient of knowledge acquisition; they are the disseminators and the dominant players in knowledge sharing and spiritual enjoyment. Therefore, in the marketing process, the focus should be on tourists and potential tourists, focusing on their demands(Lin, 2020).

However, the needs of tourists are constantly changing. Museums should be more sensitive to this change and make targeted changes to their marketing strategies.

## (2) Establish network marketing channels

New information technologies are now changing the way people communicate, think, read, write and behave. In order to attract tourists, online marketing becomes a valuable tool(Zhang & Huang, 2020). Museum websites play an important role in attracting tourists(Liu & Wang, 2021). It adds a virtual self(Richani et al., 2016) to the museum reality by presenting the museum online and receiving virtual tourists who may become real tourists. In addition, as mobile device usage has taken up more than half of users' total digital time(Dou et al., 2021), the museum has also opened its own public website on WeChat to enable mobile marketing.

However, although museums have established online marketing channels, the content is slow to be updated, there is no relevance between content, and changes are not made in a timely manner.

## (3) Cultural experience-led to increase tourists' sense of participation

As the spiritual needs of tourists increase, the traditional museum sightseeing tour-style tourism can no longer meet the needs of tourists. The demand for in-depth cultural experiences continues to increase(Wang, 2020). This in-depth cultural experience(Zhou et al., 2022) indicates that tourists expect to interact with the museum in order to gain a sense of engagement(Zhu, 2021).

However, museums offer cultural experience tourism products, such as escape rooms, which gain popularity among tourists but limit the number of tourists participating in the games. This does not match the number of tourists, which is about 170,000 per month.

## 4.2 Marketing strategies improvement and innovation

Discuss improvements and innovations in marketing strategies based on the museum's existing marketing strategies and shortcomings.

### (1) Focus on the changing demands of tourists

The demands of visitors are constantly changing(Liu & Wu, 2017). The oral content of the interviewees indicates that the demands of young people are dominated by transformative cultural experiences. The demands of the elderly are dominated by sensory experiences. The demands of middle age people tend to be educational learning, health issues and escapism. To this end, the museum should set up a special tourist demand survey organization and establish a perfect mechanism for obtaining and analyzing tourist demands. To respond to the changing demands of tourists and to introduce marketing strategies that meet the demands of tourists of different age levels.

### (2) Establish a variety of network marketing channels

The museum should establish multiple online marketing channels, including mobile and non-mobile online marketing channels. As well as setting up public accounts on several influential video sites and mobile apps to expand the reach.

### (3) Establish offline marketing channels

Offline marketing is the traditional marketing strategy. The museum should go into the community and schools and hold regular lectures on special topics according to the needs of tourists to increase the attractiveness of the museum and expand the potential tourists.

### (4) Build storytelling and sustainable content

The museum's exhibits are not only a figurative work of art, but also have a rich cultural connotation. Presenting this cultural connotation to tourists in the form of storytelling can increase the viscosity of tourists and increase the attractiveness of the museum to them. Since the museum is rich in exhibits, it is a sustainable marketing

strategy and an emotional and experiential marketing strategy.

(5) Transformative cultural experiences led to meet tourist engagement

At present, the museum's static exhibition approach no longer satisfies the tourists' sense of participation. Transformative cultural experiences based on games, antique streets and virtual animation have gained high recognition among tourists. Therefore, the museums should expand and strengthen the promotion of this transformative cultural experience, increase the share of this type of tourism product, and focus on marketing strategies.

## CONCLUSION

This study has yielded important theoretical and practical implications. First, semi-structured in-depth interviews revealed the needs of tourists visiting the China Grand Canal Museum. These demands are sensory experiences, educational learning, health issues, and escapism, transformative cultural experiences, respectively. Research shows that tourists' needs are constantly changing and that museums should establish sustainable and diverse marketing strategies that meet the demands of tourists.

In addition, according to the results of the study, the museum should set up a special tourist demand survey department and establish a perfect mechanism for obtaining and analyzing tourist demand. In this way, we respond to the changing demands of tourists and introduce marketing strategies that meet their demands.

Finally, there are some shortcomings in this study, such as the sample size and the depth of the interviews. These will be further refined in future studies.

## REFERENCES

- Camarero, C., & Garrido, M. J. (2012). Fostering Innovation in Cultural Contexts: Market Orientation, Service Orientation, and Innovations in Museums. *Journal of Service Research*, 15(1), 39-58. <https://doi.org/10.1177/1094670511419648>
- Chhabra, D. (2009). Proposing a sustainable marketing framework for heritage tourism. *Journal of Sustainable Tourism*, 17(3), 303-320. <https://doi.org/10.1080/09669580802495758>
- Dou, X., Fan, A., & Cai, L. (2021). Mobile contextual marketing in a museum setting. *Journal of Services Marketing*, 35(5), 553-565. <https://doi.org/10.1108/JSM-02-2020-0049>
- Duan, L. (2005). Research on museum exhibition design based on sensory experience. *Identification and appreciation to cultural relics*, 211(16), 102-105. <https://doi.org/10.3969/j.issn.1674-8697.2021.16.035>
- Kim, Y. G., & Eves, A. (2012). Construction and validation of a scale to measure tourist motivation to consume local food. *Tourism Management*, 33(6), 1458-1467. <https://doi.org/10.1016/j.tourman.2012.01.015>
- Komarac, T., Ozretic-Dosen, D., & Skare, V. (2017). Understanding competition and service offer in museum marketing. *Academia Revista Latinoamericana de Administración*, 30(2), 215-230. <https://doi.org/10.1108/ARLA-07-2015-0159>
- Lin, C.-T., Lee, C., Wang, S.-W., & Chen, Y.-H. (2018). Using the DEMATEL Method to Explore the Critical Factors That Influence Visitors to Purchase Museum

- Cultural Products. *Journal of Testing and Evaluation*, 46(5), 2045-2055.  
<https://doi.org/10.1520/JTE20160510>
- Lin, J.-L. (2020). Research on the marketing strategy of museums: the case of Quanzhou Overseas Traffic History Museum. *Journal of Taiyuan Urban Vocational College*(7), 24-26. <https://doi.org/10.16227/j.cnki.tyycs.2020.0455>
- Liu, H.-Q., & Wu, J. (2017). Study on the Sustainable Development of Rural Tourism in Yanbian Prefecture under the Background of Territorial Tourism. *Dongjiang Journal*, 34(1), 101-105. <https://doi.org/10.19410/j.cnki.cn22-5016/c.2017.01.020>
- Liu, X.-P., & Wang, M.-Y. (2021). Promoting tea museums to develop tea culture communication: based on the comparative analysis of the the museum websites in China, Japan and Korea. *Journal of Anhui Agricultural University (Social Sciences Edition)*, 30(5), 128-133.  
<https://doi.org/10.19747/j.cnki.1009-2463.2021.05.018>
- Mak, A. H. N., Lumbers, M., Eves, A., & Chang, R. C. Y. (2012). Factors influencing tourist food consumption. *International Journal of Hospitality Management*, 31(3), 928-936. <https://doi.org/10.1016/j.ijhm.2011.10.012>
- McKercher, B. (2004). A comparative study of international cultural tourists. *Journal of Hospitality and Tourism Management*, 11(2), 95-107.  
<https://link.gale.com/apps/doc/A123163819/AONE?u=anon~c3f95134&sid=googleScholar&xid=acd6a6f3>
- Richani, E., Papaioannou, G., & Banou, C. (2016, July 14-17). *Emerging opportunities: the internet, marketing and museums*. 20th International Conference on Circuits, Systems, Communications and Computers (CSCC 2016), Corfu, GREECE. <https://doi.org/10.1051/mateconf/20167602044>
- Sahin, G. G. (2013, April 21-23). *Innovative Marketing Strategies in Museums*. 2013 International Conference on Management Innovation and Business Innovation (ICMIBI 2013), Singapore.  
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=IPFD&filename=ZNX X201304006023>
- Tien, C.-C. (2010). The formation and impact of museum clusters: two case studies in Taiwan. *Museum Management and Curatorship*, 25(1), 69-85.  
<https://doi.org/10.1080/09647770903529434>
- Virto, N. R., López, M. F. B., & San-Martín, S. (2017). How can European museums reach sustainability? *Tourism Review*, 72(3), 303-318.  
<https://doi.org/10.1108/TR-03-2017-0038>
- Wang, W.-L. (2020). Ningbo Museum Group in the context of cultural tourism integration Marketing Strategy Discussion. *Ningbo Economy*(6), 34-38.  
<https://d.wanfangdata.com.cn/periodical/nbjj-sjlt202006010>
- Zhang, T., & Huang, P.-S. (2020). Research on online marketing strategy of cultural and creative products of the Forbidden City. *China Market*(35), 118-120.  
<https://doi.org/10.13939/j.cnki.zgsc.2020.35.118>
- Zhou, R., Lan, J.-H., Yang, Q., & Fei, L.-F. (2022). Design and Practice of Blessing Cultural Experience Based on the Integration of Culture and Tourism. *Packaging Engineering*, 43(2), 298-305.  
<https://doi.org/10.19554/j.cnki.1001-3563.2022.02.039>
- Zhu, W.-C. (2021). Research on the joint effect of " Game+Museum" component brands. *Public Communication of Science & Technology*, 13(18), 149-155.  
<https://doi.org/10.16607/j.cnki.1674-6708.2021.18.048>

# A LOOK BACK AND LOOK AHEAD ON CHINA'S TRANSITION TOWARDS A KNOWLEDGE-BASED ECONOMY

**QIANG XIE**

*Suan Sunandha Rajabhat University, Thailand*

*E-mail: 33162291@qq.com*

## ABSTRACT

Globalisation and rapid information transmission has led to the emergence of knowledge-based economy (k-economy). K-economy refers to the economy whereby the products and services are produced from knowledge and intellectual capital. As k-economy was found to be able to create more values and sustainable development, many countries committed to transform from resource-based or manufacturing-based into a k-economy. China is also moving towards the k-economy due to the stagnancy of economic growth and imbalance between economy, social and environment. This paper seeks to (i) analyse and synthesis the existing literature on knowledge-based economy; (ii) evaluate China's transition towards a knowledge-based economy; and (iii) assess the progress and prospect of such transition. In order to transform into a k-economy, China has taken a lot of effort, by making robust investment on education, human capital and R&D; shaping environment to encourage innovation development; providing incentives to foster technology advancement; and introducing a conducive economic regime which promote healthy competition and sharing of knowledge between players of economic development. Despite such efforts, this paper is of the view that China, as a whole, could not be considered as a knowledge economy yet, as there are still many issues such as education inequality and high skilled labour shortages remain unresolved, hindering its transition process towards a k-economy. However, China is on its way, and the prospect is positive.

**Keywords:** Knowledge-based economy, innovation, knowledge management and society, China

## INTRODUCTION

The "knowledge based economy", an expression proposed by the Organisation for Economic Co-operation and Development (OECD) which emphasised the role of knowledge, skills, innovation and information communication technology (ICT) in opportunity exploration and driving the economic growth (OECD, 1996). This is such due to increasing pace of technology advancement, more knowledge is required in order to keep up with changing technological trends. Hence, economies which are knowledge intensive, innovative and technology-orientated are more likely to achieve higher levels of output and employment (Kelly-Meyrick, 2017). China, being world's manufacturing powerhouse with 28% of global manufacturing output in 2018 (Richter, 2020), was categorised as 'efficiency driven economies' instead of 'innovation driven economies' (Porter, 2004). Despite such, Obbema, (2015) is of the view that knowledge economy can emerge in China in a unique style, different from the normal knowledge economy. Such

view is supported by Professor Eun Jong-hak from Kookmin University's School of International Studies, a China expert, who assert that while China is still far from being an innovation-centric economy, "innovation" has risen as a new norm in China's industrial sector (Song, 2015). It is suggested that the knowledge-based economy in China is developed through its constant pursuit of technological innovations (Song, 2015). A research back in 2007 found that Chinese knowledge economy falls behind American knowledge economy due to insufficient demand factors – which is a key factor deciding innovation direction, diffusion pace and performance, low innovation input and low research and development (R&D) investment (Peng, 2007). Expenditure on R&D has always been a central indicator of determining if a country is knowledge-based. The recent data by the OECD (Graph 1) shows that there has been notable increase in China's spending on R&D over the years, which indicate China's active transition towards a knowledge-based economy. The transition is actually driven by the stagnancy of economic growth with its old growth model (OECD, 2016), and some problems faced by the country, e.g. pressure of resources shortage (Heckman & Yi, 2012; Peng, 2007), leading it to embark on a major program of economic reform (Z. Hu & Khan, 1997) and committed itself into developing a knowledge-based economy (OECD, 2016). This paper seeks to (i) analyse and synthesise the existing literature on knowledge-based economy; (ii) evaluate China's transition towards a knowledge-based economy; and (iii) assess the progress and prospect of such transition.



Graph 1 The Comparison of Gross Domestic Spending on R&D between China and United States from 2000 to 2020. Source: <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm#indicator-chart>

## LITERATURE REVIEW

Knowledge-based economy refers to an economy where knowledge is created, acquired, transmitted and leveraged effectively by all the organisation, individuals and communities for economic and social development (APEC Economic Committee, 2000; OECD, 1996). Due to the scarcity of natural resources, the idea of creating wealth through knowledge-based resources, e.g. human capital and intellectual capital, is outpacing the traditional wealth creation from natural resources. This can be clearly seen by comparing the world's top 5 Fortune 500 companies in 2000 and 2020. In 2000, the top 5 companies are General Motors, Wal-Mart Stores Inc, Exxon Mobil Corporation, Ford Motor Company and General Electric Company, whereas in 2020, the top 5 are Walmart, Amazon, Exxon Mobil, Apple and CVS Health (Fortune, 2020). The top 5 companies in 2000 are mainly manufacturing companies, but in 2020, Amazon, Apple and CVS Health are high-tech/ digital and health services companies which focus on human knowledge, innovation

and technology. This shows that knowledge has become a vital commodity to individuals, organisations and countries and could be capitalised for value creation in this age of knowledge-based economies (Kefela, 2010). Many countries are committed to transform themselves into a knowledge-based economy, e.g. Saudi Arabia's Vision 2030 is to transform itself from an oil-reliant economy to knowledge-based economy (Nurunnabi, 2017). To transform into a knowledge-based economy, the six key aspects to be considered include human capital, education, innovation, ICT, economy, and employment (Nurunnabi,2017), echoing the proposed concept of knowledge-based economy by Skrodzka (2016).

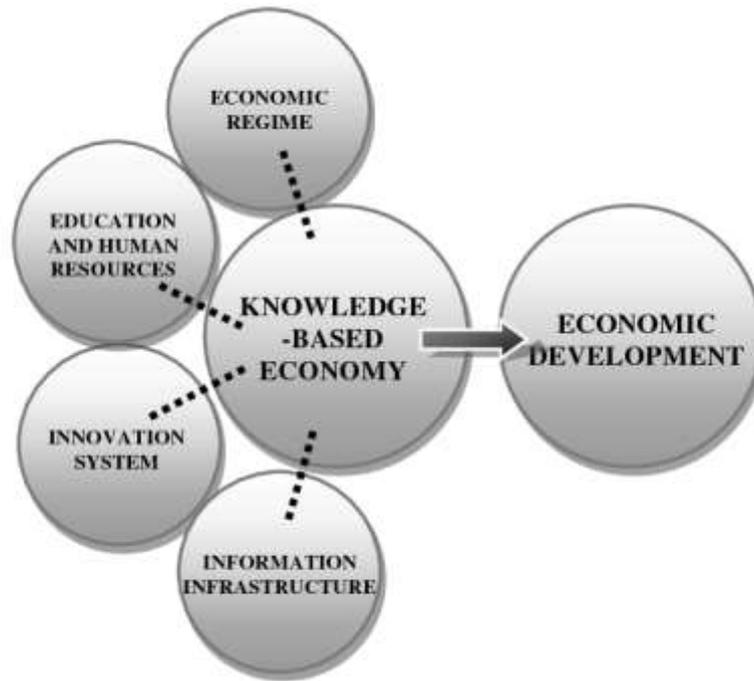


Figure 1 The Framework of Knowledge-Based Economy; Source: (Skrodzka, 2016)

The aspects mentioned here are not groundless, they are derived from the four pillars of the knowledge economy and are related to Knowledge Assessment Methodology (KAM) by the World Bank (Chen & Dahlman, 2006). The pillars are:

#### **Adequate Information Infrastructure**

A knowledge-based economy is in need of a modern and adequate information infrastructure which allow effective knowledge and information communication, dissemination and processing, and decreasing cost of the IT resources (Hadzimustafa, 2016).

#### **High Quality Human Capital**

It is essential to have a well-educated and skilled population who could continuously upskills and keep up with the environment to efficiently create and use the knowledge acquired, so as to increase the total factor productivity and hence economic growth (Chen & Dahlman, 2006; Heckman & Yi, 2012).

#### **Effective Innovation System**

An effective innovative system is vital in the development of a knowledge-based economy as it provides an environment that encourage innovation and nurtures R&D, resulting in new products, knowledge and processes, and hence technical advancement. Such system refers to the network of institutions which plays a role in influencing the knowledge management of a country, it could be both government and non-governmental organisations.

It is suggested that such innovative system should not be only confined to particular level of management (micro or macro), but to allow for cross-level or sectional cooperation (mezzo level). This is such as it could contribute to a better use of knowledge and human capital resources accumulated in the economy, consequently accelerate and enhance innovation processes, so as to rationalise enterprise and economy development process (Mikula, 2019).

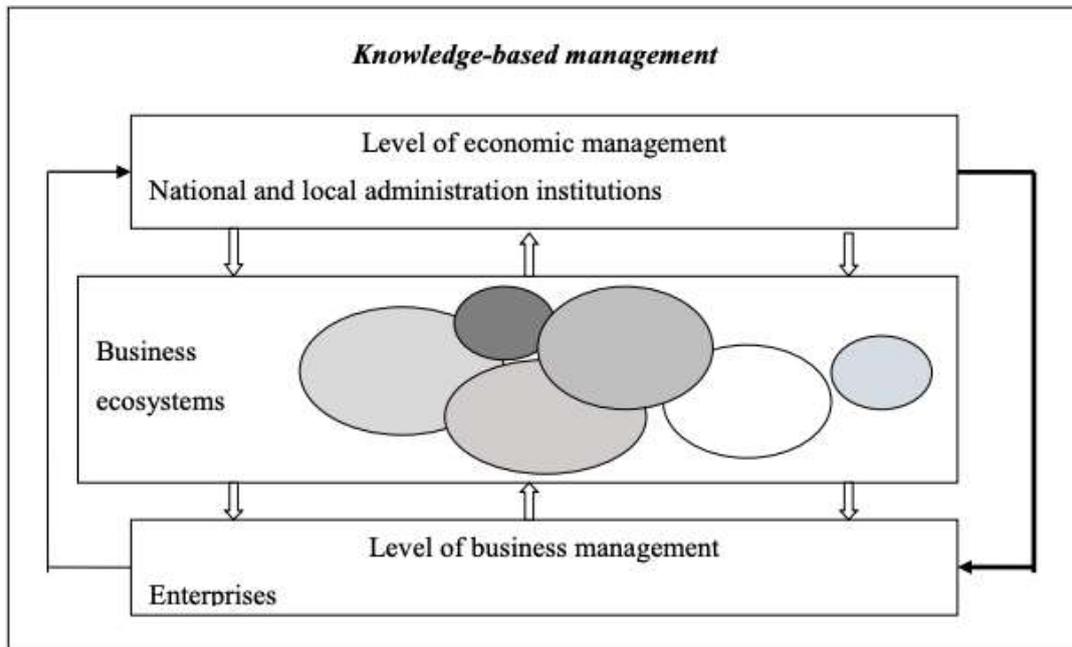


Figure 2 Mezzo level of knowledge-based management Source: (Mikula, 2019)

For instance, instead of merely depending on government-sponsored R&D, a country should further enhance its enterprises' roles in the innovation system, as they face the market directly and has better knowledge of the demand for technological innovation. The distance between innovation and innovation diffusion would then be substantially shortened (Peng, 2007). This issue is closely related to the following pillar, which is a conducive economic and institutional regime.

### Conductive Economic and Institutional Regime

Lastly, an economic needs to have an regime with good economic policies and institutions that provides incentives for efficient creation and use of knowledge, mobilization and allocation of resources and stimulation of creativity.

Although it is found that both innovation and education are the key drivers of competitiveness and economic convergence (Dima et al., 2018), it is unable to determine which pillar is more important than the other as they are interconnected and it is believed that the synergy of all pillars will bring greater impact on the both economic and social development. With good use of knowledge, enterprises and countries would be able to assimilate the global knowledge with the local needs, and vice versa, so as to increase the competitiveness and accelerate the globalisation of a country.

## RESEARCH METHODOLOGY

This study is a documentary research whereby secondary data related to this research area is being synthesised and analysed to have an insight on the development of knowledge economy in China. The data used and discussed above have been validated by author to be authentic, credible and representative to ensure the quality of the research.

## **A LOOK BACK ON CHINA'S TRANSITION TOWARDS A KNOWLEDGE-BASED ECONOMY**

Since China opened up its economy in 1978, its economy thrives as a manufacturing powerhouse and the products which are “Made in China” could be found everywhere. Although the growth was driven by resource-intensive manufacturing, exports, and low-paid labour, it has enabled China’s GDP growth of around 10% per year averagely and made it the world’s second largest economy (World Bank, 2021). The economic boom has lifted more than 800 million people out of poverty, increase the population of upper-middle-income in the country and substantially improve the living standards. However, such growth seemed to have reached its limit in 2005 with an obvious slowdown (Setser, 2005). It was found that the slowdown was due to the employment of unsustainable growth model. The rapid economic growth has exceeded the pace of institutional development, which resulting in an imbalance between economic, social and environmental aspects. One of the main issues is related to its human capital management. As the world evolves, the demand for high-skilled labour increases. The fact that medium-skilled labours do not have the skills, knowledge and confidence to meet the requirements and demands of companies has led to labour supply paradox, whereby qualified hires are lacking although the labour force is large (Heckman & Yi, 2012). Besides, issues such as education and income inequality (Liu et al., 2020; Luo et al., 2018) and pollutions (He & Mao, 2020) have also arisen, leading to a need for reform, specifically on the economy structure.

The World Bank proposed that such imbalance could be reduced by shifting “from low-end manufacturing to higher-end manufacturing and services, and from investment to consumption” (2021). Aware of such issues, China aimed to transform its economy into a more balanced and sustainable structure, making China an innovation driven economy by 2020 (OECD, 2016). This has become a key objective of China 13<sup>th</sup> five-year plan (FYP). The plan called for innovation-driven development supported by cultivation of talent and establishment of ubiquitous and efficient information networks (Central Committee of the Communist Party of China, 2015). The plan also introduced a more deepening market-oriented reform to create a more favourable economy regime for both local and foreign investors, to encourage healthy competition, more international collaboration so as to enhance the quality of the research, in line with the proposal of OECD (2016). Other than the plan of transforming itself into a knowledge-based economy, the other initiatives introduced in the 13<sup>th</sup> FYP also shows China’s intention to remain its existing competitive advantage, which is the manufacturing economy, or even to further develop it. The ultimate goal was to foster the development of science-centric innovative economy by integrating with the industrial application, high end manufacturing and modern services (KPMG China, 2016). While the plan also provides for improvement on social aspects, including poverty reduction measure, support for public wellbeing, etc, recent research shows that the rise of knowledge economy in China, which involve simultaneous tertiarization and industrialisation processes has widen the inequality gap in urban China (Liu et al., 2020). The inequality problem remained unsolved in the knowledge based economy in China.

After discussing what leads China to transforming into a knowledge-based economy and its plan of becoming one, this part will assess if the objective of China becoming an innovative economy has been achieved in 2020 and the prospect of such transition. Based on the Knowledge Economy Index provided by the World Bank in 2012, China is ranked 84 with a value of 4.37 index points (Kaneva & Untura, 2020). As there

are no recent updates on this, this paper refers specifically to Shenzhen, China's policy reform incubator (Shen & Xu, 2012) which has demonstrated the Chinese transition towards a knowledge-based economy as its economic growth is evident and rapid.

The Shenzhen Special Economic Zone was one of the innovation and financial centres in China (Yeung et al., 2009), which aimed to develop international business relationship from the aspect of both economic cooperation and technical exchanges. Many policies have been introduced to create the environment for better use of knowledge, information dissemination and innovation development, e.g. improve Shenzhen higher education, provide special tax benefits and preferential treatment for foreign direct investment (FDI), provide incentives to tech companies to promote technological innovation and development and continuously upgraded and adjusted its “talent introduction policy” such as setting up special funds for talent introduction, training, incentives, services, and support for talent innovation and entrepreneurship. With large investment in human capital, Shenzhen has quickly become a national incubator for engineers, IT professionals and innovative talents (Cui, 2020). Besides, Shenzhen local government has also implemented other Talent Policy which attract domestic human capital, overseas returnees, foreign talents. With these high quality human capital, the knowledge has been well-used. Figure 3 shows the growth of knowledge economy in Shenzhen from 2010 to 2017, with indicators reflecting the city’s progress in the hi-tech industries as the China’s Silicon Valley (R. Hu, 2019).

Years	Added Value of New Industries (RMB Million)	International Trade Value of Hi-Tech Industries (USD 10,000)	Patents Certified	R&D Expenditure (RMB 10,000)	R&D Personnel (Persons)
2010	282,051	19,770,075	34,951	3,333,102	177,756
2011	334,134	22,416,000	39,363	4,161,363	176,107
2012	398,244	25,206,532	48,662	4,883,738	218,090
2013	513,777	30,784,842	49,756	5,846,115	213,641
2014	585,595	24,762,288	53,687	6,400,662	192,600
2015	720,540	25,424,844	72,120	7,323,851	206,327
2016	809,167	22,764,476	75,043	8,429,693	233,927
2017	918,719	22,775,570	94,250	9,769,377	281,369
Change (2010–2017)	226%	15%	170%	193%	58%

Figure 3 Growth of the knowledge economy in Shenzhen, 2010-2017. Source: (R. Hu, 2019)

As can be seen in Figure 4, there is a robust investment on the input, i.e., the R&D, with an increase of 193% for R&D expenditure and 58% increase of R&D personnel in the city. The increase in input leads to the tremendous increase in the output, the added value of new industries in 2010–2017 grew by 226% and 170% increase in certified patents. The outputs are values creation through knowledge, which shows that the Shenzhen economic transformation from industrial base to knowledge-based economy is positively in progress. Figure 4 which shows the tertiary sectors surpassing the second sectors of GDP shares in 2008 has well indicated that Shenzhen has established its knowledge economy since then.

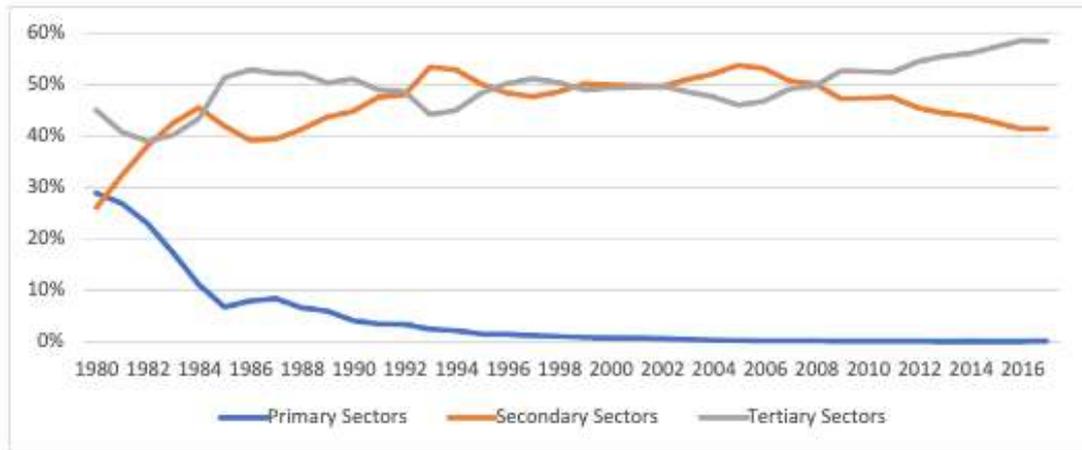


Figure 4 Shenzhen's GDP Composition, 1980-2017. Source: (R. Hu, 2019)

While Shenzhen, one of the biggest cities in China, may have already established its knowledge economy, the other provinces may not have established the same because most of the talents have migrated to the dynamic cities such as Beijing, Shanghai and Shenzhen (T. Li, 2021; Tan, 2021), resulting in the home provinces to be lacking of human capital that drive the development of knowledge economy. Moreover, according to the recent findings of Oxford Analytica (2019), the knowledge gap has not been closed despite the efforts made by both the governments and corporations, organisations still facing high-skilled labour shortage. Both talent migration and education inequality have affected the quality of human capital in the other cities substantially, slowing down the process of transition to k-economy in those cities. It is suggested that the education inequality between rural and urban education should be tackled for China to be fully transformed into a knowledge-based economy. Although the high education has been expanded and reform in this regard has been initiated by the Chinese government (S. Li et al., 2014), the education inequality caused by family financial status, level of parental education and household registration has not been improved (Wu et al., 2020).

The transformation progress could also be determined from the digitalisation process, as it is also a key factors influencing the transition process towards knowledge-based economy, (Alnafrah et al., 2020). A report by McKinsey (K. W. Wang et al., 2017) known China as the “home to dynamic digital innovators” as it is accountable for 40% share of the value of world-wide ecommerce transaction. The report also highlighted the factors of such upside: the rich digital ecosystem built from positive competition of the 3 China’s internet giants; and the space for innovation/ creativity provided by the Chinese government. While the gap of digitalisation of industries between China and US are narrowing rapidly, the MGI Industry Digitization Index shows that there is a wide variation in levels of digitalisation in China between sectors, as seen in Figure 5.

MGI Industry Digitization Index: China



Figure 5 MGI Industry Digitalisation Index: China. Source: (K. W. Wang et al., 2017)

While the overall digitalisation may have contributed positively to the China’s transition process towards knowledge-based economy, it is suggested that the transition process could have been accelerated or enhanced if digitalisation is being taken out in full scale and in all sectors as it is expected to restructure the value chains and boost productivity.

It is suggested that the Beijing Winter Olympics 2022 could be a mirror which tells the future of Chinese k-economy. China has showcased its tech innovations through this global stage (Gedvilas, 2022). The innovations which go viral on the Internet include the smart beds, catering robots which cook delicious meal and whip cocktails, and

uninterrupted 5G connections within the “loop” (Tobin, 2022). The whole world is impressed by the technology showcased, and the event is said to have setting technology standards for the future (Global Times, 2022). It is opined that the Winter Olympics will not only accelerate the development of winter sports (C. Wang, 2022), but will also act as a catalyst which speeds up Chinese k-economy transition. The showcasing of Chinese technology innovations during the event is forecasted to increase exports of ICT goods and attract more foreign investments on tech innovations, hence the prospect of such transition seems positive.

## CONCLUSION

Knowledge and innovation have always been playing vital roles in human history as it made breakthroughs, helping humans to cope with the constantly changing world. It is important to capitalise knowledge and innovations to stay relevant in order to remain competitiveness. Transforming into a knowledge-based economy is inevitable for many countries, including China. China has been focusing on a more innovation-based (knowledge-based) economy through 13<sup>th</sup> and 14<sup>th</sup> FYP, and has been actively investing in human capital in China, providing an environment which nurtures innovation, encourage technological/ technical R&D, and provide incentives for knowledge distribution. Based on the existing literatures it can be concluded that China, as a whole, could not be considered as a knowledge economy in 2020 yet, but it is on its way. Other than expanding human capital investment across geographic regions and expanding college loan system (Heckman & Yi, 2012), there are still more to be done by States and organisations including businesses, non-governmental bodies, and foreign agencies in minimising the education inequality gap. Cross-level or sectional cooperation (mezzo level) should also be encouraged, particularly enterprises’ involvement in the innovation system. Furthermore, the digitalisation gap between sectors is also suggested to narrow down as soon as possible so as to create new value chains in the economy.

## ACKNOWLEDGMENT

The author would like to express sincere gratitude to the Research and Development Institute and College of Innovation and Management, Suan Sunandha Rajabhat University, Bangkok, Thailand for the academic support.

## REFERENCES

- Alnafrah, I., Mouselli, S., & Bogdanova, E. (2020). The nexus between digitisation and knowledge-based economy in low-income countries: the case of post-conflict Syria. *International Journal of Knowledge-Based Development*, 11(2), 123. <https://doi.org/10.1504/IJKBD.2020.108369>
- APEC Economic Committee. (2000). *Towards Knowledge-Based Economies in APEC, 2000*.
- Central Committee of the Communist Party of China. (2015). *The 13th Five-Year Plan for Economic and Social Development of The People’s Republic of China (2016-2020)*. <https://en.ndrc.gov.cn/policies/202105/P020210527785800103339.pdf>

- Chen, D. H. C., & Dahlman, J. (2006). *The Knowledge Economy, The KAM Methodology And World Bank Operations* .
- Cui, C. (2020). *Tech talents drive success of Shenzhen's innovation revolution*. China.Org. [http://www.china.org.cn/business/2020-11/19/content\\_76927519.htm](http://www.china.org.cn/business/2020-11/19/content_76927519.htm)
- Dima, A., Begu, L., Vasilescu, M., & Maassen, M. (2018). The Relationship between the Knowledge Economy and Global Competitiveness in the European Union. *Sustainability*, 10(6), 1706. <https://doi.org/10.3390/su10061706>
- Fortune. (2020). *Fortune 500 list of companies 2020*. <https://fortune.com/fortune500/2020/>
- Gedvilas, J. (2022). *Beijing Winter Olympics 2022: a Global Stage to Showcase Tech Innovation*. Euromonitor.Com. <https://www.euromonitor.com/article/beijing-winter-olympics-2022-a-global-stage-to-showcase-tech-innovation>
- Global Times. (2022). *Beijing Winter Olympics sets new technology standards for the future: IOC President*. Global Times. <https://www.globaltimes.cn/page/202202/1251581.shtml>
- Hadzimustafa, S. (2016). The knowledge economy and sustainable economic growth. *CEA Journal of Economics*, 6(1).
- He, C., & Mao, X. (2020). How Does China's Economic Transition Contribute to Air Pollution? In *Environmental Economic Geography in China* (pp. 141–175). [https://doi.org/10.1007/978-981-15-8991-1\\_6](https://doi.org/10.1007/978-981-15-8991-1_6)
- Heckman, J., & Yi, J. (2012). *Human Capital, Economic Growth, and Inequality in China*. <https://doi.org/10.3386/w18100>
- Hu, R. (2019). The State of Smart Cities in China: The Case of Shenzhen. *Energies*, 12(22), 4375. <https://doi.org/10.3390/en12224375>
- Hu, Z., & Khan, M. S. (1997). *Why Is China Growing So Fast?* IMF. <https://www.imf.org/EXTERNAL/PUBS/FT/ISSUES8/INDEX.HTM>
- Kaneva, M., & Untura, G. (2020). The knowledge economy in China and public-private partnerships of universities. *Journal of Corporate Governance*, 1(1), 188–202.
- Kefela, G. T. (2010). Knowledge-based economy and society has become a vital commodity to countries. *International NGO Journal*, 5(7), 160–166. <http://www.academicjournals.org/INGOJ>
- Kelly-Meyrick, R. (2017, October 7). *Challenges for China: The path towards a knowledge economy*. Global Risk Insights. <https://globalriskinsights.com/2017/10/challenges-china-path-towards-knowledge-economy/>
- KPMG China. (2016). *The 13th Five-Year Plan - China's transformation and integration with the world economy: Opportunities for Chinese and foreign businesses*.
- Li, S., Whalley, J., & Xing, C. (2014). China's higher education expansion and unemployment of college graduates. *China Economic Review*, 30, 567–582. <https://doi.org/10.1016/j.chieco.2013.08.002>
- Li, T. (2021). *Gen Z Chinese yearn for developed cities*. SHINE. <https://www.shine.cn/biz/economy/2110176548/>
- Liu, C. Y., Hu, F. Z., & Jeong, J. (2020). Towards inclusive urban development? New knowledge/creative economy and wage inequality in major Chinese cities. *Cities*, 105, 102385. <https://doi.org/10.1016/j.cities.2019.06.016>
- Luo, Y., Guo, F., & Shi, J. (2018). Expansion and inequality of higher education in China: how likely would Chinese poor students get to success? *Higher*

- Education Research & Development*, 37(5), 1015–1034.  
<https://doi.org/10.1080/07294360.2018.1474856>
- Mikula, B. (2019). Human capital management as a subsystem of knowledge-based management . In A. Jaki & T. Roje (Eds.), *Knowledge – Economy – Society. Contemporary Trends and Transformations of Economies and Enterprises* (pp. 133–144).
- Nurunnabi, M. (2017). Transformation from an Oil-based Economy to a Knowledge-based Economy in Saudi Arabia: the Direction of Saudi Vision 2030. *Journal of the Knowledge Economy*, 8(2), 536–564. <https://doi.org/10.1007/s13132-017-0479-8>
- Obbema, F. (2015). Is China Becoming a Knowledge Economy? In *China and the west: Hope and Fear in the Age of Asia*. I.B. Tauris & Co Ltd.  
<https://doi.org/10.5040/9780755619467.ch-013>
- OECD. (1996). *The Knowledge-Based Economy*. <https://www.oecd-ilibrary.org/docserver/9789264266841-en.pdf?expires=1640700192&id=id&accname=guest&checksum=67B8DB5071C4A2B0A0E73F8A70BCB5FD>
- OECD. (2016). *Enabling China's Transition Towards A Knowledge-Based Economy*. Oxford Analytica. (2019). *China is short of skills, not workers*.
- Peng, X. (2007). A Comparative Study of Knowledge-Based Economy Development Between China and USA. *Data Science Journal*, 6, S408–S419.  
<https://doi.org/10.2481/dsj.6.S408>
- Porter, M. (2004). *The global competitiveness report 2004-2005* (M. Porter, K. Schwab, X. Sala-i-Martin, & A. López-Claros, Eds.). Palgrave Macmillan.
- Richter, F. (2020). *These are the top 10 manufacturing countries in the world*. World Economic Forum. <https://www.weforum.org/agenda/2020/02/countries-manufacturing-trade-exports-economics/>
- Setser, B. W. (2005, August 11). *China's economy in 2005 is not what it was in 2000*. Council on Foreign Relations. <https://www.cfr.org/blog/chinas-economy-2005-not-what-it-was-2000>
- Shen, X., & Xu, S. (2012). China: Shenzhen Special Economic Zone as a Policy Reform Incubator for Urban Land Market Development. In *Untying the Land Knot* (pp. 87–104). The World Bank.  
[https://doi.org/10.1596/9780821389706\\_CH06](https://doi.org/10.1596/9780821389706_CH06)
- Skrodzka, I. (2016). Knowledge-Based Economy in The European Union – Cross-Country Analysis. *Statistics in Transition. New Series*, 17(2), 281–294.  
<https://doi.org/10.21307/stattrans-2016-019>
- Song, S. (2015). 'China shifting toward knowledge-based economy.' The Korean Herald.  
<http://www.koreaherald.com/view.php?ud=20151217001155>
- Tan, X. (2021, November 26). *Shanghai a top city attracting university-educated talent*. ChinaDaily.  
<https://global.chinadaily.com.cn/a/202111/26/WS61a09327a310cdd39bc77cb3.html>
- Tobin, M. (2022). *The vaguely dystopian technology fueling China's Olympic Games*. <https://restofworld.org/2022/the-technology-fueling-beijing-olympic-games/>
- Wang, C. (2022). *Winter Olympics: how China is trying to make winter sports less elitist ahead of Beijing Games*. South China Morning Post.  
<https://www.scmp.com/beijing-winter-olympics-2022/article/3165294/winter-olympics-how-china-trying-make-winter-sports>

- Wang, K. W., Woetzel, J., Seong, J., Manyika, J., Chui, M., & Wong, W. (2017). Digital China: Powering the economy to global competitiveness. In *McKinsey*. <https://www.mckinsey.com/featured-insights/china/digital-china-powering-the-economy-to-global-competitiveness>
- World Bank. (2021). *China Overview: Development news, research, data*. <https://www.worldbank.org/en/country/china/overview#1>
- Wu, L., Yan, K., & Zhang, Y. (2020). Higher education expansion and inequality in educational opportunities in China. *Higher Education*, 80(3), 549–570. <https://doi.org/10.1007/s10734-020-00498-2>
- Yeung, Y., Lee, J., & Kee, G. (2009). China's Special Economic Zones at 30. *Eurasian Geography and Economics*, 50(2), 222–240. <https://doi.org/10.2747/1539-7216.50.2.222>

# CREATING INCENTIVE: EVIDENCE FROM CHINA COLLEGE STUDENTS' INNOVATION AND ENTREPRENEURSHIP COMPETITION (CSIEC)

ANAN WANG<sup>1,\*</sup>, HONGXIN LI<sup>2</sup>

<sup>1</sup>*Suan Sunandha Rajabhat University, Thailand*

<sup>2</sup>*Dali University, Dali, Yunnan, PR China*

*Email: wanganan@dali.edu.cn*

## ABSTRACT

College Students' Innovation and Entrepreneurship Competition (CSIEC) is an important platform to promote entrepreneurship education which ushers in an unprecedented development boom in China. This program encourages individuals to start their businesses and stimulates the nation's entrepreneurial spirit and innovative genes. This study investigated the specific paths of incentive factors influencing willingness to participate in CSIEC with the degree of valence and expectancy of incentive factors in reward orientation, development orientation, organization orientation, team orientation, and support orientation of the outcome as independent variables. We conducted an empirical analysis based on 245 data collected from CSIEC participants and nonparticipants. Results of the data analysis show that the incentive measures in the reward orientation and the support demissions are the most effective. In contrast, development, organization, and team demissions need further improvement.

**Keywords:** innovation, entrepreneurship, incentive

## INTRODUCTION

Innovation and entrepreneurship education is fast becoming a key instrument to promote economic development, enhance national competitiveness, and solve employment difficulties in the era of the "knowledge economy" (Maritz & Brown, 2013, A), (Ndofirepi, 2020, B). Education reform is one of the main aims for theoretical research and practical exploration of entrepreneurship education, which plays a critical role under the "Mass Entrepreneurship and Innovation" strategy (Yan et al., 2018). Although Chinese entrepreneurial competitions have made breakthroughs in incubating enterprises and creating platforms, there is still a big gap compared with the top entrepreneurial competitions of American research universities (Jin & Zhao, 2011). The main challenge faced is "School enthusiasm, student coldness" for lack of entrepreneurial consciousness, low entrepreneurial proportions, poor innovation ability, and low innovation results (Huang, 2013). Scientific incentive mechanisms solve the problem of student enthusiasm (Zhang, 2021). This dissertation unravels some mysteries surrounding innovation and entrepreneurship education incentive factors.

## 1.1 Situation of Innovation and Entrepreneurship Competition

Start-ups competitions emerged in the United States in the 1980s. The Babson College and the University of Texas at Austin jointly held the first business plan competition in 1984, and then the entrepreneurial competition flourished to spawn many outstanding companies, such as Yahoo (L. W., Byrd & K. A., 2011). The American university entrepreneurship competition has become a model for the global with its complete process, mature support system, and extensive sponsorship (Farrell, M., 2010).

Entrepreneurship competitions began in China in the late 1990s. Tsinghua University held the first "Challenge Cup" Chinese College Students Entrepreneurship Plan Competition in 1999 (Liang & Weng, 2018). The Central Committee of the Communist Youth League, the Ministry of Education, the Ministry of Human Resources and Social Security, the China Association for Science and Technology, and the All-China Studies' Federation decided to jointly organize the "Creating Youth" National College Students Entrepreneurship Competition in 2013. The Ministry of Education, the National Development and Reform Commission, the Ministry of Industry and Information Technology, the Ministry of Human Resources and Social Security, the Central Committee of the Communist Youth League, and the Jilin Provincial People's Government jointly organized the first China College Students' "Internet Plus" Innovation and Entrepreneurship Competition (CSIPC) in 2015. CSIPC established a dialogue platform for international youth to exchange ideas. Including Harvard University, Massachusetts Institute of Technology, Oxford University, Cambridge University, and other famous universities teamed up to participate in the "International Track" since 2017.

## 1.2 . Comparison of Chinese and Western Innovation and Entrepreneurship Education Models

Innovation and entrepreneurship education formed a "market demand-driven" model suitable for local culture, political, and economic systems more than 60 years of development in America. Myles Mace proposed the first entrepreneurship course at Harvard Business School in 1947 to provide reemployment training for veterans of World War II (Gartner & Vesper, 1994, A), (Katz, 2003, B). Entrepreneurship education is a typical "government-driven" mode that offers policies to resist the impact of the unemployment crisis and economic downturn in the EU. Entrepreneurship education includes three types in China: technological innovation-driven, regional characteristics-driven, and integrated platform-driven (Zhang & Yao, 2019), which is a meaningful way to cultivate youth entrepreneurship, create jobs, and enhance the economy's vitality. The results are in Table 1.

	American	EU	China		
			Technological innovation-driven	Regional characteristics - driven	Integrated platform-driven
Essence	Broad	Broad	Narrow	Narrow	Broad
Driving Force	Market-driven	Government-driven	Innovation-driven	School-Enterprise Joint	Entrepreneurial Ecosystem
Organizational Structure	Interdisciplinary	Interdisciplinary	Interdisciplinary	Interdisciplinary	Interdisciplinary

Funding Source	Private Donation	Government Funding	Research Fundament	Corporate Sponsorship, Venture Fund	Government Funding, Corporate Sponsor
Support System	Public policy , Incubator and Technology Park ,Entrepreneurs hip channels	Public Policy	Funding System, Group Support System, Individual Evaluation System ,Achievement Transformatio n System	"Double-type Teacher ", Diversified Practice	Practice Teaching Platform, Innovation and Entrepreneurs hip Training System
Examples	Harvard University	Copenhagen Business School	Tsinghua University	Fuzhou University	Xi'an Jiao Tong University

## LITERATURE REVIEW

### 1.3 Innovation and Entrepreneurship Education

Harmonized definition of "Entrepreneurship Education" does not exist in the scientific community. For this reason, Erkkilä(2000) proposed the ability to recognize commercial opportunities and the insight, self-esteem, knowledge, and skills to act on them(Jones& English, 2004). According to the "Lisbon Strategy" of the European Union, entrepreneurship education is a meaningful way to cultivate young people's entrepreneurship spirit and thus enhance the economic vitality and competitiveness of the European Union. The World Economic Forum (2013) proposed entrepreneurship education as an ecological system on the individual and intermediaries.

China proposed the term "Innovation and Entrepreneurship Education" and emphasized:

- Practical application, which is a more systematic and comprehensive education (Zhang et al., 2014);
- Orienting to all students and cultivating talents at different levels (Li, F., 2018);
- The fundamental purpose of improving students' comprehensive quality is to improve students' comprehensive quality (Yuan & Rao, 2021).

Brush (2014) pointed out that the entrepreneurship education ecosystem is co-curricular activities, like business plan competitions; Zhu et al. (2014) found entrepreneurial knowledge and experience the simulated by entrepreneurship competitions. CSIEC is still an effective form to promote innovation and entrepreneurship education for college students (Jin & Zhao, 2011). A growing body of literature recognizes the importance of research on CSIEC.

## 1.4 Innovation and Entrepreneurship Competition

Most studies focused on improving organizational processes, the significance of holding competition, and the system construction mainly. From the perspective of competition organization, Zhang (2014) analyzed the crux of inefficiency:

- The disconnection between entrepreneurial projects and market demand;
- Insufficient follow-up support;
- The disconnection between project evaluation and business operations.

Liang & Weng (2018) compared CSIPC and the American Business Plan Competition from competition purpose, competition organization, and specific circumstances to complete China's CSIEC. From the perspective of competition significance, Fan et al. (2015) found the competition promoting the students' collaboration ability, innovative thinking, practical ability, entrepreneurial skills, and learning ability. CSIEC improved entrepreneurial willingness, promoted education reform, and encouraged learning autonomy (Fan et al., 2015, A). From the perspective of the construction of the education system, Jiang et al. (2016) used CSIEC as a carrier to construct a training path for training creative ability and practical ability. Liu (2013) took "Challenge Cup" as the carrier to explore teaching reform. Researchers have not treated the incentive of CSIEC in much detail.

## 1.5 Expectancy Theory and Incentive

Vroom (1964) put forward the "Expectancy Model Theory" that incentive force is affected by the target valence and the individual expectancy. If valence and expectancy are high, the incentive level of this goal to the subject will be high. Otherwise, the incentive level will be low,  $IF (Incentive\ Force) = V (Valence) \times E (Expectancy)$ . Valence refers to the value judgment of outcome utility; expectancy is a subjective estimation of achieving through efforts. Entrepreneurial intention affects entrepreneurial activity (Ozaralli, N. & Rivenburgh, N.K.). Also, incentive positively affects participation behavior (Miao et al., 2021). This study investigated the specific paths of incentive factors influencing Willingness to participate in CSIEC with "importance" and "likelihood" dimensions. Among "importance" is a value judgment of result utility, namely valence. At the same time, "possibility" is a subjective estimation of the specific goal, expectancy.

"Earning rewards" is one of the goals for students participating in innovation and entrepreneurship practice (Bing, 2015). Schools should give participators bonuses and credits and encourage participation through recognition and publicity (Karimi et al., 2016). Development is another incentive factor. The active role of entrepreneurship has also inspired colleges and universities to establish entrepreneurship training programs and courses to provide comprehensive knowledge about entrepreneurship practices, ideas, and challenges to students in Indonesia (Qi et al., 2013). As previously mentioned, scholars have studied the organization dimension. To a certain extent, CSIEC organized and appropriately implemented will affect participation willingness and the result of the match (Zhang et al., 2014). Liu (2016) used the method of in-depth interviews to conclude that "teamwork" is one of the vital excitation factors. Qi et al. (2013) tested the reliability of Cronbach based on the current situation survey to screen common incentive factors through factor analysis, including comprehensive incentive strategy, innovation and entrepreneurship environment, software and hardware support, and talent management. This study discussed incentive factors involved in reward, development, organization,

team, and support dimensions. One purpose of this study was to assess the extent of these factors' incentives. Therefore, we hypothesize the following:

**H1:** Students' participation willingness is positively correlated with the value judgment of outcome utility.

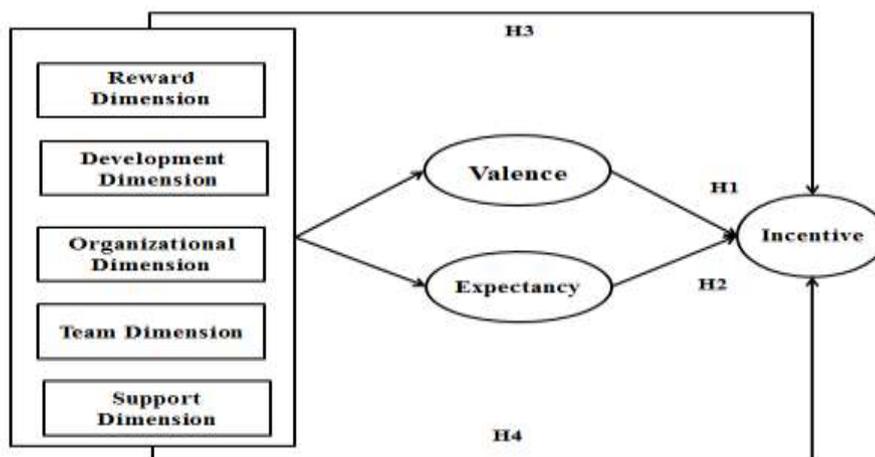
**H2:** Students' participation willingness is positively correlated with a subjective achievement estimation.

**H3:** The valence of incentive factors in reward, development organization, team, and support dimensions are related to students' participation willingness.

**H4:** The expectancy of incentive factors in reward, development organization, team, and support dimensions are related to students' participation willingness.

According to the assumptions above, this study constructs an incentive model of students' participation willingness, as shown in Figure 1.

Figure 1: Incentive Model of Students' Participation Willingness



## RESEARCH METHODOLOGY

### 1.6 Research Scale

The questionnaire consists of two parts. The first part concludes gender, age, school location, major, grade, and other characteristics; the second part is the incentive strategies 23 declarative questions. Each question uses a 5-point Likert scale in importance and likelihood dimensions, respectively, indicating that the attitude of respondents gradually changed from "strongly disagree" to "strongly agree." To ensure the validity of the questionnaire, all variables in this study were collected from the same questionnaire.

This study collected 60 valid questionnaires. We tested the second part in the Incentive Valence scale using Critical Ratio within 27% ratio for high and low grouping and conducted an independent sample T-test. The results show that the differences in the mean values of all items passed the significance test (Sig<0.05). The tests show that Cronbach's Alpha of the questionnaire is 0.989, better than the standard of "above 0.800". The KMO test value is 0.550, Bartlett's sphericity test value is 5855.358, and the

significance probability Sig=0.000. The questionnaire shows good discrimination, reliability, and validity according to the test results. The results are in Table 2.

Table2: Reliability and Validity Test of Test Sample

Cronbach's Alpha	N of Items
.989	23

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.550	
Bartlett's Test of Sphericity	Approx. Chi-Square	5855.358
	df	1035
	Sig.	.000

Scale	Cronbach's Alpha Based on Standardized Items	N of Items
Incentive Valence Scale	.982	23
Incentive Expectancy Scale	.987	23

### 1.7 Data Collection

The questionnaire was used to collect data on a large scale. This study selected universities in Yunnan Province to distribute 260 questionnaires; 260 were collected, and 245 were valid questionnaires.

### 1.8 Analysis Method

Collected data were analyzed using least-squares regression. Data analysis included measurement validation and hypothesis testing. Validation assessed the reliability of the measures, while hypothesis testing analyzed the hypotheses being proposed. SPSS is the least square regression analysis tool to verify the construction model established in this study and verify the hypothesis path.

## RESULTS AND FINDINGS

### 1.9 Demographic and sociological characteristics of the data

In the sample's descriptive statistics, men account for 44.9%, and the gender ratio is reasonable. The primary discipline is science and engineering, accounting for 72.25 %, and other majors are involved. Lower grades account for 82.45%. The distribution of schools is mainly in Dali, accounting for 70.4%, and covers the other three cities in Yunnan Province. The samples are independent, widely distributed, and have good randomness from the demographic and sociological characteristics.

### 1.10 Factor Analysis and Evaluation of Results

The study used SPSS 23 to perform reliability and factor analysis on the questionnaire data. Cronbach's Alpha is 0.982 and 0.987 in the Incentive Valence Scale and Incentive Expectancy Scale, and respectively, this questionnaire has a relatively high internal consistency. The KMO test values are 0.965 and 0.964, Bartlett's sphericity test values are 7893.724 and 7107.512, Sig=0.000. There are common factors among the questionnaire variables that are suitable for factor analysis. The results are in Table 3.

Table3: Reliability and Validity Test of Sample

Firstly, this study extracted the common factors of the five dimensions in two Scales, respectively. Here, the factor loading matrix is orthogonally rotated by the method of variance maximization so that the factors can be named and interpretable. Next, using the regression method, estimate the factor score coefficient (Table 4).

Table4: Component Score Coefficient in Incentive Valence Scale and Incentive Expectancy Scale of Sample

Incentive Valence Scale		Kaiser-Meyer-Olkin Measure of Sampling Adequacy			.965		
		Bartlett's Test of Sphericity			7893.724		
Incentive Expectancy Scale		Kaiser-Meyer-Olkin Measure of Sampling Adequacy			.964		
		Bartlett's Test of Sphericity			7107.512		
		df			253		
		Sig.			.000		
		Component( Incentive Valence Scale)			Component(Incentive Expectancy Scale)		
		1	2	3	1	2	3
Reward Dimension	Q1	-.228	.752	-.207	-.189	.764	-.287
	Q2	-.317	.757	-.062	-.160	.643	-.148
	Q3	-.374	-.183	1.242	-.190	-.290	1.274
	Q4	.367	-.188	.040	.284	-.072	.013
	Q5	.510	.001	-.477	.373	-.162	-.064
	Q6	.417	-.147	-.114	.336	-.002	-.216
	Q7	.361	-.266	.143	.353	-.167	.007
Development Dimension	Q8	-.134	.395		.589	-.375	
	Q9	-.852	1.148		.761	-.555	
	Q10	-.457	.735		.664	-.452	
	Q11	.609	-.387		-.295	.577	
	Q12	.797	-.586		-.147	.422	
	Q13	.771	-.559		-.810	1.121	
Organizational Dimension	Q14	.646	-.231		.732	-.341	
	Q15	.612	-.178		.543	-.061	
	Q16	-.384	1.176		-.406	1.167	
Team Dimension	Q17	1.527	-1.090		-1.141	1.716	
	Q18	.374	.115		.448	.034	
	Q19	-1.161	1.700		1.441	-1.028	
Support Dimension	Q20	.726	-.510		.564	-.333	
	Q21	.513	-.220		.470	-.183	
	Q22	-.742	1.408		-.582	1.323	
	Q23	.318	.039		.401	-.086	

Finally, using the factor variance contribution rate (after rotation) as the weight ( Table 5) to calculate the total score of the reward dimension (RD\_V), development dimension (DD\_V), organization dimension (OD\_V), team dimension (TD\_V) and support dimension(SD\_V) in the Incentive Valence Scale. At the same time, calculating the total score of the reward dimension (RD\_E), development factor (DD\_E), organization dimension (OD\_E), team dimension (TD\_E), and support dimension (SD\_E) in incentive expectancy scale (Table 5). The measurement formula is:

$$X \text{ Factor} = \sum \text{Component Score} * \text{Variance Contribution Rate} \quad (1)$$

(X= Reward, Development, Organization, Team and Support)

Table 5: Variance Contribution Rate in Incentive Valence Scale and Incentive Expectancy Scale of Sample

		Rotation Sums of Squared Loadings(Incentive Valence Scale)			Rotation Sums of Squared Loadings(Incentive Expectancy Scale)		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Reward Dimension	1	2.929	41.841	41.841	3.227	46.096	46.096
	2	1.933	27.611	69.452	1.891	27.008	73.104
	3	1.287	18.387	87.838	1.071	15.300	88.404
Development Dimension	1	2.978	49.631	49.631	2.955	49.251	49.251
	2	2.694	44.900	94.531	2.603	43.383	92.633
Organizational Dimension	1	1.542	51.414	51.414	1.642	54.720	54.720
	2	1.219	40.642	92.056	1.104	36.806	91.526
Team Dimension	1	1.515	50.490	50.490	1.538	51.282	51.282
	2	1.414	47.145	97.635	1.376	45.878	97.160
Support Dimension	1	2.278	56.943	56.943	2.338	58.451	58.451
	2	1.431	35.778	92.721	1.277	31.917	90.368

### 1.11 Correlation Analysis

Table 6 shows the results of the correlation analysis between the importance of incentive factors and participation willingness in the Incentive Valence Scale. The correlation between incentive factors and participation willingness has a strong positive correlation at the significant 0.01 level (two-sided). The correlation coefficients are 0.506, 0.447, 0.408, 0.385, and 0.412 from the results in Table 6.

Table 7 shows the results of the correlation analysis between the likelihood of incentive factors and participation willingness in the Incentive Expectancy Scale. The correlation between incentive factors and participation willingness has a strong positive correlation at the significant 0.01 level (two-sided). The correlation coefficients are 0.405, 0.427, 0.330, 0.355, and 0.386, respectively. Correlation analysis between variables preliminarily verified the hypothesis.

Table 6: Correlation Analysis in Incentive Valence Scale of Sample

		Intention	RF_V	DF_V	OF_V	TF_V	SF_V
Intention	Pearson Correlation	1	.506**	.447**	.408**	.385**	.412**
	Sig.		.000	.000	.000	.000	.000
RD_V	Pearson Correlation	.506**	1	.902**	.782**	.761**	.783**
	Sig.	.000		.000	.000	.000	.000
DD_V	Pearson Correlation	.447**	.902**	1	.801**	.839**	.855**
	Sig.	.000	.000		.000	.000	.000
OD_V	Pearson Correlation	.408**	.782**	.801**	1	.846**	.786**
	Sig.	.000	.000	.000		.000	.000
TD_V	Pearson Correlation	.385**	.761**	.839**	.846**	1	.885**
	Sig.	.000	.000	.000	.000		.000
SD_V	Pearson Correlation	.412**	.783**	.855**	.786**	.885**	1
	Sig.	.000	.000	.000	.000	.000	

Table 7: Correlation Analysis in Incentive Expectancy Scale of Sample

		Intention	RD_E	DD_E	OD_E	TD_E	SD_E
Intention	Pearson Correlation	1	.405**	.427**	.330**	.355**	.386**
	Sig.		.000	.000	.000	.000	.000
RD_E	Pearson Correlation	.405**	1	.879**	.739**	.748**	.756**
	Sig.	.000		.000	.000	.000	.000
DD_E	Pearson Correlation	.427**	.879**	1	.776**	.819**	.851**
	Sig.	.000	.000		.000	.000	.000
OD_E	Pearson Correlation	.330**	.739**	.776**	1	.797**	.742**
	Sig.	.000	.000	.000		.000	.000
TD_E	Pearson Correlation	.355**	.748**	.819**	.797**	1	.863**
	Sig.	.000	.000	.000	.000		.000

SD_E	Pearson Correlation	.386**	.756**	.851**	.742**	.863**	1
	Sig.	.000	.000	.000	.000	.000	

### 1.12 Further Research

The study regressed five total indicators of incentive valence (RD\_V, DD\_V, OD\_V, TD\_V, SD\_V) and participation willingness. Sig=0.000, which is less than the standard level of 0.01, indicates that the regression coefficient of at least one independent variable in the model is not equal to 0. It is meaningful to create this regression model. R<sup>2</sup> of the regression model is 0.431, the adjusted R<sup>2</sup> is 0.405 through the forced entry variable method, and the fitting degree of the model is acceptable. The study regressed five total indicators of incentive Expectancy (RD\_E, DD\_E, OD\_E, TD\_E, SD\_E) and participation willingness. Sig=0.000, the R<sup>2</sup> of the regression model is 0.420, the adjusted R<sup>2</sup> is 0.38 through the forced entry variable method, and the fitting degree of the model is acceptable. The results are in Table 8:

Table 8: Regression Equation Variable Table of Sample

Model		B	Sig	Model		B	Sig
	(Constant)	-.678	.000		(Constant)	-.454	.000
	RF_V	.393	.000		RF_E	.089	.060
	DF_V	-.068	.503		DF_E	.171	.084
	OF_V	.035	.630		OF_E	-.020	.767
	TF_V	-.045	.625		TF_E	-.024	.783
	SF_V	.070	.005		SF_E	.067	.043

In table 8, the reward and support dimensions of incentive factors are positively related to participation willingness. The competition's development, organization, and team measures have little impact on the participation willingness and even show a negative correlation. The more great innovation and entrepreneurship competition are in these aspects, the lower participation willingness is. Maybe because of low attractiveness in the aspects mentioned above.

In another part, the higher students' expectancy in the organization and team dimensions of incentive factors, the lower participation willingness. The reason is that the CSIEP incentive measures in these aspects cannot currently meet the expectancy. Combined with the above analysis, the study concluded that the five-dimensional Incentive level of the participating (as shown in Table 9):

Table 9: the Five-dimensional Incentive Level of the Participating of Sample

Dimensions	Valence	Expectancy	Incentive Force
Reward	High	High	High
Development	Low	High	Low
Origination	Low	Low	Low
Team	Low	Low	Low
Support	High	High	High

Table 9 shows that the sample has the high incentive of reward and support dimensions and low incentives in development, organization, and team dimensions. Among them, the attractiveness of the development measures of the competition is low. However, the students' expectancy to realize the relevant measures is high. Regarding organization and team dimensions, relevant measures are less attractive to students, and students have low expectations for achieving them.

## CONCLUSION

This chapter puts forward several suggestions, including perfect competition goals, stimulating the participation willingness, improving publicity strategies, improving students' skills, and strengthening incentive rewards.

## LIMITATION

Previous studies have shown that PLS-SEM can identify problems in models and use smaller samples to analyze complex models. However this study did not use Smart PLS for analysis. Moreover, the sample size of this study is not very big, and this type of sample data is more suitable to use PLS rather than structural.

## REFERENCES

- Bing, H., (2015). An empirical analysis of the influencing factors of college students' innovative practice. *Educational Academic Monthly*, vol.2, pp.88-94.
- Brush, C.G., (2014). Exploring the Concept of an Entrepreneurship Education Ecosystem. *Bingley : Emerald Group Publishing Limited*, pp.30-32.
- Fan, K., Hu, X. and Wang, L., (2015). The impact of participating in entrepreneurship competitions on college students' practical ability and its effect evaluation. *Chinese Forestry Education*, vol.33, pp.7-12.
- Farrell, M., (March 2010). The biggest small business competitions. small- business-competition- entrepreneurs- finance- university. [Online] Available: <http://www.forbes.com>.
- Gartner, W. B., and Vesper, K. H., (1994). Experiments in entrepreneurship education: successes and failures. *Journal of Business Venturing*, vol.9, pp. 179–187.
- Huang, K., (2018). Research on the influencing factors and incentive mechanism of higher vocational students in innovation and entrepreneurship education from the "Dual Factor Theory" perspective. *Vocational and Technical Education in China*, vol. 21, pp. 66-71.
- Karimi, S., Biemans, H.J., Lans, T., Chizari, M. and Mulder, M., (2016). The impact of entrepreneurship education: A study of Iranian students' entrepreneurial intentions and opportunity identification. *J. Small Bus. Manag*, vol.54, pp. 187–209.
- Katz, J. A., (2003). The chronology and intellectual trajectory of American entrepreneurship education. *Journal of Business Venturing*, vol.18, pp.283-300.
- K Erkkilä, (2000). *Entrepreneurial Education: Mapping the Debates in the United States, the United Kingdom, and Finland*. Garland Pub.
- Jiang, Q., Liu, X.W. and Hu, G.J., & Wu, B.Y., (2016). Research on the path selection of college students' innovation and practical ability training based on innovation and entrepreneurship competition. *Journal of Liaoning University of Technology: Social Sciences Edition*, vol.18, pp. 89-91.

- Jin, J. and Zhao, W.H., (2011). Comparison and reference for top entrepreneurship competitions in American research universities. *Tsinghua University Education Research*, vol.32, pp. 79-85.
- Liang, H.Q. and Weng, L.T., (2018). Comparison of Chinese and American college students' entrepreneurship competition. *World Education Information*, vol.433, pp.26-32.
- Liu, M.M., (2013). A new probe into the teaching method reform of applied talents training in Newly-built undergraduate universities——take the "Challenge Cup" as the carrier. *China Adult Education*, vol.2, pp.4-35.
- Liu, X.M., (2016). Key drivers of Chinese university students' participation in the maker movement. *Open Education Research*, vol.22, pp.93-102.
- L. W., Byrd and K. A., (2011). Business plan competitions: start-up "idols" and their twenty-first-century launchPads. *Journal of Higher Education Theory and Practice*, 11(4), pp.53-64.
- Maritz, A. and Brown, C.R., (2013). Illuminating the black box of entrepreneurship education programs. *Education & Training*, vol. 03, pp. 234-252.
- Miao, M., Ning, D. and Wang, Y.W., (2021). Content analysis and research on innovation and entrepreneurship education in colleges and universities from college students' participation incentive. *Journal of Chengdu University: Social Sciences Edition*, vol. 193, pp.114-122.
- Ndofirepi, T.M., (2020). Relationship between entrepreneurship education and entrepreneurial goal intentions: psychological traits as mediators. *Journal of Innovation and Entrepreneurship*, vol.9.
- Obschonka, M., Silbereisen, R.K. and Schmitt-Rodermund, E., (2010). Entrepreneurial intention as developmental outcome. *J. Vocat. Behav.* vol.77, pp:63–72.
- Ozaralli, N. and Rivenburgh, N.K., (2016). Entrepreneurial intention: Antecedents to entrepreneurial behavior in the U.S.A. and Turkey. *J. Glob. Entrep. Res.* 6, 3.
- Qi, X., Cao, X.A. and Zhang, M., (2013) Research on the Incentive Mechanism for Innovation and Entrepreneurship of Scientific and Technological Talents Based on the Perspective of Demand Analysis. *Scientific Management Research*, vol.31, pp: 83–84.
- Qi, X., Cao, X.A. and Zhang, M., (2013). Analysis of the incentive factor structure and satisfaction of innovation and entrepreneurship of scientific and technological talents science and technology management research, vol.33, pp.128-132.
- Victor H. Vroom, (1964). *Work and Incentive*. N, Y: John Wiley, pp:125-154.
- Wang, P. and Huang, H.R., (October 2016). A Summary of "Internet +" College Students' Innovation and Entrepreneurship Competition to Build Dreams of Innovation and Entrepreneurship for Youth [Online]. Available: [http://www.moe.gov.cn/jyb\\_xwfb/s5147/202110/t20211012\\_571757.html](http://www.moe.gov.cn/jyb_xwfb/s5147/202110/t20211012_571757.html)
- World Economic Forum, (2013). Entrepreneurial ecosystems around the globe and early-stage company growth dynamics—The entrepreneur's perspective. Retrieved from Available: <https://reports.weforum.org/entrepreneurial-ecosystems-around-the-globe-and-early-stage-company-growth-dynamics/>

- Yan, X., Gu, D., Liang, C., Zhao, S. and Lu, W. (2019). Fostering sustainable entrepreneurs: evidence from China College Students' "Internet Plus" Innovation and Entrepreneurship Competition (CSIPC). <https://www.mdpi.com/journal/sustainability>
- Yuan, Y.Z. and Xi, G.Q. (2000). A review of expectancy theory. *Journal of Nanjing University of Science and Technology (Social Science Edition)*. vol.13, pp: 45-49.
- Yuan, M.Q. and Rao, S.Q. (2021). "Internet +" Competition and Research on the Cultivation of College Students' Innovation and Entrepreneurship Ability—Based on the Data Research of College Students in Hunan Province. *Hebei Enterprises*, vol.12.pp.122-124.
- Zhang, J.W, Zhang, P, Chang, X.M, Zhang, R. and Cheng, Y.Q (2014). Process Management of College Students Innovation and Entrepreneurship Training Program in Local Universities. *Higher Engineering Education Research*, vol. 05, pp.135-138.
- Zhang, X.H., (2021), Cultivation and improvement of college students' employability through innovation and entrepreneurship education in colleges and universities, *Theoretical Research and Practice of Innovation and Entrepreneurship*, 11(22), pp. 71-73.
- Zhang, Y.T., and Yao, X.L., (2019). The development status and path optimization of entrepreneurship education models in colleges and universities. *Ideological and Theoretical Education*, vol. 04, pp. 107-111.
- Zhu, H. and Zhang, L.Y., (2014). The influence mechanism of entrepreneurship education in Beijing colleges and universities on the entrepreneurial intention of undergraduates: an empirical analysis based on the perspective of student participation. *Education research of Tsinghua University*, vol. 35, pp.100-107.
- Zhang, Z.D., (2014). What is the reason for the low efficiency of college entrepreneurship competition? *Education and Vocation*, vol.31, pp.89-89.

# PERSON-ORGANIZATION FIT AND PERSON-SUPERVISOR FIT AS MEDIATORS BETWEEN THE RELATIONSHIP OF TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE'S CREATIVE BEHAVIOR IN REAL ESTATE COMPANIES

MUYI YANG

*College of Innovation and Management, Bangkok, Thailand*

*E-mail: 794024160@qq.com*

## ABSTRACT

Housing system reform since 1998, the housing industry of our country grows vigorously, output and prices rose sharply, the real estate market has become an important engine fuel economic growth. However, with the change of Chinese macro policy and Chinese consumption view toward real estate, Chinese real estate industry facing more challenge than before. At the meantime, the facing of serious cash shortages motivates many Chinese real estate companies to change, and it also increase the requirement of transformational leadership style leader. This researcher aims to use a survey way to find the relationship between transformational leadership and creative behavior of employees, and also found the mediating role of person-organization fit and person-supervisor fit. What's more, researcher also found that different demographic factors such as gender and age has significant effect on transformational leadership style of managers toward subordinates perception, and there is no significant difference between different education level managers' transformational leadership style toward their subordinates perception.

**Keywords:** Transformational Leadership, Person-Organization Fit, Person-Supervisor Fit, Creative Behavior, Real Estate Industry

## INTRODUCTION

Housing system reform since 1998, the housing industry of our country grows vigorously, output and prices rose sharply, the real estate market has become an important engine fuel economic growth. Compared with the developed countries such as Britain and America, the development history of China's real estate market is much shorter. In the early stage of the real estate market in China, the market there is a house price continue to rise, real estate bubble, land, finance, the problem such as "ghost towns", the serious influence to the long-term and stable development of China's real estate market. In 2003, the State Council on promoting the sustainable development of the real estate market notice first proposed "to fully recognize the importance of sustained and healthy development of the real estate market". Since then, China puts forward the concept of a "health" real estate market, the government also has various macro-control measures (Hou, 2021). Therefore, China's real estate industry is facing unprecedented challenges to the environment.

COVID - 19 outbreak, as the change of people income, more and more people begin to change the view of the real estate market, calls for reform. They also argue that China's real estate market bubble may burst like Japan in the 1990 s. Many Chinese people began to reduce the consumption of real estate, such as apartments, houses or other commercial real estate (Qu, 2021). At the same time, many real estate companies began to face serious financial problems. As Described by Huileng (2021), not only large real estate companies like Evergrande, but also many small real estate companies also faced serious cash shortages. It was difficult for real estate companies to obtain cash returns through loans or selling more apartments and continue to build projects. Therefore, it is possible that real estate companies are looking for transformation, such as layoffs and organizational restructuring. Due to these challenging problems, high level of work stress and anxiety, and the low level of employee well-being is one of the major problems of the real estate company. Then, many real estate companies hired managers as its different provinces in the transformation of many subsidiary of leadership, to ensure that their policy can be directly carried out in different subsidiaries. Therefore, how to stimulate the real estate enterprise innovation behavior of employees, help the transformational leader in the real estate industry to build different core competitiveness is very important.

This research has much contributions. First of all, this researcher firstly combined person-organization fit and person-supervisor fit as mediators to measure the relationship between transformational leadership of leaders and creative behavior of employees. Secondly, this research firstly applies transformational leadership, creative behavior, person-organization fit and person-supervisor fit at a new situation and background. This is a new situation during COVID - 19 outbreak and new Chinese policy reform in Chinese real estate industry. Thirdly, this paper also firstly pointed out the idea of “Extremely Simple Organization” structure in the researcher, to show how it work in real estate industry as an impact of transformational leadership, this kind of organization structure can be used to cut companies’ cost and increase efficiency during serious periods.

## **LITERATURE REVIEW**

Many paper talked about the importance of transformational leadership toward one organization, and how it affects the employee’s creative behavior and performance. For example, Buil et al. (2019) describes the transformational leadership is leaders inspire followers agree with organizational goals and interests, and beyond the expectations of a kind of method, transformational leadership in terms of necessary changes lead to effective management plays a key role. They also pointed out that transformational leadership can improve the performance of organization’s employee through motivating and empowering employees to achieve the vision of organization. Many other researchers also supported those ideas. Such as Top et al. (2020) explained that transformational leadership is a kind of leadership style, in this kind of leadership style, the leader to determine the change of demand, through the incentive to create a vision to guide the change, and to increase the members of the organization through positive actions. They also pointed the importance of leadership, they explained that leadership is a kind of support or motivate a group of people toward a common goal diligently mechanism, it can use a strategy to lead the staff and workers to achieve a vision. So, the transformational leadership is important for today’s Chinese real estate companies when those companies facing more challenges than before. Traditional Chinese real estate companies is a

combination of labor-intensive and capital-intensive industry, normally, one Chinese real-estate company have more than 500 people, it normally was composed by many departments and project companies, and those managers and employees won higher income than other industries. However, with the recession of real estate industry, many Chinese real estate companies tried to reduce cost and save money through job cuts and organization structure reformation. For example, one of the largest real estate company pointed out one new organization structure which is called “Extremely Simple Organization”, which showed 3 level organization structure (Group Headquarter-Province Platform Companies-Project Companies) with very limited employees. Normally, one real estate company’s province level subsidiary or platform company have more than 10 departments with more than 100 managers or employees, and one project company have more than 10 manager or employees, but “Extremely Simple Organization” only recruit 10 managers at province level subsidiary and 3 managers at project managers, this kind of new style organization structure require managers and employees have more ability than before, 1 people need to do different kind of jobs at mixed departments. That organization restructure cut cost through job cut, but employees facing more problems and higher level stress. So, it also increases the demand for transformational leadership at real estate companies, they need transformational leader to stimulate employees to achieve different goal and facing problem with different kind of motivation and innovation.

At the meantime, the real state industry also increases the demand for the creative behavior of employees, many of those companies looking for transition and increasing competitiveness through products, service, marketing, cost, technology and efficiency. It also increasing the requirement of employees to create more core competitiveness through those fields. Many researchers (Mahmood *et al.*, 2019; Azim *et al.*, 2019) found the relationship between transformational leadership and creative behavior of employees. They pointed out that transformational leadership can dominate the process of problem identification and information searching, and then benefit employees’ creative behavior. Azim *et al.* (2019) used multi-item survey instrument to find the results through 400 respondents, they found that transformational leadership can significantly impact on the creative process of employees, and then help organizations to solve problems. Herman and Chiu (2014) pointed out that creative behavior is one of the most importance part of employee’s performance, and it was explained as a process of generate and communicate new ideas and creative thoughts in groups with many benefits, and those new ideas and creative thoughts can help organizations to solve different problems. The idea also was supported by Buil *et al.* (2019) and Top *et al.* (2020), who indicated the importance between transformational leadership and employees’ performance. In Chinese real estate industries, the creative behavior can be pointed out of some creative ideas and works to help real estate companies to reduce cost, increase revenue, increase work efficiency, improve products and help companies survive in this serious periods.

Hogg (2001) pointed out the importance of social identity theory toward different kind leadership styles. Social identity theory is that the individual seeking actively looks at yourself, and to expand this kind of motivation to individual members of the group identity and social identity. According to social identity theory, transformational leadership leader has self-identity as strong change and achievement goal orientation, they also want to use their own influence to make followers agree and comply with the leader’s ideas and suggestions (change and transformation), then to achieve final visions. Then, Hogg (2001) also pointed that the success of different kind leadership is depend on group identification, self-categorization and members’ self-identification, for other words, if leaders’ leadership can not affect group member, it is hard for members to follow them

and achieve leader's vision. So, it is important to know how to strong the relationship between transformational leadership and employees' creative behavior, and whether this relationship existing in real estate industry. Because during this serious periods, if those real estate companies want to survive, they need to cut cost, increase income and then find more financing channel, and they need transformational leadership leader to bring employees to find different ways to solve problem and increase their core competitiveness.

In Chinese real estate industries, there are many transformational leadership managers with different gender, age and education level, many of them play a very significant role in this industry. And many researchers also informed that different demographic factors may affect the managers' transformational leadership, and those factors can be gender (Alghamdi et al., 2018; Munir & Aboidullah, 2018), age (Khan *et al.*, 2020; Antonopoulou *et al.*, 2021). and education level (Cetin & Kinik, 2015; Le et al., 2018; Top et al., 2020). Alghamdi et al. (2018) informed that different customer with different male-dominate may affect the perception of subordinates toward their leader, and then those subordinates also will perceived differently when they face different gender transformational leadership leader. Then, Munir and Aboidullah (2018) also pointed out different views compare with other researchers, they found that female managers are more affectionate and emotional expressive than male managers, and female manager also have more consideration structure than initiating structure when they show transformational leadership style, that cause subordinates perceived less transformational leadership style from female managers, because many subordinates think transformational leadership style should be tough-minded and sometime maybe aggressive. Then, age and education level also may affect the perception of subordinates toward their managers' transformational leadership style in Chinese real estate companies. For example, Khan *et al.* (2020) and Antonopoulou *et al.* (2021) indicated that elder managers have more experience than younger managers, but they are more prudent and cautious than younger managers. Normally, younger mangers have more passions and attention to face challenge and problems, they prefer to change, and they also have faster feedback toward new knowledge and problems. For education level, Cetin and Kinik (2015), Le et al. (2018) and Top et al. (2020) provided different ideas, some of them pointed out education level can not affect the perception of subordinates toward their managers' transformational leadership style, because it is hard for managers to study one leadership style through textbook, some of them think managers' education level such as (doctoral or mater degree) may let subordinates to perceive their managers differently.

Just as above informed, different managers pointe out that different demographic factors affect the perception level of employees toward their managers' transformational leadership style, because subordinates may perceived differently when they facing different gender, age and education level managers. But there is no consistent results to show whether those demographic factors can always affect all industries' subordinates at a significant level. And no research talked about how those different demographic factors affect subordinates' perception toward transformational leadership in Chinese real estate industries, it is interesting and significant at this moment.

What's more, some researchers pointed out that not all subordinates will blindly follow those transformational leadership style leaders, they have their own ideas toward their leaders. So, if transformational leadership style leaders want their subordinates follow them, they need some fit between them and their subordinates, and those subordinates also need some fit with their organizations. After research the relationshion managers' transformational leadership style and subordinates' creative behaviors, some

researcher found that there is some factors can be used as mediating factors between managers' transformational leadership style and subordinates' creative behaviors. Some researchers pointed out the mediating role of person-organization fit (Buil *et al.*, 2019) and person-supervisor fit (Klaic *et al.*, 2018), but less of them use this two factors as mediating factors to strong the relationship between transformational leadership and employees' creative behavior. Many researchers used work engagement (Lai *et al.*, 2020) or job satisfaction (Boamah *et al.*, 2018). But researcher doubt that if employees already have work engagement or job satisfaction, they may just blindly follow leaders, no matter what style they have. According to the research of Cetin and Kinik (2015) and Boamah *et al.* (2018), they pointed out that, there is four dimensions of transformational leadership, they are idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. That means transformational leadership style leaders lead employees or followers to achieve visions or goals through their influence, motivation, stimulation and followers' thinking, not just blindly following. But the effect of leaders' influence, motivation and stimulation depend on employees' fit, such as person-organization fit and person-supervisor fit. So, it is interesting to test whether there is a mediating role of person-organization fit and person-supervisor fit toward the relationship between transformational leadership and employees' creative behavior in Chinese real estate industry.

Klaic *et al.* (2018) explained that person-supervisor fit as attitudinal compatibility between supervisors and their subordinates, and it was developed from person-environment fit theory and central stress theory in work and organizational psychology. And they also pointed out the positive relationship between transformational leadership and person-supervisor fit, and then, person-supervisor fit will increase the performance of employees and creative behavior. Those employees with high levels of person-supervisor fit, normally have higher satisfaction and well-being work with transformational leader, and then results with high perceived leader effectiveness and high group effectiveness. So, researcher assume that there is a mediating effect for person-supervisor fit between transformational leadership and employees' creative behavior in real estate companies.

Then, Kwon and Kang (2019) informed the importance of person-organization fit and person-supervisor fit toward employees in one organization, they found there is a positive relationship between job performance and person-organization fit, and person-supervisor fit. Then, Chi and Pan (2012) and Chen *et al.* (2020) informed the relationship between transformational leadership and person-organization fit. They described person-organization fit as the compatibility between employees and organizations, organization and employees can satisfy each other needs or share similar fundamental characteristics such as values, beliefs and goals. They also pointed out that, if there is no similar value, beliefs and goals between employees and organization, organization may not recruit those employees, or it is easy for those employees to leave the organization, and those employees also will not follow the leaders with any leadership style.

To conclude, many researchers talked about the relationship between transformational leadership and employees' performance, but very limited researchers talked about the relationship between transformational leadership and employees' creative behavior which as a very important part of employees' performance, and no researcher applied those factors on real estate industry. And it is also important applied person-organization fit and person-supervisor fit as mediator between transformational leadership and employees' creative behavior, that means there should some thinking before employees follow leaders not just blindly follow in real estate industry.

## RESEARCH METHODS

In this study, researchers used the methodology of quantitative methods to obtain data and results. Quantitative research method is by generating a digital or any data or can be converted to the available statistical methods to quantify the problem, and quantitative data collection method is more structured than qualitative data collection method. The researchers chose a survey method to collect data from respondents. Survey is a research method, the researchers used questionnaires to get the data of respondents to know their views and attitudes. To collect data, the researchers designed a questionnaire, and distributed them to the employees of at different levels of the real estate companies randomly.

The questionnaire includes 20 questions, respondents need to write their manager's age, gender and education level, and then, they need to answer a list questions about their managers' transformational leadership level, and those respondents' person-organization fit level, person-supervisor fit level and creative behavior level. All of the questions (excepted demographic questions) are used as 5-Likert scale questions from strongly disagree to strong agree for all respondents. All of the data is collected and then analyzed by researcher.

*Table 1: The Results of Demographic Factors*

Questionnaire	
Subjects	Options
Manager's Gender	Male
	Female
Manager's Age	Less than 30 years old
	30-40 years old
	41-50 years old
	51-60 years old
	More than 60 years old
Manager's Education Level	Lower than Bachelor Degree
	Bachelor Degree
	Master Degree
	PhD Degree
Transformational Leadership 1	My manager have much attention and passion to finish the goal.
Transformational Leadership 2	My manager have ability to explain the mission and vision of our company and to encourage subordinates to finish work.
Transformational Leadership 3	My manager have courage, confidence and ability to finish the goal.
Transformational Leadership 4	My manager have ability to express what she/he want.
Creative Behavior 1	I can use creative ways to finish my work.
Creative Behavior 2	I have a systematic way to using creative behavior.
Creative Behavior 3	I can evaluate the efficiency and effectiveness of my practical creation idea.
Person-Organization Fit 1	I have similar value and culture compare with my company.
Person-Organization Fit 2	I can get what I want from my work.
Person-Organization Fit 3	I have enough ability, training and experience to finish my work in my company.
Person-Organization Fit 4	The things and works, what I think is important, is also important for my company.
Person-Organization Fit 5	I have good fit with my company.

Person-Supervisor Fit 1	I have similar characteristics and value compare with my manager.
Person-Supervisor Fit 2	My manager can satisfy my needs.
Person-Supervisor Fit 3	I have enough ability and experience to finish the work what manager assigned to me.
Person-Supervisor Fit 4	I can cooperate with my manager perfectly during work.
Person-Supervisor Fit 5	I can understand what my manager want during work.

Researcher used convenient sampling method to distributed questionnaire to different Chinese real estate companies' employees online, and then collect those data and run those data through software, and then get the results with following.

## RESULTS

This part aim to answer the results of research questions and hypothesis, including descriptive analysis of demographic data and correlation between each variable. There are 400 employees are answer the questionnaires. There are two sections of this Data analysis and results. The first part is descriptive analysis that analyze the demographic factors such as gender, age and education level. The second part is the regression analysis, and this part analyzes the relationship between each variable. Researchers also use software to test the reliability and validity of each variable in this research analysis. First of all, researchers use descriptive statistical methods to summarize the essential characteristics of all respondents' managers. Frequency and percentage were used to calculate and analyze the sample demographic data. And their managers' information is showed with following.

*Table 2: The Results of Demographic Factors*

Subjects	Options	Frequency	Percent
Manager's Gender	Male	302	75.5%
	Female	98	24.5%
Manager's Age	Less than 30 years old	56	14.0%
	30-40 years old	160	40.0%
	41-50 years old	110	27.5%
	51-60 years old	48	12.0%
	More than 60 years old	26	6.5%
Manager's Education Level	Lower than Bachelor Degree	69	17.2%
	Bachelor Degree	201	55.2%
	Master Degree	97	24.3%
	PhD Degree	33	8.3%

According to table 2, most of the respondents' managers were male (302 people) at 75.5%, and female (98 people) at 24.5%, that means most of the managers are male in Chinese real estate industry. Then, based on table 1, researcher also noticed that the majority of respondents' managers were aged between 31-40 years old, which accounted for 160 people and occupied 40.0% of total sample. Then, 110 respondents' managers (occupied 27.5%) who was aged between 41-50 years old, 56 respondents' managers (occupied 14.0%) who was aged less than 30 years old. Only 48 respondents' managers (occupied 12.0%) was aged between 51-60 years old and 26 respondents' managers (occupied 6.5%) more than 60 years old. That means, in today's Chinese real estate industry, the managers are normally young, and most of them are aged between 30-50

years old. The last but not the least, researcher also found that most of the respondents' managers education level is Bachelor Degree and they (201 people) occupied 55.2% of total sample. And researcher also found 24.3% (97) people have Master Degree and 8.3% (33) people have PhD Degree, other respondents' managers have education level less than Bachelor Degree, those respondent have 69 people (occupied 17.2%) in total target sample. That means, there are many respondents' managers own enough knowledge with high education level (Bachelor Degree or higher degree) to face more serious situation of Chinese real estate industry.

And then, researcher tested the reliability and validity of those data, this data past reliability and validity test, and then researcher analysis whether different demographic respondents' managers have difference transformational leadership level, and then analyze the relationship between each variable with following.

*Table 3: The t Test of Different Gender's Managers toward Transformational Leadership*

Subjects	Options	M	SD
Transformational Leadership	Male	4.93	0.18
	Female	4.85	0.27
t	2.92		
p	0.004		

Based on table 3, researcher found that the mean the level of transformational leadership for male managers is 4.93 and for female managers is 4.85, and the p-value is less than 0.05, that means there is a significant difference between male managers and female managers toward transformational leadership in Chinese real estate companies. The reason maybe that male manager has much attention and passion to change, but female manager maybe not aggressive like male manager who have more enterprise and want more follower to change current situation, the detail will be discussed in the end.

*Table 4: The ANOVA Test of Different Age and Education Level Managers Toward Transformational Leadership*

Subjects	Options	M	SD
Transformational Leadership	Less than 30 years old	4.98	0.11
	30-40 years old	4.94	0.18
	41-50 years old	4.89	0.23
	51-60 years old	4.93	0.19
	More than 60 years old	4.71	0.33
F Value	8.601		
p	0.000		

Based on table 4, researcher found that the mean level of transformational leadership for different age manager is different, those managers who are aged less than 30 years old have highest level of transformational leadership, those managers who are aged more than 60 years old have lowest level of transformational leadership, and the p value is less than 0.05, F value is 8.601, that means there is a significant difference between different age managers toward transformational leadership in Chinese real estate companies. The reason maybe that young manager have much attention and passion to change, but older manager maybe just to maintain current status of company, the detail will be discussed in the end.

Table 5: The ANOVA Test of Different Age and Education Level Managers Toward Transformational Leadership

Transformational Leadership	Lower than Bachelor Degree	4.91	0.21
	Bachelor Degree	4.9	0.23
	Master Degree	4.92	0.17
	PhD Degree	4.92	0.21
F Value	0.852		
p	0.466		

Then, according to table 5, researcher found that there is no significant difference between different education level managers' transformational leadership style toward their subordinates perception, because the p value is higher than 0.05. That means subordinate perceived different education level managers' transformational leadership style is same in Chinese real estate companies. The higher education level cannot bring higher level transformational leadership.

Table 6: The Relationship between Each Variables

	Transformational Leadership	Person-organization Fit	Person-supervisor Fit	Creative Behavior
Transformational Leadership	1	/	/	/
Person-organization Fit	0.727***	1	/	/
Person-supervisor Fit	0.512***	/	1	/
Creative Behavior	0.464***	0.403***	0.359***	1

\*\*\* : P<0.001

Based on table 6, researcher found that there is a significant relationship between all of the variable. There is a significant strong relationship between managers' transformational leadership level and employees' person-organization fit level, because the number is 0.727 (p<0.001). Researcher also found that there is a significant relationship between managers' transformational leadership level and employees' person-supervisor fit level, because the number is 0.512 (p<0.001), and there is a significant relationship between managers' transformational leadership level and employees' creative behavior level, because the number is 0.464 (p<0.001). Then, there is also a significant relationship between employees' person-organization fit and their creative behavior level, the number is 0.403 (p<0.001); and there is a significant relationship between employees' person-supervisor fit level and their creative behavior level, the number is 0.359 (p<0.001). So researcher can continue to check whether employees' person-supervisor fit and person-organization fit play a mediating role between managers' transformational leadership and employees' creative behavior.

Table 7: The Test of the Mediating Role of Person-organization Fit

	Model 1 Creative Behavior	Model 2 Person-organization Fit	Model 3 Creative Behavior	Model 4 Creative Behavior
	$\beta$	$\beta$	$\beta$	$\beta$
Transformational Leadership	0.466***	0.727***		0.366***
Person-organization Fit			0.403***	0.138**

$R^2$	0.466	0.727	0.403	0.475
Adjusted $R^2$	0.217	0.528	0.103	0.226
$F$	110.231***	444.933***	77.305***	57.901***

\*\*\* :  $P < 0.001$ ; \*\* :  $P < 0.05$

According to table 7, researcher used regression analysis to analyze the relationship between transformational leadership of managers and person-organization fit of employees, and there relationship between transformational leadership and creative behavior, the data also proved that there is a significant positive relationship between transformational leadership and creative behavior, and person-organization fit is playing a mediating role between transformational leadership and creative behavior. Because according to table 7, researcher found that after combined with person-organization fit, the relationship between transformational leadership and creative behavior is changed from 0.466 to 0.366, and the relationship is significant ( $P < 0.001$ ). Then, researcher continue check the mediating role of person-supervisor fit with following.

*Table 8: The Test of the Mediating Role of Person-supervisor Fit*

	Model 1 Creative Behavior	Model 2 Person- supervisor Fit	Model 3 Creative Behavior	Model 4 Creative Behavior
	$\beta$	$\beta$	$\beta$	$\beta$
Transformational Leadership	0.466***	0.512***		0.382***
Person- supervisor Fit			0.359***	0.164**
$R^2$	0.466	0.512	0.359	0.487
Adjusted $R^2$	0.217	0.262	0.129	0.237
$F$	110.231***	141.054***	59.020***	61.577***

\*\*\* :  $P < 0.001$ ; \*\* :  $P < 0.05$

According to table 8, researcher used regression analysis to analyze the relationship between transformational leadership and person-supervisor fit, and their relationship between transformational leadership and creative behavior, the data also proved that there is a significant positive relationship between transformational leadership and creative behavior, and person-supervisor fit is playing a mediating role between transformational leadership and creative behavior. Because according to table 8, researcher found that after combined with person-supervisor fit, the relationship between transformational leadership and creative behavior is changed from 0.466 to 0.382, and the relationship is significant ( $P < 0.001$ ).

## DISCUSSION

Based on above results, researcher found that, in Chinese real estate industry, there is a significant difference between male managers and female managers toward transformational leadership style. That means in Chinese real estate industry, subordinate perceived different gender's transformational leadership style differently, and those subordinate perceived male manager have higher transformational leadership level than female manager. According to Alghamdi et al. (2018), they pointed out that male subordinate may perceived female managers transformational leadership style weaker than male manager. As we know, in Chinese real estate industry, the majority worker is male, many of them may not perceived so strong toward female managers'

transformational leadership style. Then, Munir and Aboidullah (2018) also pointed out that, female managers are more affectionate and emotional expressive with more consideration structure than initiating structure, that cause subordinate perceived less transformational leadership style from female managers. Then, this research also found that there is a significant difference between different age managers toward transformational leadership in Chinese real estate companies. The reason maybe that young manager have much attention and passion to change, but older manager maybe just to maintain current status of company. This idea was supported by Khan *et al.* (2020) and Antonopoulou *et al.* (2021), they indicated that older managers have more experience, they prefer to follow their experience, not change. And they also informed that, different age managers have different learning speed capabilities, recognition of knowledge value and the ability of taking external knowledge resources. So, those factors may cause different age managers have different ability to use transformational leadership style and their innovation ability also will affect the perception of their subordinates' perception toward their transformational leadership style. What's more, this research also found that there is no significant difference between different education level managers' transformational leadership style toward their subordinates perception. According to Cetin and Kinik (2015), Le *et al.* (2018) and Top *et al.* (2020), they pointed out that some industries may not focus on education level too much, unlike other creative industries, real estate industry focus on experience, professional knowledge and leadership style, more than education level. In real estate industry, PhD degree managers cannot guarantee that they must always perform better than bachelor degree managers, and subordinates also may perceived their transformational leadership style based on their work style and communication ability, not degree.

Then, researcher also found that there is is a significant relationship between managers' transformational leadership and employees' creative behavior. This results supported the idea of Herman and Chiu (2014), Mahmood *et al.* (2019), Azim *et al.* (2019), Buil *et al.* (2019) and Top *et al.* (2020). As one of the most import part of employees' performance, Chinese real estate industry need creative behavior, transformational leadership managers also can help employees to follow them to do innovative work, and then save their companies. In the end, researcher also found that there is a significant relationship between all variables. And person-organization fit and person-supervisor fit is playing a mediating role between transformational leadership and creative behavior. According to Buil *et al.* (2019), Klaic *et al.* (2018) and Lai *et al.* (2020), they found that, employees will not just blindly follow managers to change and achieve one goal and vision, they may think first and then follow. In Chinese real estate industry, employees have their own self-identity, if manager want their subordinates follow them and achieve good results, they need to make sure their subordinates have similar group identification, self-categorization and self-identification with them, and they also need to make sure those subordinates have good person-organization fit and person-supervisor fit, those subordinates need to know how to follow their managers' transformational leadership style and then achieve success.

## CONCLUSION

Housing system reform since 1998, the housing industry of our country grows vigorously, output and prices rose sharply, the real estate market has become an important engine fuel economic growth. However, withe change of Chinese macro policy and Chinese consumption view toward real estate, Chinese real estate industry facing more challenge than before. At the meantime, the facing of serious cash shortages motivates

many Chinese real estate companies to change, and it also increase the requirement of transformational leadership style leader.

This researcher aims to use a survey way to find the relationship between transformational leadership and creative behavior of employees, and also found the mediating role of person-organization fit and person-supervisor fit. What's more, researcher also found that different demographic factors such as gender and age has significant effect on transformational leadership style of managers toward subordinates perception, and there is no significant difference between different education level managers' transformational leadership style toward their subordinates perception.

For future research, researcher can apply transformational leadership style to different industries, and compare their difference. Then, they also can find more factors which may affect or be affected by transformational leadership style, and try to find how transformational leadership style deeply affect the performance of different kind employees and companies at different industries.

### ACKNOWLEDGMENT

I want to thank a lot of people who really helped me with this personal research. The first person I want to thank is my tutor. Without his help, I don't think I could have accomplished this research successfully. Without his advice, I can't get a lot of knowledge in my research. Also, thank you all help me in a limited time to complete the questionnaire survey of respondents. Without their help, I might spend more time doing research. I'd like to express my thanks to all the other people who want to get some advice and my research.

### REFERENCES

- Alghamdi, M. G., Topp, R., & AlYami, M. S. (2018). The effect of gender on transformational leadership and job satisfaction among Saudi nurses. *Journal of Advanced Nursing*, 74(1), 119-127.
- Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021). Transformational leadership and digital skills in higher education institutes: during the COVID-19 pandemic. *Emerging Science Journal*, 5(1), 1-15.
- Azim, M.T., Fan, L., Uddin, M.A., Abdul Kader Jilani, M.M. and Begum, S. (2019), Linking transformational leadership with employees' engagement in the creative process, *Management Research Review*, 42(7), 837-858.
- Boamah, S. A., Laschinger, H. K. S., Wong, C., & Clarke, S. (2018). Effect of transformational leadership on job satisfaction and patient safety outcomes. *Nursing Outlook*, 66(2), 180-189.
- Buil, I., Martínez, E., & Matute, J. (2019). Transformational leadership and employee performance: The role of identification, engagement and proactive personality. *International Journal of Hospitality Management*, 77, 64-75.
- Cetin, M. O., & Kinik, F. S. F. (2015). An analysis of academic leadership behavior from the perspective of transformational leadership. *Procedia-Social and Behavioral Sciences*, 207, 519-527.

- Chi, N. W., & Pan, S. Y. (2012). A multilevel investigation of missing links between transformational leadership and task performance: The mediating roles of perceived person-job fit and person-organization fit. *Journal of Business and Psychology*, 27(1), 43-56.
- Chen, C., Yu, C., & Zhang, Y. (2020). The Transformational Leadership of Water-Intensive Enterprises to Social Loafing: The Mediating Role of Person-Organization Fit. *Journal of Coastal Research*, 104(SI), 940-944.
- Herman, H. M., & Chiu, W. C. (2014). Transformational leadership and job performance: A social identity perspective. *Journal of Business Research*, 67(1), 2827-2835.
- Hogg, M. A. (2001). A social identity theory of leadership. *Personality and social psychology review*, 5(3), 184-200.
- Hou, J. (2021). The Evaluation of the Health of Chinese Real Estate Market: Empirical Research based on index clustering and AHP. In *Proceedings of the 2021 International Conference on Control and Intelligent Robotics*.  
<https://doi.org/10.1145/3473714.3473845>
- Huileng, T. (Ed.) (2021), *It's not just Evergrande, Smaller Chinese real estate developers are also wobbling as the cash crunch spreads*.  
<https://www.businessinsider.com/evergrande-crisis-other-china-property-developers-in-trouble-outlook-2021-12>
- Khan, A., Bibi, S., Lyu, J., Garavelli, A. C., Pontrandolfo, P., & Perez Sanchez, M. D. A. (2020). Uncovering innovativeness in spanish tourism firms: The role of transformational leadership, OCB, firm size, and age. *Sustainability*, 12(10), 3989.
- Klaic, A., Burtscher, M. J., & Jonas, K. (2018). Person-supervisor fit, needs-supplies fit, and team fit as mediators of the relationship between dual-focused transformational leadership and well-being in scientific teams. *European Journal of Work and Organizational Psychology*, 27(5), 669-682.
- Kwon, J. O., & Kang, J. M. (2019). The Effect of Person-Environment Fit (Person-Job Fit, Person-Organization Fit, Person-Supervisor Fit) and Job Embeddedness on Turnover Intention in Clinical Nurses'. *Journal of the Korea Convergence Society*, 10(3), 307-317.
- Lai, F. Y., Tang, H. C., Lu, S. C., Lee, Y. C., & Lin, C. C. (2020). Transformational leadership and job performance: the mediating role of work engagement. *SAGE Open*, 10(1), 1-11.
- Le, B. P., Lei, H., Phouvong, S., Than, T. S., Nguyen, T. M. A., & Gong, J. (2018). Self-efficacy and optimism mediate the relationship between transformational leadership and knowledge sharing. *Social Behavior and Personality: an International Journal*, 46(11), 1833-1846.
- Mahmood, M., Uddin, M.A. and Fan, L. (2019), The influence of transformational leadership on employees' creative process engagement: A multi-level analysis, *Management Decision*, 57(3), 741-764.

- Munir, F., & Aboidullah, M. (2018). Gender Differences in Transformational Leadership Behaviors of School Principals and Teachers' Academic Effectiveness. *Bulletin of Education and Research*, 40(1), 99-113.
- Qu, G. (2021). *Analyzing the Trend of Chinese Real Estate Under the Epidemic Era by Comparing the Real Estate Markets Between China and Japan*. In 6th International Conference on Financial Innovation and Economic Development (ICFIED 2021).  
<https://doi.org/10.1177%2F2158244019899085>
- Top, C., Abdullah, B. M. S., & Faraj, A. H. M. (2020). Transformational leadership impact on employees performance. *Eurasian Journal of Management & Social Sciences*, 1(1), 49-59.
- Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021). Transformational leadership and digital skills in higher education institutes: during the COVID-19 pandemic. *Emerging Science Journal*, 5(1), 1-15.
- Azim, M.T., Fan, L., Uddin, M.A., Abdul Kader Jilani, M.M. and Begum, S. (2019), Linking transformational leadership with employees' engagement in the creative process, *Management Research Review*, 42(7), 837-858.
- Boamah, S. A., Laschinger, H. K. S., Wong, C., & Clarke, S. (2018). Effect of transformational leadership on job satisfaction and patient safety outcomes. *Nursing Outlook*, 66(2), 180-189.
- Buil, I., Martínez, E., & Matute, J. (2019). Transformational leadership and employee performance: The role of identification, engagement and proactive personality. *International Journal of Hospitality Management*, 77, 64-75.
- Cetin, M. O., & Kinik, F. S. F. (2015). An analysis of academic leadership behavior from the perspective of transformational leadership. *Procedia-Social and Behavioral Sciences*, 207, 519-527.
- Chi, N. W., & Pan, S. Y. (2012). A multilevel investigation of missing links between transformational leadership and task performance: The mediating roles of perceived person-job fit and person-organization fit. *Journal of Business and Psychology*, 27(1), 43-56.
- Chen, C., Yu, C., & Zhang, Y. (2020). The Transformational Leadership of Water-Intensive Enterprises to Social Loafing: The Mediating Role of Person-Organization Fit. *Journal of Coastal Research*, 104(SI), 940-944.
- Herman, H. M., & Chiu, W. C. (2014). Transformational leadership and job performance: A social identity perspective. *Journal of Business Research*, 67(1), 2827-2835.
- Hogg, M. A. (2001). A social identity theory of leadership. *Personality and social psychology review*, 5(3), 184-200.
- Hou, J. (2021). The Evaluation of the Health of Chinese Real Estate Market: Empirical Research based on index clustering and AHP. In *Proceedings of the 2021 International Conference on Control and Intelligent Robotics*.  
<https://doi.org/10.1145/3473714.3473845>
- Huileng, T. (Ed.) (2021), *It's not just Evergrande, Smaller Chinese real estate developers are also wobbling as the cash crunch spreads*.

<https://www.businessinsider.com/evergrande-crisis-other-china-property-developers-in-trouble-outlook-2021-12>

- Khan, A., Bibi, S., Lyu, J., Garavelli, A. C., Pontrandolfo, P., & Perez Sanchez, M. D. A. (2020). Uncovering innovativeness in spanish tourism firms: The role of transformational leadership, OCB, firm size, and age. *Sustainability*, 12(10), 3989.
- Klaic, A., Burtscher, M. J., & Jonas, K. (2018). Person-supervisor fit, needs-supplies fit, and team fit as mediators of the relationship between dual-focused transformational leadership and well-being in scientific teams. *European Journal of Work and Organizational Psychology*, 27(5), 669-682.
- Kwon, J. O., & Kang, J. M. (2019). The Effect of Person-Environment Fit (Person-Job Fit, Person-Organization Fit, Person-Supervisor Fit) and Job Embeddedness on Turnover Intention in Clinical Nurses'. *Journal of the Korea Convergence Society*, 10(3), 307-317.
- Lai, F. Y., Tang, H. C., Lu, S. C., Lee, Y. C., & Lin, C. C. (2020). Transformational leadership and job performance: the mediating role of work engagement. *SAGE Open*, 10(1), 1-11.
- Le, B. P., Lei, H., Phouvong, S., Than, T. S., Nguyen, T. M. A., & Gong, J. (2018). Self-efficacy and optimism mediate the relationship between transformational leadership and knowledge sharing. *Social Behavior and Personality: an International Journal*, 46(11), 1833-1846.
- Mahmood, M., Uddin, M.A. and Fan, L. (2019), The influence of transformational leadership on employees' creative process engagement: A multi-level analysis, *Management Decision*, 57(3), 741-764.
- Munir, F., & Aboidullah, M. (2018). Gender Differences in Transformational Leadership Behaviors of School Principals and Teachers' Academic Effectiveness. *Bulletin of Education and Research*, 40(1), 99-113.
- Qu, G. (2021). *Analyzing the Trend of Chinese Real Estate Under the Epidemic Era by Comparing the Real Estate Markets Between China and Japan*. In 6th International Conference on Financial Innovation and Economic Development (ICFIED 2021).  
<https://doi.org/10.1177%2F2158244019899085>
- Top, C., Abdullah, B. M. S., & Faraj, A. H. M. (2020). Transformational leadership impact on employees performance. *Eurasian Journal of Management & Social Sciences*, 1(1), 49-59.

# RESEARCH ON THE NEW MOTIVATION OF THE PUBLIC TO CHOOSE RELIGIOUS TOURISM DESTINATION

ZHENYANG LYU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 39138392@qq.com*

## ABSTRACT

China's tourism market has continued to grow rapidly year after year, which has effectively promoted economic development, among which religious tourism has made a lot of contributions. This study discusses the impact of religious tourism motivation on behavior, and puts forward a regression model of intermediary variable to investigate the impact of nostalgia as an intermediary variable on the model. The study used the questionnaire survey to facilitate the sample of the tourist official account reader, and got 643 valid samples. The research tools include the adapted religious tourism motivation and behavior questionnaire and the nostalgia scale. Results: (1) exploratory factor analysis was used to reconstruct the five dimensional motivation model. (2) Correlation analysis and regression analysis are used to analyze the whole model. The results show that sacred experience, learning and exploration, leisure and adventure hunting have a positive and significant impact on religious tourism behavior, divine protection has a negative and significant impact on religious tourism behavior, and social emotion has no significant impact on religious tourism behavior. (3) Nostalgia has some mediating effects in the impact of leisure hunting on religious tourism behavior.

**Keywords:** Regression analysis; Leisure hunting; Divine experience; Learning and exploration;

## INTRODUCTION

### 1.1 definition of religious tourism

In terms of behavior, religious tourism has existed since ancient times. However, the academic research on religious tourism began in the 1970s. In the early research, religion and tourism are opposite concepts, and they are contrary in activities, concepts and rules: tourism is a secular activity for the purpose of enjoying happiness, pursuing happiness and satisfying happiness. Religion needs to find a secluded place to communicate with gods and carry out sacred acts of faith activities. Religion often needs to abide by established rituals and ordinances, which is a relatively rigorous activity. Tourism on the contrary, more emphasis on self pleasure, unrestricted.

Therefore, when religion and tourism are combined, religious tourism pays more attention to the purpose of "religion", Carry out an ancient (Gaoke, 2009) tourism activity aimed at pilgrimage, seeking the law (Bao Jigang et al., 1996) and Preaching (song Yunfei et al., 2006; Hu baicui, 2008). The earliest religious tourism model is large-scale tourism, that is, a large-scale tourism activity aimed at preaching and spreading its religious ideas from Europe (Brodsky, 1981).

However, the opposition between religion and tourism was denied by Dean MacCannell (1973) in 1973. He believes that tourists usually have a psychological state of "love" and "respect" when viewing "tourism attractions". This can be called a pious worship trip by a "secular pilgrim".

Turner (1978) further supports this view and believes that every tourist is a tourist and pilgrim "common existence" (if a pilgrim is half a tourist). The Vatican Holy See also gives a specific definition of "religious tourism" "In the area under its jurisdiction, all religious tourist attractions related to faith, regardless of their size, provide services for religious or non religious visitors or related persons, which belong to religious tourism."

Different scholars give theoretical definitions of religious tourism from different directions and angles. Rinschede (1992) was the first to pay attention to and give a specific definition of religious tourism. He has a more complex definition. He believes that religious tourism is "a tourism model that can be inclusive with other tourism types, such as cultural tourism", and "a multi-functional tourism activity. In ancient times, religion was mainly used, while in modern times, religious motivation was weakened" 。 He defined religious tourism from the time dimension, and believed that it could be a one-day tour to the nearest religious places, or a long-term religious tourism model for a few days to a few weeks to go to religious places at home and abroad. For example, at present, the Buddhist worship groups that travel to Buddhist resorts in India last for several weeks.

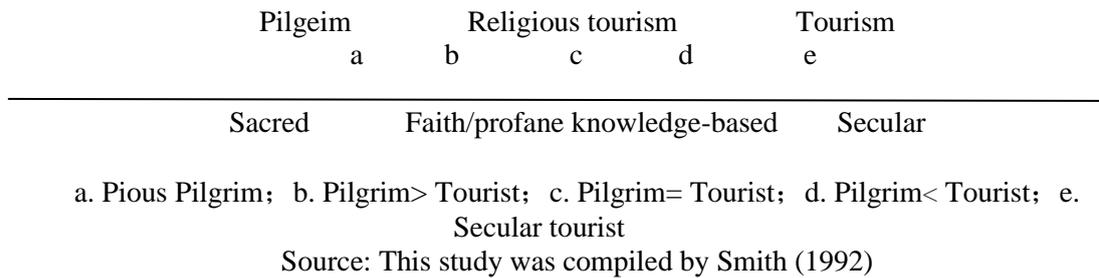
China's research on religious tourism began in 1986, marked by the papers published by Chen Chuankang and Xu Junliang. Two years later, he published a paper again to discuss the formulation of reasonable policies and measures to implement religious tourism. Unfortunately, he did not give his own definition of religious tourism. Since then, Chinese scholars have conducted long-term and in-depth research for more than 30 years.

According to the comprehensive literature of this study, religious tourism is a kind of religious pilgrimage for religious believers to worship and seek law, or leisure sightseeing for non religious believers to religious places, or both, and a series of activities to visit, study, participate, watch and relax religious places, religious buildings and religious landscapes.

## **1.2 motivation of religious tourism**

To explore the motivation of religious tourism, Smith can't be bypassed in any case. In 1992, he gave a route map of religious tourists to distinguish the types of religious tourists, Namely, the pilgrim tour path 28. He believes that in religious tourism, there is no clear dividing point between religious believers and non religious believers. Therefore, many tourists to religious places are located between point B and point D (see Figure1). Most tourists, whether believers or non believers, will go to religious places for leisure and sightseeing with a kind of reverence and admiration. They want to learn more knowledge and understand more culture. It doesn't matter whether respect and admiration is more than learning knowledge, or the latter is better than the former, in Smith In the theory of (1992), both can be regarded as religious tourists, while pilgrims at point a and pure tourists at point C can not be regarded as religious tourists in the general sense.

**Figure 1 Pilgrim Tour Route**



Collins Kreiner and Klot (2000) 30 conducted more in-depth research on the basis of Smith and believed that the two-dimensional theoretical structure of "the pilgrim tour path" was not enough to show the whole picture of religious tourism. They gave a new theoretical framework and divided it into five dimensions according to sacred and secular, tourism and Pilgrimage.

Smith (1992), Collins Kreiner and Klot (2000) is of great significance. Through the classification of religious tourists, they creatively divided the sacred and secular dimensions of religious tourists, that is, the difference between spiritual and material. Therefore, they provided a theoretical basis for further research on the public's motivation to choose religious tourism destinations. With the development of the times, more and more Chinese and foreign scholars began to focus on religion. The classification of tourists and the development of religious tourism products turn to the study of religious tourism motivation. (see Table 1)

Table 1 Classification of Religious Tourism Motivation by Different Students

scholar	Religious tourism motivation
Clift, J. D., & Clift, W. B. (1996)	Pray, study, fulfill vows, curiosity, enjoy scenery, enjoy vacation and social development
Collins- Kreiner N, Klot N (2000)	Understand the Bible, enhance religious belief, strengthen personal belief and increase religious knowledge
Huang Zongcheng, Shen Chengli, Weng tingshuo (2002)	Novelty, leisure, social, history, religious mind, religious interests
Wickens (2002)	Passenger's family environment
Yaniv Poria, Arie Reichel, Avital Biran. (2006)	Self learning, leisure participation, family gathering
Yeh S S, Ryan C, Liu G (2009)	Religious belief, noisy escape, leisure and relaxation, social intercourse, self-learning
Andriotis, K. (2009)	Spiritual motivation, cultural motivation, environmental motivation, secular motivation and educational motivation
Hyde, Harman (2011)	Patriotism, family reasons, friendship, spirituality, travel

Sharpley , Jepson (2011)	Spiritual, lonely, quiet, remote
Luo Jining, Zhao Yufei (2015)	Curiosity, study, leisure and relaxation, social emotion, spiritual conversion, divine asylum
Zhou houqiang, Li Lihua, he changjuan (2017)	Self exploration, sightseeing and curiosity, strengthening contact, leisure and relaxation, sacred transcendence
Zhang Yunzhen (2017)	Religious spiritual experience, leisure and relaxation, religious belief pursuit, attraction of human resources, others
Chen Rong, Ma Yaofeng, Ma Yongping (2019)	Religious culture, religious buildings, religious legends, religious celebrities, religious activities, religious buildings

*Source: This study*

## 2. Research framework

Based on the literature review, this study discusses the new motivation of the public to choose religious tourism. This study draws the research framework based on the "secular sacred" continuous flow of Smith (1992) and the "classification of pilgrims and tourists" proposed by Collins Kreiner and kilot (2000), synthesizes the classification of religious tourism motivation by many scholars, and extracts the relevant motivation as the research scale of this paper.

This study takes the attention of the WeChat official account of "the old dream of mountain river" as the parent sample, and makes convenient sampling. The official account of the old dream of the mountain river mainly introduces the introduction and travel notes of various religious sites, all of which are concerned about religious tourism or related interests. In addition, samples from Hong Kong, Macao and Taiwan were obtained by snowball sampling. The official account ended November 1, 2019 with a total of 6276 people. The distribution of various population data is as follows:

Gender: 4152 males, accounting for 66.16%; 2124 women, accounting for 33.84%

Age: 262862 people aged from to 35, accounting for 45.60%; 1349 people aged 36 to 45, accounting for 21.49%; 1277 people aged 18 to 25, accounting for 20.35%; 674 people aged 46 to 60, accounting for 10.74%; 67 people over 60 years old, accounting for 1.07%; 47 people under the age of 18, accounting for 0.70%; 3 unknown, accounting for 0.05%.

In terms of regional ownership, the seven provinces and cities in Beijing, Shanghai, Guangdong, Jiangsu, Zhejiang, Sichuan and Henan are at the forefront. Accounting for 16.59%, 10.01%, 9.83%, 7.93%, 6.95%, 6.26% and 4.88% respectively.

In October 3rd, 2019, the official account of Shan River old dream was taken as the research object. The convenience sampling method was used to conduct pre research. 50 questionnaires were sent out by questionnaires, 50 questionnaires were collected, 3 invalid questionnaires were excluded, and 47 effective samples were obtained.

After the pre survey questionnaire is collected, all the collected effective questionnaires are sorted and analyzed by spss210 software to analyze the reliability of the questionnaire. Cronbach's  $\alpha$  is 0.926, which indicates that it is very trustworthy, has

the conditions for large-scale questionnaire distribution, and can carry out the next research work.

### 3. Analysis of research results

In this study, 650 questionnaires were sent out and 650 questionnaires were recovered. The recovery rate was 100%. After deducting 7 invalid questionnaires, a total of 643 valid questionnaires were obtained. The valid questionnaire data obtained in this study are based on spss210 statistical software to sort out and analyze the work, and study and discuss it.

#### 3.1 Descriptive demographic analysis

*Table 1 Descriptive Statistics of Population*

		frequency	percentage	Effective percentage	Cumulative percentage
Gender	male	370	57.5	57.5	57.5
	female	273	42.5	42.5	100.0
	total	643	100.0	100.0	
age group	18Under years old	4	.6	.6	.6
	18~25	187	29.1	29.1	29.7
	26~30	167	26.0	26.0	55.7
	31~40	170	26.4	26.4	82.1
	41~50	84	13.1	13.1	95.2
	51~60	22	3.4	3.4	98.6
	60above	9	1.4	1.4	100.0
	total	643	100.0	100.0	
Education level	High school and below	19	3.0	3.0	3.0
	College	86	13.4	13.4	16.3
	undergraduate college	338	52.6	52.6	68.9
	Master's degree	157	24.4	24.4	93.3
	Doctoral candidate	43	6.7	6.7	100.0
	total	643	100.0	100.0	
occupation	civil servant	26	4.0	4.0	4.0
	Management personnel of enterprises and institutions	93	14.5	14.5	18.5
	Professional technicians	151	23.5	23.5	42.0
	Private owners and self-employed	34	5.3	5.3	47.3
	worker	12	1.9	1.9	49.1
	farmer	2	.3	.3	49.5
	student	159	24.7	24.7	74.2
	retired personnel	18	2.8	2.8	77.0
	Service or sales personnel	29	4.5	4.5	81.5
	other	119	18.5	18.5	100.0
	total	643	100.0	100.0	

monthly income	2000Below yuan	136	21.2	21.2	21.2
	2000-4000 yuan	72	11.2	11.2	32.3
	4000-7000 yuan	123	19.1	19.1	51.5
	7000-10000 yuan	108	16.8	16.8	68.3
	10000More than yuan	204	31.7	31.7	100.0
	total	643	100.0	100.0	

Source: This study

(1) Gender: According to the gender frequency distribution table 1, among the 643 valid samples, 370 were male, accounting for 57.5%. 273 women, accounting for 42.5%. According to the data released by the National Bureau of statistics of China on January 21, 2019 on xinhuanet.com, by the end of 2018, from the perspective of gender structure, the male population was 713.51 million and the female population was 681.87 million, and the total gender ratio of the population was 104.64 (taking women as 100). The male population was larger than women, and the valid samples obtained in this survey were in line with this distribution.

(2) Age: It can be seen from the frequency distribution table of age groups in the table that under 18 accounts for 0.6%, 18-25 accounts for 29.1%, 26-30 accounts for 26.0%, 31-40 accounts for 26.4%, 41-50 accounts for 13.1%, 51-60 accounts for 3.4%, and over 60 accounts for 1.4%. The data show that religious tourism behavior is mainly distributed in the youth and adults over the age of 18 and under the age of 40. Gradually decrease over the age of 41. In January this year, China tourism consumption big data report (2018) released by China Tourism Research Institute (data center of the Ministry of culture and Tourism) It shows that among the tourism consumers, men pay more than women, the Post-70s and post-80s are the main consumers, and the number of post-90s is growing rapidly. In terms of the amount of tourism consumption, the post-80s men have the highest contribution to tourism consumption, accounting for more than 25%. The results of this survey are roughly consistent with the above data, indicating that religious tourism, as a part of tourism, is still welcomed by young and middle-aged groups.

(3) Education level: It can be seen from the data table that senior high school and below account for 3.0%, junior college accounts for 13.4%, undergraduate accounts for 52.6%, master's students account for 24.4% and doctoral students account for 6.7%. The survey results show that most religious tourism behaviors are distributed in undergraduate education, accounting for as much as half. The proportion of highly educated people is large, and the proportion of master's degree or above accounts for 31.1%, indicating that the higher the education, the higher the demand for religious tourism.

(4) Occupation: in the frequency table of occupational classification, it shows that the occupations with the most distribution are professional technicians and students, accounting for 23.5% and 24.7% respectively, accounting for nearly half of the total occupational classification. The second is other personnel who are inconvenient to classify.

(5) Monthly income: In the distribution table of monthly income, the proportion of more than 10000 yuan accounts for 31.7%, which is roughly consistent with the regional distribution of data sources, indicating that the more developed the economy, the higher the income, and the easier it is to choose religious tourism behavior.

(6) Religious belief analysis: In this survey, the distribution of religious beliefs is shown in the figure. From the distribution, non religious beliefs account for 69.67%,

Buddhism accounts for 17.57%, Taoism 3.7%, Christianity 2.64%, Catholicism 0.78%, Islam 2.33% and others 3.73%. According to the "China's policies and practices for safeguarding freedom of religious belief" published by the Information Office of the State Council (white paper of the State Council, 2018) shows that China mainly has religions such as Buddhism, Taoism, Islam, Catholicism and Christianity, and nearly 200 million religious citizens. According to this statistical data, religious citizens account for 14.3% of the total population in China, and 85.7% do not believe in any religion. This survey is in line with this distribution, that is, the vast majority of the population do not believe in any religion. Also, due to this survey The research is a special survey of religious tourism, so the proportion of people who do not believe in any religion will decline slightly, but it still conforms to the factual distribution. The white paper on Chinese religion also shows that Buddhism has the largest number of believers. The survey results also show that Buddhism accounts for the largest proportion, so it is also in line with the factual distribution.

### 3.2 reliability analysis

The reliability of this study was tested by Cronbach's coefficient  $\alpha$  ) As the judgment standard, the judgment standard of reliability coefficient limit proposed by Nunnally (1978) is used,  $\alpha$  A value greater than 0.7 means high internal consistency among items.if  $\alpha$  The value is between 0.35 and 0.7, indicating that the scale developed for the first time still belongs to an acceptable level in exploratory research;But when  $\alpha$  A value less than 0.35 indicates low reliability and should be rejected.

The reliability analysis results of this study are shown in the table. The overall reliability of the effective samples of the questionnaire is 0.93, greater than 0.8, and the reliability of each dimension is greater than 0.7, indicating that the questionnaire and scale of this study have good reliability.

*Table 2 Reliability Analysis of Sample Variables*

Variable name	Variable dimension	Number of measurement questions	Dimension Cronbach's $\alpha$	Variable Cronbach's $\alpha$	Overall Cronbach's $\alpha$
Religious tourism motivation	Sacred faith	4	0.882		0.930
	God bless	3	0.940		
	Pursuit of self	4	0.910		
	Learning exploration	6	0.873	0.919	
	Social emotion	3	0.766		
	Sightseeing and curiosity hunting	5	0.802		

Religious tourism behavior	behavior	3	0.837	0.837
----------------------------------	----------	---	-------	-------

### 3.3 factor analysis

The main purpose of factor analysis is to summarize a few concise information from a large number of data, namely factors. Factor analysis can make the internal relationship between the sample data of each variable, and aggregate the variables with strong internal relationship and similarity. In this study, factor analysis adopts the common practice in academic circles, uses principal component analysis and orthogonal rotation method, and uses spss210 exploratory molecular analysis of the above 31 tourism motivation and behavior measurement items. Statistics show that kmo value is 0.890 (> 0.07), Bartlett's sphericity test is approximate to Chi square 14313.138, and SIG = 0.000 (SIG < 0.05), which shows that this study is suitable for factor analysis.

The statistical results show that there are 7 factors with eigenvalues greater than 1. At the same time, From steep order test and the component map of the rotating space can be seen that the gravel map starts from the seventh factor, and the component map of the rotating space also shows that the same factors are aggregated together. Combined with the eigenvalue and gravel map, seven factors are extracted for orthogonal rotation to obtain the rotating component matrix. Thus, the previously proposed factor dimension is modified and a new re dimension is obtained Construct the dimension scale (see Table 3、4) and rename it.

*Table 3 Rotating Component Moment <sup>a</sup>*

Factor name	Ingredients						
	1	2	3	4	5	6	7
Ego 2	.869						
Self 3	.810						
Ego 1	.793						
Ego 4	.777						
Faith 3	.653						
Faith 2	.614		.449			.323	
Faith 4	.579		.452			.365	
Faith 1	.562		.466			.354	
Learning 2		.849					
Learning 3		.830					
Learning 1		.822					
Learning 4		.742					
Learning 5		.691					
Learning 6		.495		.346			

Gods 2		.890	
Spirit 1		.870	
Gods 3		.867	
Leisure 2	.356		.775
Leisure 1			.755
Leisure 4	.367		.721
Leisure 3			.586
Leisure 5			.569
Satisfaction 2			.880
Satisfied 3			.866
Satisfaction 1		.819	.323
Behavior 2		.335	.761
Behavior 3			.752
Behavior 1			.681
Social 2			.849
Social 1			.794
Social 3	.390		.660

Extraction method: principal component. Rotation method: Kaiser standardized orthogonal rotation method.a. The rotation converges after 8 iterations.

As shown in the table, because the two factors numbered "self 2-3-1-4" and "belief 3-2-4-1" are aggregated together, it shows that "achieve self growth and personal improvement", "find yourself, find yourself, and save a deep understanding of yourself""Looking for spiritual home or unique spiritual experience" and "having a lost feeling in daily life, hoping to think about the meaning of life, the value of existence and better face life" and measuring religious belief are explaining a problem, which is a certain psychological state achieved by the sacred experience of religion,Is a spiritual experience. Therefore, the two dimensions of "sacred belief" and "self pursuit" are combined in the scale and renamed "sacred experience", which is intended to illustrate that the sacred experience in religious places will strengthen the public's travel to religious destinations.

At the same time, because the factor load is less than 0.5, the factor numbered learning 6 "attracted by the mysterious color of religious places" in the learning and exploration dimension is deleted to enhance the explanatory ability of each factor to the whole dimension.

The religious tourism motivation and behavior scale after the reconstruction of dimensions is shown in the table, and Cronbach's  $\alpha$  Coefficient, the value is roughly consistent with the coefficient measured by unconsolidated and deleted factors, and still has high reliability, indicating that the conclusion can be accepted.

*Table 4 Revised Measurement Scale of Religious Tourism Motivation and Behavior*

Reconstruction dimension	Measurement item	Factor load	Split reliability	Total reliability
Divine experience	1Achieve self growth and personal improvement	0.793	0.918	0.917
	2Find yourself, find yourself, and have a deeper understanding of yourself	0.869		
	3Search for spiritual home or unique spiritual experience	0.81		
	4I feel lost in my daily life. I hope to think about the meaning of life and the value of existence during the journey, so as to better face my future life.	0.777		
God bless	1Strong religious belief	0.562	0.940	0.917
	2Feel closer to Buddha / God / Allah / God	0.614		
	3In order to find a place suitable for practice	0.653		
	4Religious pilgrimage	0.579		
Learning exploration	1It is said that the gods there are very effective	0.87	0.881	0.917
	2Pray for the blessing of the gods	0.89		
	3Pray for luck and make your dreams come true	0.867		
	1, understanding history and religion	0.822		
	2Understand religious statues, architecture, literature and other arts	0.849		
Social emotion	3Enrich your travel experience	0.83	0.766	0.917
	4, experience the cultural atmosphere different from the secular world	0.742		
	5Because there are things I haven't seen	0.691		
Leisure hunting	1Accompany your family and increase the feelings between relatives and friends	0.794	0.802	0.917
	2Increase social contacts and make new friends	0.849		
	3Communicate with local people to understand local culture and lifestyle	0.66		
	1In order to find a quiet place to enjoy cleanliness	0.755		
	2Get rid of the pressure of life and work	0.775		
	3Come here with admiration	0.586		
	4Forget the unpleasant things in life	0.721		

	5And curiosity	0.569	
	1I will participate in religious tourism activities	0.681	
Religiou s tourism behavior	2I am willing to take religious tourism destination as the first choice for tourism	0.761	0.837
	3No matter how remote, I will go to religious tourist destinations	0.752	
	1Generally speaking, I am very satisfied with religious tourism	0.819	
Religiou s tourism satisfacti on	2Compared with the expectation, I am satisfied with all aspects of religious tourism	0.88	0.940
	3Compared with the ideal situation, I am satisfied with religious tourism	0.866	

*Source: in this study, the number before the item is the original number without modification.*

### 3.4 Regression analysis

Among the data analysis methods, regression analysis is a widely used statistical analysis method. If we want to measure the degree of correlation between paired variables, Applicable to correlation analysis (LV Xiuying, 2000). When we need to analyze the quantitative relationship between one or more independent variables and dependent variables to understand the quantity or level of dependent variable response when the independent variable is a certain level or quantity, it is suitable for regression analysis. According to the research purpose, this paper decides to use the method of regression analysis to test the relationship between the dimension of independent variables and dependent variables.

After correlation analysis, there is a significant correlation between the five dimensions and religious tourism behavior at the level of 0.01, indicating that regression analysis can be carried out. According to the working principle of regression analysis, this study mainly understands the influence of five independent variables: sacred experience, divine blessing, learning and exploration, social emotion and leisure adventure on the dependent variable of religious tourism behavior (Tourism Behavior for short).

According to the path analysis model, we set the multiple regression equation as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

X<sub>1</sub>: sacred experience, X<sub>2</sub>: divine blessing, X<sub>3</sub>: learning and exploration, X<sub>4</sub>: social emotion, X<sub>5</sub>: leisure and adventure hunting, Y: religious tourism behavior

Using spss21 0 for regression analysis, the model summary  $r = 0.521$ ,  $r = 0.272$ , adjusted  $R = 0.266$ , indicating that you can be blessed by divine experience, gods, learning, exploration, social emotion. The variance explained by the five dimensions of leisure adventure hunting is 27.2% (26.6% after adjustment). In ANOVA model,  $f = 47.518$ ,  $SIG = 0.000$ , showing a positive significant state, indicating that the model has good significance and explanation.

*Table 5 Summary of Regression Coefficients of Religious Tourism Motivation on Behavior*

Model	Non standardized coefficient		Standard coefficient		
	B	Standard error	Trial version	t	Sig.
<u>1</u> (constant)	.489	.212		2.306	.021
Divine experience	.425	.043	.413	9.902	.000
God bless	-.108	.035	-.123	-3.062	.002
Learning exploration	.244	.048	.193	5.063	.000
Social emotion	.046	.045	.040	1.023	.307
Leisure hunting	.138	.051	.109	2.713	.007

a. Dependent variable: Tourism Behavior

## RESEARCH CONCLUSION

Based on the research purpose and previous research results, this paper divides religious tourism into three research indicators: religious tourism motivation, behavior and satisfaction, forming a research axis throughout. In the study of religious tourism motivation, according to the results of Smith (1992), "secular sacred" continuous flow, Collins Kreiner (2000), "classification of pilgrims and tourists", and the research results of 13 Chinese and foreign scholars on religious tourism motivation mentioned above, The six dimensions of "sacred belief, divine protection, learning and exploration, self pursuit, social emotion and leisure adventure" are extracted to investigate the public's motivation to choose religious tourism.

After the questionnaire survey of 643 valid sample data, through spss21 0 for statistical analysis, using exploratory factor analysis, the original six dimensions are combined into five dimensions of "sacred belief, divine protection, learning and exploration, social emotion and leisure adventure". After correlation analysis and regression analysis, it is concluded that sacred belief, learning and exploration, leisure and curiosity hunting have a positive significant impact on religious tourism behavior, and the protection of gods has a negative significant impact on religious tourism behavior. Social emotion has no significant effect on religious tourism behavior.

The standardized path coefficient of sacred experience on religious tourism behavior is 0.391,  $t = 9.388$ , and it is significant at the level of  $P = 0.000^{***}$ , which indicates that sacred experience can have a significant impact on religious tourism behavior. After further comparing the coefficients of each facet, the dimension coefficient of divine experience is the highest. Therefore, this not only verifies the hypothesis of this study, but also shows that sacred experience has the greatest impact on the whole motivation dimension. The data analysis of the questionnaire points to the dimension of "sacred experience", which has the greatest impact on religious tourism. This is also in line with the dichotomy of "sacred secular" proposed by Smith (1992).

The research shows that sacred experience, divine protection, learning and exploration, leisure and curiosity hunting are the main motives for public to choose religious tourism. Therefore, in terms of tourism industry, we should open a wide range

of religious tourism products and routes through multiple channels. For example, the silk road exploration tour, the Hexi Corridor historical tour, the Indian Buddhist Pilgrimage Tour, etc. will cover all aspects of tourism products, such as pilgrimage, worship, study, leisure and so on, so as to meet the needs of different groups. At the same time, tourism products should also be enriched. For example, the development of religious cultural and creative products, the experience of vegetarian vegetarian vegetarian meals, and the investigation of seeking ancient mysteries run through the whole process of eating, living, traveling, shopping and entertainment.

## REFERENCE

- Gao Ke. Foreign religion tourism research: Progress and revelationJ. *Tourism Research*, 2009, 1(3): 54-60. Gaoke.Research progress and Enlightenment of overseas religious tourism J. *tourism research*, 2009, 1 (3): 54-60
- Bao Jigang, Chen Yunmei. Religion tourism development study:A case study of Nanhua Temple, GuangdongJ. *TropicalGeography*, 1996, 16(1): 89-96. Bao Jigang, Chen YunmeiResearch on the development of religious tourism -- Taking Nanhua temple in Guangdong as an example J. *tropical geography*, 1996, 16 (1): 89-96
- Song Yunfei, Fu Qijian. Songsshan religion tourism developmentstudyJ. *Journal of Henan Mechanical College*, 2006, 14(1): 60-62. Song Yunfei, Fu QijianResearch on the development of religious tourism in Songsshan Mountain, Zhongyue J. *Journal of Henan electromechanical college*, 2006, 14 (1): 60-62
- Hu Bocui. Flourishing Tang tourism activity and its historical influenceJ. *Academia*, 2008, (3): 253-257. Hu baicuiProsperous tourism activities in the Tang Dynasty and its historical influence J. *academic circles*, 2008, (3): 253-257
- Brodsky- Porges E. The grand tour travel as an educationaldevice 1600- 1800J. *Annals of Tourism Research*, 1981, 8(2):171-86.
- MacCannell D. Staged authenticity: Arrangement of socialspace in tourist settingsJ. *The American Journal of Sociology*,1973, 79(3): 589-603.
- Turner V, Turner E. *Image and Pilgrimage in Christian Culture*M. New York: Columbia University Press, 1978: 20
- Rinschede, G. (1992). Forms of religious tourism. *Annals of tourism Research*, 19(1), 51-67.
- Chen Chuankang, & Xu Junliang(1986). The development hierarchy of coastal tourism resources in Lufeng County*Tropical geography*, 6 (3), 222-231
- Chen Chuankang, Mou Guangrong, & Xu Junliang(1988). Religious tourism and its policy research. 1988 (s): 134-145
- Bao Jigang, & Chen Yunmei(1996). Research on the development of religious tourism: a case study of Nanhua temple in Guangdong Province*Tropical geography*, 16 (1), 89-96
- Yan Yayu(2000). On religious tourism*Journal of Xiamen University: Philosophy and Social Sciences Edition*, 3, 69-73
- Yu Xingjuan (2000). Research on tourism motivation and satisfaction of religious tourists, master's thesis of the Institute of tourism, China Culture University, Taipei

- Jian Huizhen (2001). A study on public relations strategies for sightseeing temples -- Taking the festival activities of Baoan palace in Taipei as an example. *Journal of Pingtung Normal University*, 14
- Fang Baishou(2001).On the ecological trend of religious tourism *Social scientist*
- Chen Rongfu, & Zhou Minhui(2001). Further develop China's modern religious and cultural tourism *Jiangxi Social Sciences*, (9), 217-219
- Xie Jinyan (2003). A study on the relationship between religious tourism attraction, satisfaction and loyalty -- Taking Fo Guang mountain in Kaohsiung as an example, master's thesis of the Institute of tourism management of Nanhua University. Kaohsiung
- Mount Duda(2004). Correct the name of "religious and cultural tourism" *Journal of Central South University for Nationalities: Humanities and Social Sciences Edition*, 24 (6), 112-116
- Chen Bonan (2004). A study on the relationship between religious tourism motivation, cognitive value, satisfaction and loyalty -- Taking Zhongtai temple in Nantou as an example. Master's thesis of the Institute of tourism management of Nanhua University. Kaohsiung
- Dai Jicheng, & Liu Jianfeng(2007). Religious journey - physical and mental pleasure and soul baptism *Qinghai Social Sciences*, (6), 81-84
- Tang Mingwei (2006). A study on tourists' satisfaction with visiting Longshan Temple in Taipei. Master's thesis of the Institute of tourism of Shixin University. Taipei
- Liao Xianyi (2010). The involvement of religion. A study on the adjustment effect of Chengdu on the relationship between tourism motivation, tourism image and tourism benefits of religious tourism - Taking Foguang mountain as an example. Master's thesis of the master's class of the Department of tourism management of Nanhua University. Kaohsiung
- Lin Liancong, song Bingming, Chen Silun (2011). *Introduction to tourism*, Taipei: Guilu publishing house
- Yu Ruzhen (2012). Discussion on religious tourism - Taking Baoshan Baoguang holy hall as an example. Master's thesis of Institute of information communication, Corning University
- Sun Haoran(2013). The theoretical system and disciplinary vision of religious tourism research *Journal of Huaqiao University: Philosophy and Social Sciences*, (3), 48-54
- Lai Yixuan (2014). A study on the investigation of religious tourism motivation, satisfaction and willingness to revisit -- a case study of Tian Hou palace in deer gate. Master's thesis of the Department of leisure, recreation and tourism management of Daojiang University of science and technology and management
- Xie Ruoling, & Wu Bihu(2016). A summary of religious tourism research at home and abroad in the past 30 years *Journal of tourism*, 31 (1), 111-125
- Smith, V. L. (1992). The quest in guest. *Annals of tourism research*, 19(1), 1-17.
- Clift, J. D., & Clift, W. B. (1996). Jung and spirituality series. The archetype of pilgrimage: Outer action with inner meaning. Mahwah, NJ, US: Paulist Press.
- Collins- Kreiner N, Kliot N. Pilgrimage tourism in the Holy Land: The behavioural characteristics of Christian pilgrim *J.Geojournal*, 2000, 50: 55-67.
- Huang Zongcheng, Shen Jicheng, Weng tingshuo, et al., snow pearl Tibet: A Study on the tourism motivation and satisfaction of religious tourists *J. Tourism Management Research (Taiwan)*, 2002, 2 (1): 23-42

- Wickens E. The sacred and the profane: A tourist typology J. Annals of Tourism Research, 2002, 29(3): 834-851.
- Yaniv Poria, Arie Reichel, Avital Biran. (2006). Heritage site perceptions and motivations to visit . Journal of Travel Research . 2006, ,4 (3) :318—326
- Yeh S S, Ryan C, Liu G. Taoism, temples and tourists: The case of Mazu pilgrimage tourism J. Tourism Management, 2009, 30:581-588.
- Andriotis, K. (2009). Sacred site experience-a phenomenological study. Annals of Tourism Research, 36, 1, 64-84.
- Hyde K F, Harman S. Motives for a secular pilgrimage to the Gallipoli battlefields J. Tourism Management, 2011, 32: 1343-1351.
- Sharpley R, Jepson D. Rural tourism: A spiritual experience? J. Annals of Tourism Research, 2011, 38(1): 52-71.
- Luo Jining, Zhao Yufei Research on market segmentation of Chinese religious and cultural tourism based on tourism motivation J. Journal of management, 2015, 12 (08): 1118-1123
- Zhou houqiang, Li Lihua, he changjuan A study on the spiritual motivation of religious tourists and the classification of tourists -- a case study of ramratso, Shenu lake, Tibet J. resources and environment in arid areas, 2017, 31 (01): 198-202
- Zhang Yunzhen Research on tourists' happiness based on religious pilgrimages D. South China University of technology, 2017
- Chen Rong, Ma Yaofeng, Ma Yongping An empirical study on the evaluation of the attractiveness of religious tourism resources in Qinghai Tibet -- Taking Ta'er temple in Qinghai as an example J. resource development and market, 2019, 35 (09): 1209-1213

# RESEARCH ON INNOVATIVE APPROACHES OF HUMAN RESOURCE MANAGEMENT FOR ENTERPRISE DEVELOPMENT IN DIGITAL ERA

YUECHUAN TANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 547108326@qq.com*

## ABSTRACT

In the era of digital economy, human resources have been recognized by all parties as the main resources for social development, which has also been tested and proved by the practice of many enterprises. Human resource management plays an increasingly important role in enterprises. The development of an enterprise is a process, and enterprises face different difficulties at different stages of development, especially the transformation from one stage to another. In the process of development, the original human resource management mode is likely to become backward and become a constraint factor for the further development of enterprises. Only by constantly innovating and reforming the human resource management mode can these problems be solved and enterprises can grow.

Based on the enterprise development and enterprise human resources management innovation model as the research object, combining with the first chapter analyzes the different stages of development of enterprise management mode, and then summarizes the human resource management for promoting the development of enterprises in the face of further innovation, finally put forward in the stages of enterprise development is most suitable for human resources management innovation model.

**Keywords:** enterprise development, human resource management, The digital age

## INTRODUCTION

With the advent of the digital era, enterprises are facing an increasingly complex social environment. Economic globalization makes enterprises interact with each other. If enterprises want to survive in the international competition pattern, they must abandon the old management mode, adapt to the changes of The Times and management innovation, improve their own advantages, and enhance their competitiveness. Enterprise management is ultimately driven by people, so human resource management is particularly important for the development of enterprises.

Man is the foundation of social development. With the rise of knowledge economy, the position and function of human resources have undergone fundamental changes, especially well-educated innovative talents, playing a decisive role in social and economic development. In fact, the competition of enterprises is the competition of talents. Only by keeping pace with The Times, constantly changing and innovating human resource management system, can enterprises have stronger competitiveness, which is also the fundamental of enterprise development.

## LITERATURE REVIEW

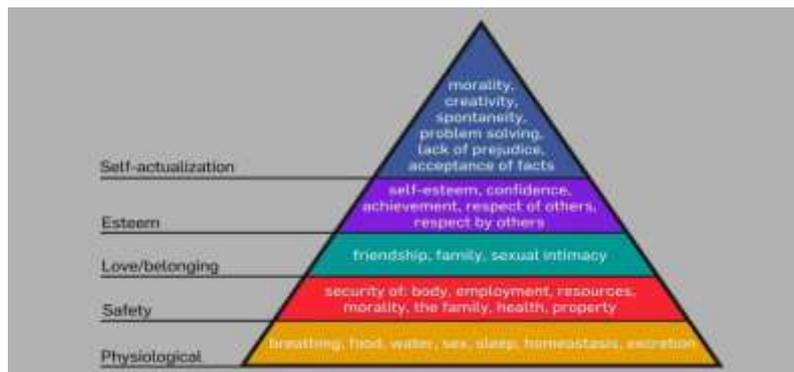
### 1. The Basic Theory Of Enterprise Human Resource Management

#### 1.1 Comprehensive Encouragement Theory in Human Resource Management

Comprehensive incentive theory can be understood as encouragement and incentive in a literal sense. This term was originally a psychological term, representing the psychological process that continuously stimulates behavioral motivation. Using certain incentive methods, coupled with external and internal factors, can keep excited objects in a state of excitement. As the economy continues to develop, incentive problems arise due to transactions and the division of labor. Motivation theory refers to the core theory used to deal with the relationship between motivation, needs, behavior and goals in behavioral science. The behavioral science point of view is that people's motivations are mainly determined by needs, and needs require clear goals. Incentive measures mainly affect people's internal activities to stimulate and strengthen behavior. Incentive theory is an important foundation of performance evaluation theory. It will reflect the reasons for performance evaluation and performance improvement, and will reflect whether the performance evaluation mechanism is reasonable. Specifically, the purpose of motivation is to stimulate people's correct behavior motivation, mobilize people's enthusiasm and creativity, so as to give full play to people's intellectual effects and achieve the greatest achievement. In this theory, it is emphasized that work efficiency and labor efficiency are directly related to employees' work attitude, which depends on various satisfaction and demand motivation factors. In addition, through reasonable work arrangements, employees can quickly and effectively complete related work within the specified time, thereby effectively stimulating their work enthusiasm and work enthusiasm. In addition, it is also necessary to clarify and clarify the positions of employees to ensure the stable improvement of their work efficiency.

#### 1.2 The hierarchy of needs theory in human resource management

The American psychologist Maslow proposed the hierarchy of needs theory from the perspective of human motivation, which emphasizes that human motivation is determined by human needs. Moreover, in every period of time, one kind of demand is dominant, while other needs are in a subordinate position. In it, Maslow divides the various needs of human beings into five levels: physiological needs, safety needs, belonging and love needs, respect needs, and self-realization. In order to effectively meet the different development needs of people, it is necessary to analyze from different angles, so as to effectively stimulate the potential of employees. In the current stage of work, the management of human resources not only needs to effectively guarantee the various life needs of employees, but also needs to innovate and improve on this basis. For example, the multi-skill training method for employees continuously improves their work abilities and enables employees to realize their self-worth.



### 1.3 The Theory of Humanistic Management in Human Resource Management

In the process of continuous development of the times, all kinds of social information have undergone earth-shaking changes. In carrying out human resource management, it is also necessary to fully realize the new opportunities and challenges brought about by the development of the times. In the people-oriented management theory, it is clearly pointed out that the management concept of human resources needs to be changed with the development of the times. In modern society, the core of human resource management is no longer various objects, but the important role of people in this process should be fully understood. People-oriented management theory points out: employees are unique resources owned by the entire enterprise in the development process, and they have unique and irreplaceable functions. If the relevant personnel can formulate a reasonable work plan based on their personality characteristics, work abilities, hobbies and professional characteristics, etc., the efficiency of the entire enterprise can be further improved on the basis of ensuring that employees can exert their limited work capabilities. Obtain more obvious competition.

## 2. Problems Existing In Human Resource Management At This Stage

### 2.1 Performance appraisal system is not perfect

Among the problems faced by human resource evaluation, it is found that many companies have not yet established comprehensive performance evaluation and compensation management policies. Many HR managers mostly evaluate employees based on attendance status, and there is no clear salary management aspect. Evaluation purpose and plan. In addition, there is another important problem: Many companies adopt a "one size fits all" performance appraisal method, but fail to perform corresponding appraisal according to the working conditions of employees and the situation of different departments. Therefore, many employees are dissatisfied with the final year-end evaluation, which makes many employees feel that the evaluation plan has no high reference value and lacks effective evaluation.

### 2.2 The reward and punishment mechanism of salary distribution management is unreasonable

Under the current economic situation, people's living standards have rapidly improved and prices have risen. Many people have higher expectations and expectations for wages. In many companies, due to the lack of a complete reward and punishment mechanism and wage distribution mechanism, the wages of many new and old employees

are the same, and the wages of employees in different positions are the same, which has caused dissatisfaction with the company. The heart of corporate employees. A perfect reward and punishment mechanism can not only increase the enthusiasm and confidence of employees, but also effectively improve work efficiency and promote the rapid development of the company. However, at the current stage of the enterprise, the importance of the reward and punishment mechanism has not been fully understood, and there are many unreasonable places, which make it difficult for employees to concentrate on work for a long time and reduce work efficiency. In addition, some companies have not yet established a reward and punishment mechanism. The problem of "eating a big pot of rice" is very serious, and it is easy to cause employees to have negative performance concepts, which is not conducive to mobilizing the subjective initiative of employees, and may also contribute to the disadvantages of inaction. Once a vicious circle is formed, it will directly lead to a reduction in the economic benefits of the enterprise.

### **2.3 Management personnel are of low professional quality**

In the current human resource management work, many managers have encountered many problems in actual work due to their low professional quality. In addition, many people enter the company to find a stable job, but in the later work, due to the boring work, this leads to the loss of many employees, changes in personnel turnover, and human resource management. Negative impact. Human resource management seems to be a relatively simple task, but if you want to really do this, it is not an easy task. Specific categories and methods have strong technical testing capabilities.

## **3. Measures For The Transformation And Upgrading Of Corporate Human Resource Management In The Era Of Digital Economy Establish A Sound Performance Appraisal System**

If you want to really stimulate the enthusiasm of employees in the company, managers must establish a sound performance evaluation system. Perfect performance evaluation includes the evaluation of employees' personal performance, personal potential and overall condition. In this process, first of all, employees are required to have a more comprehensive understanding of the performance evaluation system so that they can fully understand the importance of performance evaluation. In the evaluation process, it is necessary to make a more correct judgment on the employees' work attitude and work ability, and to criticize and correct the employees' problems in a timely manner so that they can make timely changes. In addition, these questions can also be written into the evaluation file, and the growth and progress of the employees can be seen in the long-term evaluation, so that the employees can also fully understand themselves. You can also combine monthly and quarterly assessments into the annual assessment results, and allocate weights reasonably to avoid the subjectivity of the year-end assessment results.

### **3.1 Optimize existing salary distribution and reward and punishment mechanism**

After establishing a relatively complete performance appraisal system, it is also necessary to be equipped with a corresponding complete salary distribution and reward and punishment mechanism. The combination of the two has stimulated the vitality of the enterprise to the greatest extent and mobilized the enthusiasm of the employees. To this end, managers can make employees fully participate in work by linking performance evaluation with salary distribution. In addition, it can also develop a relatively complete career plan for employees so that employees can have their own career development goals and continue to work hard for their personal growth. At the same time, it can also provide

assistance to employees. The development of the company. Improve the professional level of employees and enable them to obtain higher competitiveness in the workplace. In addition, the employee's performance can be combined with the company's rewards, dividends and job promotion, so as to improve the employee's sense of responsibility and work enthusiasm in a variety of ways.

### **3.2 Make full use of modern technology**

The development of information technology has brought convenience to all aspects of life. In the human resource management of an enterprise, employee performance can also be combined with information technology. For example: Integrate employee's monthly performance and salary data, then evaluate each employee's work content, and use big data technology to evaluate, analyze and classify these comprehensive information. Then upload it to the company's official website so that all employees can clearly understand each person's performance and work content evaluation analysis, which fully embodies the principles of fairness, justice and openness. Let employees no longer have questions about the performance system, but adjust their thinking and improve work ability based on the evaluation results, and help employees set the next performance index according to their own conditions. In this way, employees can not only stimulate their own motivation, but also fully understand their past work situation, so as to better improve themselves.

### **3.3 Constructing a human resource demand forecasting model**

#### **3.3.1 Human resource total demand forecast simulation**

The simulation of total demand for human resources refers to starting from the perspective of the total annual output of the enterprise, combining the various investment capabilities of the enterprise as a measurement standard, and achieving the purpose of promotion by simulating demand. The business development and work efficiency of the enterprise. The demand forecasting model can consider the company's future business development and production efficiency. Through in-depth analysis of various factors that affect the company's development, combined with the internal connections of influencing factors, a complete demand forecast simulation can be established to maximize the efficiency of employees and achieve long-term development goals. The company's.

#### **3.3.2 Personnel structure demand forecasting model**

The demand forecasting model of personnel structure refers to the construction of demand forecasting model from the perspective of employees. Different from the simulation of total human resource demand forecasting, this forecasting model is based on the internal perspective of the enterprise and passed through the internal employees of the enterprise. Resource integration, combining various business types of the company to find out the similarities and differences between employees and enterprises, and through the effective combination of the two, to realize the effective allocation of human resources, link various enterprises and company personnel, and give full play to their roles and considerations. The advantages of the two achieve the purpose of demand forecasting to the greatest extent.

#### **3.3.3 Quality structure demand forecast model**

The quality structure demand forecasting model refers to constructing a demand model from the perspective of employees' own quality. This demand forecasting model mainly refers to the process of improving the quality of employees through certain educational methods. In the current construction process, the main goal is to improve the

professional quality of employees, improve their ability to solve problems, and combine reasonable human resource management theories to achieve the model construction of total human resources and talent structure requirements. When constructing this demand model, it is necessary to find a suitable employment method for employees, and further put forward reasonable requirements and suggestions according to the different characteristics, work capabilities and other conditions of each employee to improve the self-quality of employees.

## **Conclusion**

Through the construction of the total human resource demand forecasting model, the personnel structure demand forecasting model and the quality structure demand forecasting model, the work efficiency of employees can be effectively improved, the professional team can be optimized, and the quality of employees can be improved, thereby giving better play to the advantages of human resource management .

## **4. Combined With The Positive Impact Of Job Analysis**

### **4.1 Positioning**

The job description is mainly for the specific and clear description of the duties performed by the employees in accordance with the relevant requirements of their superiors. The relevant manager must make a reasonable application based on the main points of the superior documents after understanding the specific needs of the employees. In this process, it is necessary to ensure that the sub-tools of job responsibilities are scientific and relevant. The coordination between employees and departments can effectively improve the rationality of work assignments.

Work evaluation is mainly based on the established measurement standards and on the basis of completing the work analysis, objectively evaluating the work needs, tasks, difficulty and other aspects of the staff in actual operation. From the perspective of impact, effectively combining the positive effects of job analysis and job description can help employees clarify their work standards and lay a good foundation for the smooth development of future evaluation work.

### **4.2 Personnel positioning**

In the process of job analysis, it is necessary to fully clarify the short-term tasks and long-term development goals of employees, so that employees have certain goals and career plans at work, so as to fully stimulate their work potential and development motivation. At the same time, on the basis of grasping the work dynamic characteristics of employees, according to the employees' psychological development characteristics, work ability, professional quality, etc., formulate scientific and reasonable development plans for employees, and provide employees with reasonable development ideas. The company's future development and recruitment work. Relatively reasonable indicators. In addition, the effective combination of psychological tests and job evaluation methods further enhances the professionalism of employees and thus better promotes the smooth development of recruitment.

Combining the advantages of job analysis, it is possible to clarify the various physical conditions, psychological qualities and work abilities that each worker needs to have. However, these abilities and required conditions are not innate. After entering the company, they need to be continuously trained, and the training plan should be adjusted

in time, so that the quality of employees can better meet the company's future development needs.

Develop scientific, reasonable and effective personnel forecasting plans and personnel plans. If there is a problem of personnel changes in an emergency, you can make adjustments in time. Make reasonable predictions based on the future development plan of the company and the future development needs of the post. Combining the advantages of job analysis can provide a more reliable basis for formulating personnel forecasting procedures.

## **5. Combining The Advantages Of Strategic Human Resource Management Theory**

### **5.1 Resource-based view**

Based on resources, it emphasizes the need to make full use of the positive role of enterprises and related organizations, comprehensively control from multiple angles, promote the flow of human resources, capital and other market elements, and promote the development of human resources, capital and other markets. The competitiveness of enterprises should be improved.

At the same time, we must fully consider the active role of talents in this process to create higher economic benefits for the company's future development. For example, companies need to continuously attract high-quality talents, give full play to the active role of talents in corporate competition, and continuously improve their own competitive advantages.

### **5.2 Human capital perspective theory**

In the theory of human capital view, it is emphasized that there is a certain positive relationship between human resource management and human capital. From the perspective of positive effects, effective strengthening of human resource management can improve the economic benefits of the enterprise to a certain extent and drive the enthusiasm of employees. At the same time, it can also combine the advantages of incentive measures to make employees more motivated in their daily work and achieve their career development goals in thought, thereby stimulating their work potential and creating higher value in related work.

### **5.3 Behavioral Viewpoint Content Theory**

In the content theory of behavior, the main focus is to effectively guide employees to actively participate in work through incentives. With this theory, it is necessary to fully understand the impact of different employees' work needs. From the perspective of employee needs, ensure the pertinence of human resource management. From the perspective of this theory, human resource management can effectively output relevant management information, provide sufficient information guarantee for the manager's work, and achieve the purpose of improving the competitiveness of the enterprise in the market.

## SUGGESTION

### 6. Suggestions On The Digital Application Of Human Resource Management

#### 6.1 Integrate into the company's digital transformation strategy

Human resource management should actively integrate into this change, and strengthen the integration with corporate strategy, business development, and external changes in the digital economy era, in terms of development concepts, platform construction, management methods, business processes, talent selection, performance evaluation, etc. Active adjustments and responses were made.

#### 6.2 Build an enterprise-level human resource data platform

The construction of human resource information system is the foundation of digital transformation and the core of human resource big data management. It will provide powerful data, technology, information and platform support for the digital and intelligent human resource management.

#### 6.3 Speed up the intelligent transformation of human resource management

Reshape the traditional human resource management model and structure through intelligent transformation, enrich the connotation of human resource management under the background of the new era, optimize business processes, expand management and service functions, improve employee experience, improve management efficiency, and enhance the flexibility of human resource management. And flexibility, realize the transformation of basic services of human resource management, and improve employee satisfaction.

#### 6.4 Strengthen the refined management of human resource data application

Only when static data and information are applied in a certain way can they show real value. This is where the vitality of digitization lies.

#### 6.5 Create and activate the enterprise digital talent system

The leading and promoting role of the digital talent team in the digital transformation of enterprises, stimulates the innovation and vitality of the digital talent team, forms a good corporate digital culture atmosphere, injects digital cultural genes, and realizes the co-creation and sharing of digital talents and corporate digitalization. Symbiosis and win-win.

## CONCLUSION

Generally speaking, if an enterprise wants to achieve long-term development, it must strengthen its emphasis on human resource cost control and management, and adopt reasonable methods to effectively improve human resource management according to the current era background and the future development plan of the enterprise. The quality of this product can better improve the economic efficiency of the enterprise. Thank you all

## REFERENCES

Qin Jinfeng. Optimization of human resource management for small and medium-sized enterprises in the digital economy era[J]. Modern Enterprise, 2020(09):18-19.

- Lu Ran. The Digital Transformation of Human Resource Management in the Information Age[J]. Fortune Times, 2020(05):147.
- Wang Xiaoli. Discussion on the transformation and development of human resource management under big data [J]. Modern industrial economy and Information Technology, 2020, 10(03): 61-62.
- Zhang Xiuyu. The transformation of human resource management in the digital economy era[J]. Knowledge Economy, 2019(19): 104- 105.
- Lu Shengke. Research on Enterprise Human Resource Management Innovation in the Digital Economy Era[J]. Enterprise Reform and Management Li, 2019 (02): 89-90.
- Liu Yang, Wang Xuejia, Yue Yunpeng, Zhang Qiaoyue. The transformation of university personnel management to modern human resource management Type of innovation path[J].Contemporary Educational Practice and Teaching Research,2019(05):98- 99+ 189.
- Meng Fanwei. Green Human Resource Management from the Perspective of Economic Development Transition: Theoretical Construction And practice path[J].Knowledge Economy,2018(20):9- 10.
- Cai Gang. Research on the Countermeasures of Coal Enterprises' Difficulty Relief and Transformation from the Perspective of Human Resource Management[J]. Science and Technology Economic Market, 2018 (08): 84-86.
- Zhong Bizhong, Xu Wenxing. The impact of human resource management practices on the transformation and upgrading of manufacturing enterprises Sounds——Based on the Empirical Research of Quanzhou Enterprises[J].Technology and Industry,2018,18(04):21- 29+ 40.

# ON THE IMPACT OF TOUR GUIDE SERVICE QUALITY INNOVATION ON THE DEVELOPMENT OF TOURISM INDUSTRY—TAKING HARBIN CITY, HEILONGJIANG PROVINCE, CHINA AS AN EXAMPLE

ZHICHENG YU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 747443548@qq.com*

## ABSTRACT

Tourism industry is also known as service trade and smokeless industry. As a tertiary industry with less investment, quick results and large profits, it can not only meet people's growing material and cultural needs, but also promote the development of relevant departments of the national economy. So how to improve and perfect the tourism infrastructure, enhance the satisfaction of tourists and improve the service quality in the tourism process has very important practical significance. Firstly, taking Harbin City, Heilongjiang Province as an example, combined with the theoretical basis of innovative management, this paper expounds the definition and connotation of tour guide service quality in the process of tourism and the importance of tour guide service quality in the process of tourism activities by using various investigation methods such as literature query method and system analysis method. Secondly, by discussing the current situation and working status of tour guides in Harbin, this paper analyzes that the low service quality of tour guides in Harbin is due to a series of related problems, such as poor welfare, imperfect training system and low personal quality. In addition, tourists' immature consumption concept is also the main reason for the low service quality. Finally, according to the causes of the above problems, combined with the relevant experience of several successful foreign tourism cities, this paper puts forward innovative countermeasures and suggestions in line with the development of tourism industry in Harbin, so as to effectively improve the quality of tour guide service in Harbin.

**Key words:** tour guide service quality, Innovation; Tourism industry, Tour Guide Service, Innovation mechanism and method

## INTRODUCTION

Firstly, I will briefly describe the definition and connotation of tour guide service quality, and discuss the impact of tour guide service quality on the development of tourism activities in Harbin. Secondly, it introduces the current situation of tour guides in Harbin and the problems and reasons existing in the service quality of tour guides in Harbin. Finally, according to the experience and Enlightenment of the recognized tour guide service quality at home and abroad, this paper puts forward effective countermeasures and suggestions for the tour guide service quality in Harbin.

## PURPOSE AND SIGNIFICANCE

### **1. The purpose of this paper: tour guides are the bridge between enterprises and tourists and the direct provider of tourism services,**

It is the axis of the whole tourism activities, so the service quality of tour guides is very important. Its service quality directly affects the perception of tourists and potentially determines the choice of tourists for the next destination and the impact of tourism development in the region. The main purpose of this paper is to analyze the impact of the service quality of traditional tour guides in Harbin, Heilongjiang Province on the development of tourism in Harbin, and to discuss the importance of the service quality of tour guides combined with innovative management in the tourism industry. By collecting relevant data and information, combined with innovative management, this paper puts forward corresponding countermeasures for the development problems of tourism industry in Harbin. This paper analyzes the problems existing in the development of tourism industry in Harbin, draws lessons from the successful models of other tourism cities, and puts forward some suggestions on how to improve the service quality of tour guides in Harbin.

#### **1.2 Significance of this paper:**

With the continuous development of tourism industry, the primary factor affecting tourism activities lies in the quality of tour guide service. Good service quality will assist the development of a regional tourism industry, on the contrary, poor service quality will restrict its development. Therefore, this paper will find out the substantive problems restricting the development of tourism in Harbin through the Harbin municipal government, enterprises and tour guides themselves, and put forward corresponding suggestions and solutions combined with innovative management and improvement measures. It is conducive to improving the overall tour guide service quality of Harbin. The development of tourism industry in this region will also develop upward with the improvement of service quality. In addition, I hope this article can arouse the attention of local tourism management departments and private enterprises to the service quality of tour guides, appropriately adjust relevant policies and management systems, improve the development of tourism in Harbin as a whole, and enhance the international competitive position of tourism in Harbin.

#### **1.3 The main research methods of this paper are as follows:**

Literature inquiry method、 Comparative analysis、 System analysis method

### **2. The position and function of tour guide service quality in tourism activities**

#### **2.1 Definition and constituent elements of tour guide service quality**

Service quality refers to the sum of the characteristics and characteristics of services that can meet the requirements and potential needs of tourists. It refers to the extent to which the tour guide can meet the needs of tourists during his work. It is the lowest service level provided by enterprises to satisfy tourists. Tour guide service quality refers to a series of activities of eating, living, traveling, shopping and entertainment carried out by tour guides for the purpose of customer satisfaction, starting from supporting the interests of tourists, based on travel contracts, national and industrial standards. In other words, the high-quality service quality should always be determined according to the satisfaction of tourists. Tourists' satisfaction is the comparison between tourists' cognition of tourism activities and tourists' expectation of tourism activities. [1] Satisfaction is when expectation is greater than cognition. When the current expectation is less than cognition,

it is dissatisfied. In addition, there are many elements of tour guide service quality, such as the overall image during tour guide service. Neat and generous appearance, smiling service attitude throughout the process, excellent expression and communication skills and good professional quality are the most basic external manifestations of service image. Service content of tour guide. As a qualified tour guide, we should master a lot of knowledge and information and involve a wide range of services. All the contents of relevant tourism activities should have the ability to coordinate and deal with. Tour guide service skills. Including group leading skills, cooperation skills, explanation skills, response skills, etc. Only with corresponding service skills can customers achieve certain satisfaction

## **2.2 The position and function of tour guide service in tourism activities**

As a bridge between enterprises and tourists and a direct provider of tourism services, guide is undoubtedly the center of tourism activities. Guide is the messenger of cultural communication and has a very important representative position. Its role includes four aspects: leading role, marking role, link role and diffusion role. 1. Leading role. As the fundamental service of tourism activities, tour guide service promotes the communication between different national cultures through the explanation and expression of tourists by tour guides, so that tourists can invest in tourism activities with physical and mental pleasure on the premise of increasing their knowledge. [3]2. Marking function. In the process of tourism activities, the service quality of tour guides is a sign that directly affects the cognition of tourists and the service quality of this tourism activity. Tour guide service not only affects the quality of tourism service, but also related to the image of a region and even a country. 3. Link function. First of all, the tour guides publicize and implement the national policies and guidelines, make travel, shopping, entertainment, food, housing and travel arrangements for tourists on behalf of travel agencies, and deal with various problems during the period. Secondly, tour guides should be responsible for tourists, travel agencies and national interests. Finally, while ensuring the interests of enterprises, we should also safeguard the legitimate rights and interests of tourists. [4]4. Diffusion. Tourists' recognition of the service quality of tour guide staff is the most important factor to determine tourists' behavior intention in the future. In the process of tourism, through mutual contact and communication with tourists, tourists will measure the choice intention of the next tourism activity according to the quality of tour guide service in the process of this tourism activity. Therefore, the tour guide service is very important. The poor service will be transferred to the enterprise, which leads the tourists to think that the quality of the enterprise's products is problematic, and the enterprise will suffer potential long-term losses. [5]

## **3. Present situation of tour guide service quality in Harbin**

As an important central city in Northeast China, Harbin is an international ice and snow cultural city and a hot tourist city, known as "Oriental Moscow" and "Oriental little Paris". In Harbin, which is relatively rich in tourism resources, the tour guide staff is also very complicated. According to the calculation of the growth rate, there are about 61000 tour guides in Harbin by 2019. According to the literature survey, the age of tour guides is mainly between 25-55 years old, and the proportion of working years of more than five years is large. With the infinite growth of tour guides, the tourism market is becoming more and more complex, resulting in uneven tourism service quality. Because the entry threshold for tour guides is relatively low, most of them are social people who take tour guides as a sideline. There are more college students with academic diplomas and fewer undergraduates. This may lead to low cultural level, insufficient experience, unable to

accurately convey the local tourism culture and the historical knowledge behind it, and even unexpected situations that can not be solved in time and effectively. It is precisely because of the lack of professional training on the service quality of tour guides. Because they do not have a reasonable salary system, many tour guides take advantage of the trust of tourists and combine with shopping points to defraud customers of money. Some tour guides even change their routes without permission, increase shopping locations, reduce tourists' tourism projects, mandatory consumption and completely do not abide by the contract, Violate professional ethics and damage the interests of tourists. This has also led to the increase in the number of tourism complaints and the publicity of the bad image of tourism in Harbin.[6]

#### **4. Analysis on the main problems and causes of treatment volume of tour guide service in Harbin**

##### **4.1 The tour guide training system is not perfect**

If you want to be a qualified tour guide in China, you must first train through the corresponding training institutions to learn the tour guide business, basic knowledge of local tour guides, basic knowledge of national tour guides, policies, laws and regulations, and then participate in and pass the corresponding examinations before you can obtain the tour guide qualification certificate. However, according to the survey, there are few formal tour guide training institutions in Harbin. [7]Through the field investigation, it is concluded that there are still some corresponding problems in the training institutions:

##### **4.1.1 The training content is single, and it is not updated regularly.**

It is only the basic business knowledge in books, and there is a lack of corresponding practical exercises. The words in books alone can not flexibly deal with emergencies in tourism activities.

##### **4.1.2 Training lecturer system.**

Most of the lecturers in training institutions are in-service tour guides from external travel agencies. They train new students just because of their work experience. On the other hand, the tour guide practitioners do not have corresponding teaching skills in teaching, which will lead to boring during the training and can not fully mobilize the students' enthusiasm for class.[8]

##### **4.1.3 The training awareness of the trainees is not strong.**

Because the basic knowledge accounts for the majority in the process of tour guide training, some trainers will relax and be unaware of the importance of knowledge points in future practice. They regard training as a form before examination and completely ignore the importance of training. Therefore, it is difficult to improve their professional ability and ethics during training. Therefore, the imperfect tour guide training system leads to the low professional ability and professional level of tour guide practitioners, which directly affects the corresponding service quality in the tourism process.

##### **4.2 Tour guide salary system**

As a bright looking and hard-working profession, most of the tour guides are in a cooperative state without basic salary, social insurance, labor insurance and travel agency affiliation. Some also need to pay service fees and management fees to travel agencies according to the number of people. This also shows that the salary of tour guides mainly comes from the Commission of tourists' consumption, which will cause tour guides to focus on shopping and promoting products. Completely ignored the midway tour guide service quality, did not pay attention to the long-term economic benefits of the enterprise, only paid attention to the current interests, and formed the service phenomenon of "one hammer sale". [9] Due to the special nature of the work of the tour guide industry, it is

necessary to get up early and stay dark, and deal with all kinds of temporary emergencies. There are many uncertain factors, and there is no reasonable salary system and good social welfare treatment. These will be the reasons why tour guides are dissatisfied with the salary system. In addition, the tourism industry is divided into off-season and peak season. As an ice and snow tourism city in Northeast China, the annual peak tourism season is only about three months. Therefore, the jargon of "grinding the knife for nine months and killing the passengers for three months" will be heard in Harbin tourism market. According to news reports, earlier, there were disputes over forcing tourists to spend high prices and even blackmail. There are threats such as dropping the car on the way without buying a high-priced package ticket. This further proves that the unreasonable tour guide salary system has led to the decline of tourism service quality and the decline of tourism image.[10]

#### **4.3 Personal education and quality of tour guides**

Due to the special nature of work, as a tour guide service staff, I will be among tourists from all directions every day during my work. Therefore, the tour guide should be as knowledgeable as the host and be able to make corresponding answers to any aspect in time. As a group of cultural communicators, good communication skills are also essential. The behavior of tour guides outside is very important, which has strict standards for the basic quality, personal ability and ethics of tour guides. According to the investigation and analysis, the following problems still exist in the tour guide team in Harbin:

##### **4.3.1 Educational background and cultural quality are generally low.**

Educational background distribution of tour guides in Harbin; The number of people with high school, secondary vocational, higher vocational and tertiary education accounts for the main part, and the proportion of undergraduate and graduate education accounts for less than 30%. [11] The brain drain rate reached 40 to 50 percent. In addition, many tour guides work part-time, and some turn to be tour guides. This has an overall impact on the basic level of the tour guide team, which does not match the needs of today's tourists. Due to the different educational background of tourists, there will be changes in the hierarchical structure with the educational background of tour guides, and there will be different levels of demand for the culture of local scenic spots. Therefore, although some tour guides work hard, their explanations can not get their expected results.

##### **4.3.2 Lack of knowledge and skills.**

As the famous scenic spots in Harbin mainly focus on the Songhua River Snow project, some tour guides explain at will or even do not explain on the premise of less ice and snow cultural knowledge reserve. Most of them use the humor of northeast people to get closer to tourists in the form of jokes, ignoring the explanation steps. Some tourists can accept this way of leadership, but some tourists want to understand the urban culture and the history and culture behind the city through the tour guide. However, the tour guide does not have the ability to explain, especially the grasp of historical knowledge, and will deceive tourists. [12]

##### **4.3.3 Norms of moral quality.**

Before the end of the travel itinerary, in order to make a quick profit in the short term and earn a commission, they often ignore the service quality of tour guides, do not give tourists enough playing time, change the travel route without permission, increase shopping items, and affect the whole travel itinerary. The quality of tour guides, whether in terms of knowledge, culture, professional skills and oral expression, is a cumulative process. Many tour guides ignore this and do not take seriously the improvement of business and skill quality, which is also the main reason for the overall decline of tour guide service quality.[13]

#### **4.4 Immature consumption concept of tourists**

Most Chinese tourists only focus on the price in their travel choice, covet the so-called cheap, and completely ignore the qualification, reputation and product quality of travel agencies. Clearly understand the truth of "a penny for a piece of goods", but when choosing, he chose cheapness regardless of everything. This provides a living space for the so-called low-cost tour and zero group fee. Those bad businesses also took a fancy to this point and moved their hands and feet in the travel itinerary. Cancel the tour guide's salary and reduce the reception standard, from a tourist group to a shopping group. Those tour groups with higher prices and better service quality are at a disadvantage in the competition with these low-cost groups due to the small number of applicants. For a long time, some tourism products have been transformed and unscrupulous merchants have accumulated, leading to the trend of a vicious circle. [14]

### **5. Countermeasures and suggestions on improving the service quality of tour guides in Harbin**

#### **5.1 Successful experience and Enlightenment of tour guide service abroad**

##### **5.1.1 Singapore tour guide salary system**

According to the survey, in order to strengthen the sustainable development of the domestic tourism industry, the local tourism management departments in Singapore have promulgated a number of hard management regulations for tour guide staff, including professional ethics, quality requirements, image building and other laws and regulations. In addition, the salary of tour guide staff in Singapore is also very generous. The income includes irresponsible base salary, group allowance, shopping rebate and tips voluntarily paid by tourists. The fixed salary accounts for the main part. Their establishment also belongs to the establishment of national civil servants and enjoys a high fixed salary.

##### **5.1.2 Japanese tour guide salary system**

Japan's tour guide salary system is also very perfect. As a Japanese tour guide service personnel, the salary structure is roughly divided into three parts: basic salary, performance bonus and overtime. The basic salary includes working hour salary, working technology salary, job salary, evaluation salary, responsibility salary and position salary. In addition, in order to ensure that the tour guide staff can provide high-quality tourism services during the journey, the relevant tourism administrative departments in Japan also provide the tour guide with a basic insurance system, and even the transportation expenses and the allowance for supporting family members are guaranteed accordingly. Therefore, the tour guide has no worries about the quality of service.

##### **5.1.3 Spanish tour guide salary system**

Spanish tour guides do not sign labor contracts with travel agencies. If they sign labor contracts for more than one year, the company needs to buy corresponding social insurance for tour guides. Even without the restraint of labor contract, there are few tourism complaints every year. Because the Spanish tourism administration clearly stipulates that the salary of tour guide staff is about 80 to 100 euros a day. Travel agencies need to settle accounts on time every day without delay. In the event of a tourist complaint, someone will be fined a minimum of 500 euros.[20]

After analyzing and discussing the salary system of tour guides in the above tourism developed countries, we find that the salary of tour guides mainly comes from the basic salary and tips, and the amount of tips directly depends on the service quality of tour guides on the way, and the two are in positive proportion. If you want to earn a high salary, you must be recognized by tourists. In case of complaints from tourists, they will bear high fines.[19] In addition, tourism developed countries have also continuously improved the social security system of tour guides, so as to reduce the phenomenon of tax evasion,

ensure the safety of tour guides and make tour guides have no worries in the process of work. Therefore, a reasonable salary system and perfect social security not only improve the service quality of tour guides, but also enhance the overall image of the national tourism industry.

## **5.2 Countermeasures and suggestions to improve the service quality of tour guides in Harbin.**

### **5.2.1 Improve the tour guide salary system and improve the incentive mechanism**

First of all, the travel agency should conduct a comprehensive evaluation according to the tour guide's performance during the probation period, assign the grade and sign a long-term employment contract, and pay a certain irresponsible base salary according to the grade to ensure the rigid needs of the tour guide in life. Secondly, the corresponding bonuses and allowances can be paid or deducted through the tourists' final praise and complaints about the service quality during the trip Service quality during the trip. Finally, while improving the income of tour guides, formulate a tour guide rating system, divide tour guides into separate departments, select department management positions through internal promotion, and give certain staffing, so as to achieve the effect of incentive. [15]

### **5.2.2 Improve the social welfare treatment of tour guides**

Due to the particularity and instability of the work, only individual enterprises issue five insurances and one fund to tour guides. Most tour guides do not have this treatment. Therefore, enterprises should pay five insurances and one fund for tour guides and prepare them. In this way, tour guides will devote themselves to their work, ensure the service quality during the journey and have no worries at home. It not only reduces the forced consumption of tourists Fee behavior can also expand the recruitment of a large number of talents for the tourism industry and promote the development of the tourism industry.[17]

### **5.2.3 Strengthen the training of tour guides and promulgate corresponding training policies**

It is suggested that the tourism related administrative departments of Harbin should cooperate with major colleges and universities to regularly formulate tour guide training plans, establish tour guide training institutions, and private institutions should give certain support policies. They should hire experienced tour guides and academic tour guides for systematic training, so as to reserve a large number of talents for Harbin's future tourism industry. Enterprises should also pay attention to the regular training of tour guide staff. Tour guides are the backbone of the travel industry The core is that there is no guarantee of service quality during the journey, and no matter how good tourism products are. [16] therefore, under the daily operation of the company, the management personnel of the enterprise should regularly formulate the training plan for tour guides, summarize experience in the training, learn from each other, improve business ability and ensure service quality.

### **5.2.4 Improve the self-quality of tour guides and standardize the entry standards of the industry**

As a tour guide, we should constantly update our self-awareness, make ideological preparations for the service industry, enrich work experience, constantly improve our professional ability, and learn about cultures around the world. Only in this way can we get long-term development in the tourism industry, otherwise we will be eliminated by the society. [18] In addition, when selecting tour guide staff, enterprises should focus on professional ability and personal quality, and conduct comprehensive analysis from many

aspects such as temperament and appearance, language ability, learning ability and practical experience, so as to improve the service quality of enterprises and promote the vigorous development of the tourism industry at the same time.

## CONCLUSION

Based on the development trend of tourism industry in Harbin, Heilongjiang Province, we must pay attention to the importance of tour guide service quality in the process of tourism activities. While improving the personal social treatment of tour guides as much as possible, we should not only ensure the quality of the training of tour guides in the early stage, but also strengthen the supervision of relevant departments in the later stage. Improve the service quality of tour guides in Harbin in all aspects, so as to lay a good foundation for the development of tourism in Harbin in the future.

## REFERENCE

- Kuang Yiyun. Summary of research on tourism service quality in China in recent ten years [J]. Journal of Leshan Normal University, 2013,28 (06): 74-77
- Zhao Li. The position and role of tour guides in disseminating tourism culture [J]. Human resources management, 2016 (02): 193
- Li Yanfang. Study on the impact of tour guide service quality on Tourism Development [D]. Guangxi University for nationalities, 2016
- Chen Ying, Li Yongsheng. Current situation of tour guide service and its quality improvement countermeasures [J]. Economic Research Guide, 2018 (08): 114-115
- Mu pengpeng. Analysis on Countermeasures to improve the service quality of tour guides [J]. Think tank era, 2018 (37): 129 + 132
- Jiang Hongjiang, Zhao Yang. Study on the management countermeasures of tour guides based on the investigation of the current situation of tour guides -- Taking Harbin as an example [J]. Intelligence, 2014 (10): 331
- Huang Yan. Research on dynamic incentive mechanism of tour guides based on service quality Hunan University of technology, 2014
- Hua Ying. Problems and solutions in tour guide service [J]. Modern economic information, 2017 (22): 303-304 + 369
- Lin Huaqing. Research on strategies for improving tour guide service quality of ZL Travel Agency [D]. Huazhong University of science and technology, 2013
- Zhang Jianrong. Current situation, problems and Countermeasures of guide service standardization [J]. Zhejiang journal, 2008 (04): 183-187
- Dang Chengyuan. Research on the development of tourism economy in Heilongjiang Province [M]. Party School of the CPC Heilongjiang Provincial Committee, 2019:61-67
- Meng Qingxing. Market status and Prospect of China's catering industry [J]. Economy and management science · service economy, 2019,22:2-4
- Wu Xian. Investigation on the current situation of the hotel industry and Exploration on the management countermeasures of strategic objectives [J]. Social sciences II, 2013,18: 2-3
- Hao Hongyan. Discussion on the management of China's hotel industry according to local conditions [J]. Hotel management research, 2014,2:1-3
- Huang Wenjun. Research on online marketing strategy of Hotel B in Lushan scenic spot [M]. Jiangxi University of Finance and economics, 2018:13-15

- He LingHong. Research on Problems and Countermeasures of hotel management in China [J]. Economy and management science · service industry economy, 2015,09:2-4
- Pei Haiming. Current situation and development strategy of internationalization of tourist attractions in Shandong Province [J]. Social sciences II, 2019,20:2-3
- Gao Wei. Research on the development status, existing problems and Countermeasures of retail industry in Liaoning coastal economic belt [J]. Economic and management science · trade economy, 2018,09:1-3
- Zou Yanyan. Theoretical analysis of global tourism development policy [M]. Qingdao University, 2019:4-8
- Zhang Xili. Analysis of outstanding problems and improvement measures in the management of travel agencies [J]. Enterprise management and development, 2018,7:1-2

# RESEARCH ON COMMUNITY O2O NEW RETAIL MODEL INNOVATION IN FRESH INDUSTRY

**SIHAN WANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: zhisou2021226@163.com*

## ABSTRACT

In 2020, Covid-19 has become a booster for the development of community e-commerce. The development of community fresh e-commerce can meet the needs of residents for high-quality fresh agricultural products under the background of rapid urban development. The emergence of the new retail model provides a new development direction for community fresh food. Combined with the epidemic background, this paper takes supermarket retail enterprises dominated by fresh and department stores as the research objects, analyzes their new retail mode and marketing strategy, adjusts, optimizes and innovates the development mode, and lists the optional paths for the all-channel integrated development of community fresh in China, so as to make enterprises better adapt to the new retail changes of digital transformation and consumption upgrading.

**Keywords:** fresh food industry, community new retail, O2O, innovation

## INTRODUCTION

### 1.1 Basic concepts

#### 1.1.1 Community new retail

Community new retail, also known as community O2O, refers to the combination of online and offline retail formats by using a series of network technology means such as network information technology integration, artificial intelligence and big data information capture technology, cloud computing deployment and so on, focusing on the target of community market, and with the help of convenient and fast warehousing, logistics and distribution systems, as well as the location advantages close to community market, It is a new business form to improve consumers' consumption experience and promote the development of community market economy.

The coverage of new community retail is very wide, which can almost cover all aspects of normal residents' lives. Its core element is the integration of online and offline, which should focus on the existing and long-term development market form of community market.

#### 1.1.2 Community O2O model

Henry Mintzberg pointed out in "company communization" that "gathering and living is an instinct engraved in human genes, because it is safer". Today's society is no longer the primitive society that lives in groups and lives on hunting, but the gathering effect is deeply engraved in human DNA. Social civilization and scientific and

technological progress can not stop the emergence of the huge social system of "community". It is the necessity of people's gathering life needs. Rational division of labor in the community can enable people to give better play to their abilities according to their own characteristics and maximize their interests. The rise of domestic O2O e-commerce model relies more on three aspects. One is the development and popularization of network information technology, so that more people can pay relatively less resources and energy to build an online mall. Second, the infrastructure construction of expressways and so on is more perfect. Expressways or national highways extending in all directions between cities, between villages and cities, and between villages and villages have become an indispensable support point for community O2O supply and transportation channels. Third, the change of people's consumption habits and the improvement of consumption level. People gather in the community life, food, clothing, housing, transportation and other aspects are solved within 5km around the community. In addition to online shopping, shopping in the surrounding living areas is the most daily consumption. Community O2O integrates online and offline resources, not only collects online customer traffic, but also provides services for the lives of local residents, killing two birds with one stone.

From the establishment of Alibaba to the recent e-commerce live sales, the speed of Internet development has driven the e-commerce community to change again and again. From simple online mall shopping to group shopping cash back, and then to the current e-commerce live delivery mode, people's shopping habits have been constantly shaped, and the requirements for consumption experience are gradually improving, this makes the whole retail industry face great challenges. Community O2O is the reform mode chosen by the retail industry in the face of this challenge. From the most basic e-commerce industry to the joint O2O mode, the original service customer group is transformed from online customers who are not familiar with each other thousands of miles away to ordinary community residents, and the business operation mode of community economy.

Zhang Jiao (2014) believed that community O2O is the embodiment of the Internet thinking mode and the best way to turn the Internet economy from virtual to real. In the view of ordinary residents, the so-called community O2O is the reality of online shopping and delivery, with the time difference between half an hour and one day. Such a convenient and fast lifestyle has cultivated consumers' shopping inertia. As long as they move their fingers at home, they can do a little shopping goods can be delivered to the door within a time, which is certainly more suitable for the lifestyle of young people than time-consuming and laborious shopping in the supermarket. In the view of professionals, the main advantage of community O2O is that the cost of e-commerce model is low, combined with the advantages of rich resources and good marketing of traditional service industry, and then relying on Internet big data analysis technology, according to the analysis of customer groups' consumption habits and consumption levels and resources integration, to develop more high-quality customers, fundamentally speaking, this is an extremely innovative marketing model.

To sum up, community O2O is a scene economy. It is based on the rapid development of network information technology, based on the community residents, to provide daily life services for the community residents for marketing purposes. At the same time, it needs to integrate online resources and develop a new business model combining online mall and offline physical store services.

## 1.2 Background

### COVID-19 affects new retail consumption mode

Because of the influence of COVID-19, consumers' consumption of outgoing shopping is decreasing, which has a major impact on the sale of non essential commodities and the supply chain of catering industry. The demand for food and other necessary daily consumer goods for three meals a day has strongly driven the development of online businesses and services such as Internet online sales, mobile shopping platform terminals and takeout delivery. According to the data of a platform, from January to February 2020, orders using contactless services accounted for more than 80% of the total orders. Over the same period, the national online retail sales of physical goods increased by 3% year-on-year, accounting for 21.5% of the total retail sales of social consumer goods, an increase of 5% over the same period last year.

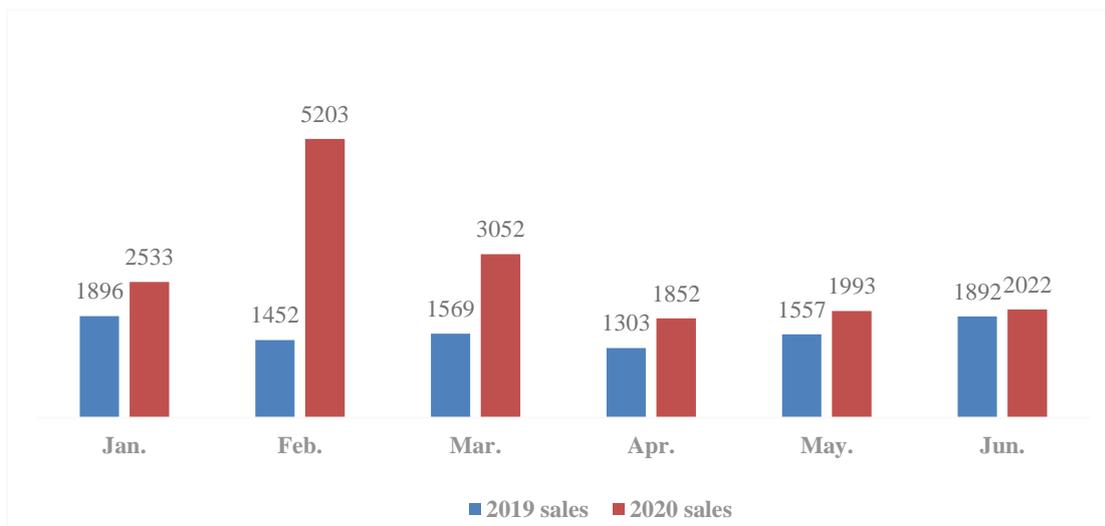
Figure 1: Online retail of physical goods in China from 2019 to 2020



Source: prospective economic man app

The operation of entity enterprises is the same as that of the platform. From January to February during the epidemic period, the sales of Brand X supermarket stores increased by 63700 and 375100 respectively over the same period last year, with the growth rate rising from 33.59% to 258%. The profit increased rapidly, nearly 7.6 times. The sales orders were generated through new media networks represented by mobile phones, pads and desktop computers. In particular, the epidemic situation coincides with the Spring Festival and winter vacation in February, and households do not go out, but the holiday consumption peak promotes the transformation of offline consumption into online consumption, and commodities from daily necessities to non necessities. The increase of consumer categories and channels makes the performance of major online operators rise against the trend.

Figure 2: Sales of X enterprise stores (Unit: 10000 yuan)



Source: field survey

Fresh food is an essential necessity in residents' daily life. With the rapid development of urbanization in China, residents' consumption structure has changed greatly, and the demand quality for such high-frequency rigid goods has gradually improved. Therefore, community fresh food, which focuses on the community market, has developed rapidly after 2015. However, the industry participants are mixed, the types of offline community fresh food stores are insufficient and the scale is small, which is difficult to meet the increasingly diversified consumption needs of community residents. In 2018, community fresh e-commerce platforms represented by box Ma Xiansheng and aunt Qian began to appear. Based on the huge online traffic, based on the offline physical fresh retail stores and the inventory system, the door-to-door distribution method was adopted to reduce the time cost of consumers' shopping and meet the diversified consumer needs of consumers. The emergence of the community fresh food retail model integrating online and offline channels has brought a great impact on the traditional community fresh food market. In 2020, COVID-19 is undoubtedly an important factor to promote the rapid development of community fresh retail. Under the market demand of contactless distribution, the fresh food of the community has shown great vitality. Online cooking has gradually become a new consumption concept accepted by the public. The 2 generation of community fresh food is accelerating.

## LITERATURE REVIEW

### Development status of community fresh food market in China

#### 2.1 Main modes of community fresh in China

Different from large supermarkets, the main service objects of community fresh food are residents of adjacent communities. Chen fan and Liu Bing (2020) after calculation, it is estimated that the optimal service radius of community fresh food in China is between 1-1.5km. Table 1 lists the main types of community fresh food retail in China, of which the first four are common community fresh food modes dominated by offline retail, and the last two are community fresh food modes dominated by online sales. From the perspective of commodity structure, traditional offline fresh food retailers Varieties are greatly constrained by business area, and franchise stores and convenience stores with

small business areas are difficult to provide diversified products. Online community fresh retail breaks the limitation of business area. With the help of a complete logistics system and based on the fresh resources stored in various stores or storage bases in the city, it can be timely deliver the products ordered by users to consumers in a short time, and quickly realize the closed loop of omni-channel retail activities.

*Table 1 main business models of community fresh in China*

<b>Category</b>	<b>Commodity type</b>	<b>Operating area</b>
Community supermarket	Fresh food, packaged food, daily groceries, beverages, etc	100 to 1000 m <sup>2</sup>
Fresh discount store	Basic types of fresh products	200m <sup>2</sup>
Fresh + convenience store	Delicately packed vegetables and a small amount of fine fruit	100 m <sup>2</sup>
Franchise community Restaurant	Common fruits and vegetables, meat and eggs, bean products, etc	Tens to hundreds of m <sup>2</sup>
Fruit and vegetable market	A full range of vegetables and fruits	More than 1000m <sup>2</sup>
Community group purchase	A full range of vegetables and fruits	0

## **2.2 The trading volume of fresh food market continued to grow**

With the acceleration of China's urbanization and the continuous improvement of residents' living standards, the demand of fresh food market is increasing year by year. Table 2 shows the transaction volume and growth of China's fresh food market from 2014 to 2020. It can be found that the scale of the offline fresh food trading market has gradually increased, its annual growth rate has reached 4.3%, and the whole market volume has exceeded 15 trillion yuan. This shows that the volume of China's offline community fresh food market is huge, which can provide sufficient market foundation for the development of community fresh food retail. From the transaction volume data of online community fresh food market, the transaction scale has increased from 378.2 billion yuan in 2014 to 2625 billion yuan in 2020, with a compound growth rate of 40%. Compared with the offline community fresh food market, the development of China's online community fresh food market is faster, especially under the influence of the global epidemic, the shopping method of contactless distribution is gradually accepted by the public. However, in terms of the total transaction scale, by 2020, the transaction volume of China's online fresh food market accounted for only 14% of the overall fresh food consumption market, and the offline fresh food market is still the main part of China's community fresh food market. How to integrate the remaining offline community fresh food resources with the online platform and accelerate the development of China's online and offline Omni channel community fresh food model has become an important topic for the development of new community fresh food retail.

Table 2 transaction volume and growth of China's fresh food market from 2014 to 2020

Years	Online community fresh market		Offline community fresh food market	
	Volume of trade	Growth rate	Volume of trade	Growth rate
2014	3782	64.43%	120920	7.24%
2015	5682	50.24%	127800	5.69%
2016	7253	27.65%	132700	3.83%
2017	9253	27.57%	138750	4.56%
2018	13762	48.73%	141200	1.77%
2019	18725	36.06%	145300	2.90%
2020	26250	40.19%	151050	3.96%

Source: IResearch consulting, the author sorted it out

### 2.3 Industry competition is strengthened and Matthew effect is prominent

In the early stage of the development of fresh food in online communities, the capital participation of all parties is mostly based on traditional offline stores to provide online services for community residents in the form of franchisees, applets or online communities. At that time, the online community fresh food did not have the characteristics of the integrated development of the new retail line, and the participation of terminal logistics was low. With the continuous maturity of the new retail concept, it is gradually applied to the community fresh food business. In 2018, community fresh food has become the focus of the development of new retail. Internet giants such as meituan, Ali and JD have deployed the community fresh food market relying on traffic advantages. Traditional retail giants such as Yonghui supermarket have also begun to introduce online platform resources. Some local community fresh food brands such as aunt Qian and Baiguoyuan have also opened the road of expansion, and the competition in the whole community fresh food market is becoming increasingly fierce. Internet companies with strong flow resources and retail giants with more cash and offline store resources gradually stand out in the competition. Some small platforms are gradually merged and acquired by large platforms. With the support of new retail, the concentration of community fresh food industry is gradually increasing, and the stronger Matthew effect has been highlighted. However, generally speaking, due to its early stage of development, the industry concentration of China's community fresh food market is relatively low at this stage, with most regional community fresh food brands and few national community fresh food platforms, which means that China's community fresh food will still be in a fierce market competition environment in the short term.

### 2.4 Fresh supply chain restricts the efficient development of community fresh retail

From the perspective of the whole circulation channel of fresh products, the composition of fresh supply chain is relatively complex, involving multiple systems such as production, procurement, circulation and retail of agricultural products. Due to the information asymmetry among industries and the mismatching of efficiency in each stage of product circulation, the fresh consumption cost is high and the loss is large in the process of layer by layer circulation. At present, China's domestic cold chain logistics system is not perfect, and only a few large enterprises such as JD have a perfect cold chain logistics

equipment. For most small and medium-sized community fresh food operators, the use of third-party cold chain logistics will increase the operating cost, while the early investment in self construction or purchase of cold chain logistics equipment is large, which is often unbearable for enterprises. The fragility of fresh supply chain restricts the efficient development of community fresh food in China, resulting in poor results of omni-channel operation of community fresh food, and can not achieve real omni-channel development in the short term.

### **3. Analysis of Community Marketing Model of Existing Fresh Products**

The main markets for selling fresh products through supermarkets and vegetable markets are middle-aged and elderly customers, while the new retail model mainly aims at young consumers. With the accelerating pace of work and life, young people living in urban areas rarely have time to shop around in supermarkets and vegetable markets. When they buy fresh products, they often pay more attention to the convenience, time-saving and product quality. Therefore, when fresh products take young consumer groups as the sales target, we should first pay attention to product quality and accurate product description. In this context, the community marketing model that can enhance customer trust and increase user stickiness through localized sales advantages and word-of-mouth marketing came into being.

#### **3.1 Community store + platform shopping mode**

In this mode, customers buy fresh products on small programs or software apps, and then pick them up at offline physical stores. If customers have quality problems during purchase, they can find the background service personnel to solve the problems in time. Offline physical stores are generally located in residential areas, and consumers can usually purchase and pick up goods in their own or surrounding communities. Compared with the ordinary online sales mode of fresh products, the physical store under the "community store + platform shopping" mode is mainly responsible for warehousing and after-sales, which can minimize the distribution cost and improve consumers' trust.

#### **3.2 Community group purchase + centralized pickup mode**

This model refers to the community platform (for example, wechat group purchase applet) allows consumers to select products according to their own needs and pick them up at the designated place and time. This distribution method can minimize the time for customers to obtain products, reduce store rent and employee wages, and save costs. The fresh products sold under this mode usually come from farms or production bases with quality assurance. Therefore, the quality and freshness of products can be basically guaranteed.

### **4. Problems in Community Marketing Model of Fresh Products**

#### **4.1 Imperfect service facilities and high logistics distribution cost**

Although many community convenience stores have opened service commodities that can basically meet the needs of residents, it is still not enough at present. At present, the service items provided by the convenience store include: paying water and gas charges, mobile phone calls, q-coin recharge, game account recharge, express collection and posting, printing and copying. The service items that we hope to expand in the future include:

microwave heated food, door-to-door delivery of drinking water, shared umbrella, shared charging treasure, battery car charging, etc. Convenience stores will also cooperate with second-hand goods recycling stores, laundries, sewing shops, air supply points, tutors and housing agents to further enrich their own service-oriented products and pay equal attention to goods and services. In terms of logistics distribution, most fresh products are not easy to store, and customers have high requirements for the freshness of fresh products. In the process of transporting agricultural products, cold chain technology is very necessary. Offline stores also need to build freezers. With large investment and high operating costs, it has extremely high economic pressure for some offline stores. Moreover, even if the vegetables are taken the next day, there are still some problems. For example, customers place orders in advance and can obtain fresh products the next day. Once the dishes need to be added temporarily at home, they can only purchase through supermarkets, vegetable markets and other traditional methods.

#### **4.2 There is no unified quality standard for fresh agricultural products**

Although some large production bases have been able to realize the standardized production of agricultural products and product traceability, there is still no perfect quality standard for fresh products. The mainstream product certification in the market is still only a very empty classification such as pollution-free and green, which is difficult to be accurately understood by the public. Moreover, most farmers lack standardized production power and brand awareness. When they are purchasing, enterprises often can only buy by experience. It is difficult to master the quality of all fresh products, which is easy to lead to low customer satisfaction, improve business risks and reduce economic profits.

#### **4.3 Shortage of operation talents and funds**

Now there are many enterprises selling fresh products through community marketing, but most of them have little profit. Under the pressure of high costs such as store leasing, operation and talent recruitment, it is difficult to realize high-intensity capital chain operation. The low economic efficiency of the fresh products industry further makes it difficult to recruit professionals, which greatly hinders the professionalism and effectiveness of agricultural products in sales and promotion, which is extremely unfavorable to the development of community marketing. In short, professional sales and promotion talents "despise" the fresh agricultural products industry, while experienced front-line personnel lack professional knowledge and theory, and are generally older, so it is difficult to receive new knowledge, which seriously hinders the further development of agricultural products sales.

#### **4.4 Limited sales varieties, single shelf display and outdated promotion forms**

The X community convenience store we investigated mainly increases daily sales through the floor efficiency. Rapid replenishment of products and replacement of display positions are effective ways to improve the floor efficiency of a single store. When there is unsalable situation, stores need to use the way of promotion to digest quickly and avoid losses. However, in the convenience store of X community, the display mode of the store is single, and the store is placed in order only according to the same types of goods, without highlighting more competitive goods, so it is often difficult for customers to purchase. There are the same problems on the network platform. For more competitive products, we should set the top or roll promotion, and then add the push of related products. For

unsalable goods, we often see the words "buy one gets one free" pasted on the glass with A3 paper. The randomness of the posting makes the store look depressed or low-end. The current display mode of N convenience store does not have uniqueness and novelty.

Due to its high requirements for logistics time and the loss rate, the agricultural products marketed in the community are mainly concentrated in the range of localized varieties, such as home-made dishes and handmade semi-finished products with local characteristics, which is convenient for procurement and timely transportation. However, with the continuous improvement of people's living standards, there are higher and higher requirements for the quality and diversification of fresh products. People's demand is no longer limited to local agricultural products. Customers' demand for other regions and imported fruits and vegetables is increasing. Fresh product enterprises need to increase the types of products sold to meet the needs of consumers to the greatest extent.

## **5. Innovation Research and Reform of New Retail Marketing Model**

### **5.1 Analysis on Omni channel integration mechanism of fresh food based on Community**

#### **5.1.1 Online and offline integration to ensure service quality**

In the new retail context, Chinese community fresh food is developing towards the mode of Omni channel management (Figure 3). This integration of online and offline resources needs to be based on the application of technology and efficient logistics services as the carrier. In the supply of upstream agricultural products, the quality of agricultural products can meet the national safety standards through real-time monitoring and information sharing. Community fresh food operators coordinate with upstream farms and reduce pollution by investing in greenhouses, cold chains and other infrastructure. Low seasonal differences in agricultural products bring about cyclical changes in market demand. In addition, through the training of agricultural employees and subsidies for agricultural machinery and appliances, we will promote the intensive development of agricultural production and meet the needs of downstream consumers. From the perspective of consumer terminals, community fresh food suppliers rely on the geographical advantages of their offline stores to carry out multi frequency and high-quality member and store services to improve consumers' consumption experience. At the same time, regular promotion activities are carried out in the community to accumulate user traffic, so that community residents gradually form a fresh consumption habit of online shopping. From the perspective of channels, community fresh food suppliers use the online platform to import traffic and attract potential customers with member preferential activities such as recharge and full reduction. Compared with offline retail stores with fixed area, the e-commerce platform can further enrich commodity categories and meet customers' consumption needs with the help of efficient logistics system. In addition, in the era of mobile Internet, community fresh food operators can more conveniently carry out various online marketing activities, and timely grasp the changes in the market demand for fresh products through the operation of virtual communities. At the same time, with the help of big data analysis technology, we can more scientifically select the optimal location of offline stores and realize the efficient operation of all channels.

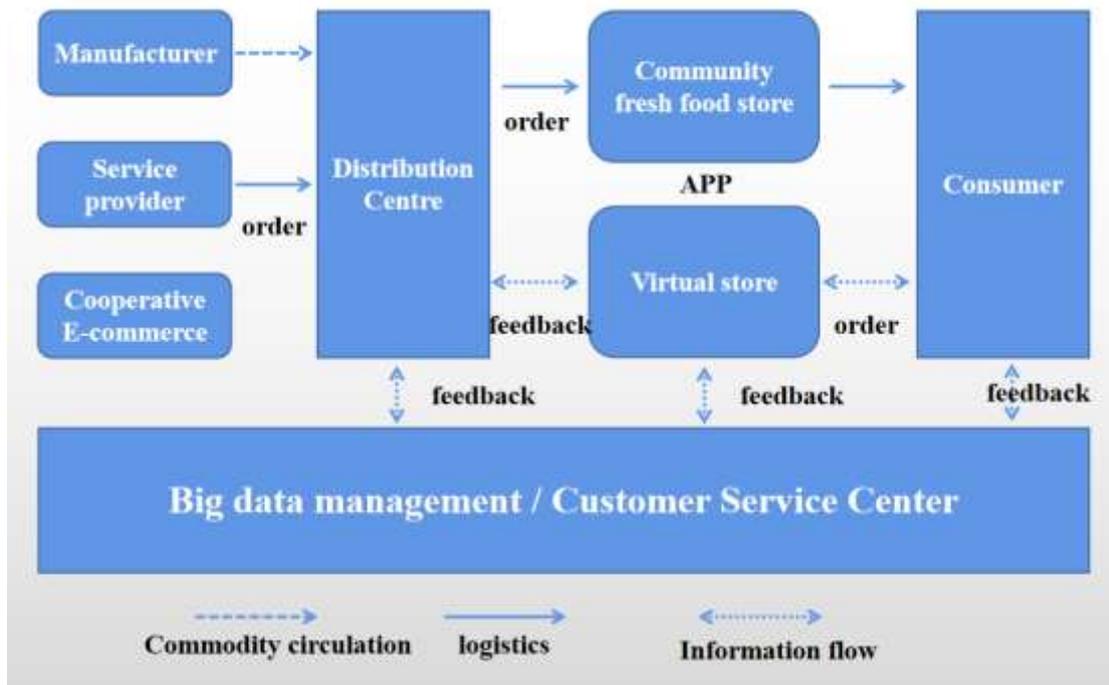
Figure 3 Omni channel integration model of community fresh food



### 5.1.2 Pay attention to supply chain management and improve the channel efficiency

The integrated development of online and offline Omni channel community fresh food is conducive to the integration of upstream and downstream supply chain resources and improve the efficiency of commodity circulation in the channel. The complexity of the upstream and downstream of the traditional fresh supply chain, redundant supply chain, low commodity circulation efficiency and high circulation loss rate have seriously affected the consumer demand for high-quality fresh products. The application greatly improves the logistics transportation efficiency and alleviates the problem of logistics information asymmetry of fresh products. As shown in figure 4, with the help of big data and customer management center, community fresh food suppliers can timely integrate the commodity information and logistics information of all channels of community fresh food, so as to more efficiently match the product market and the consumer market. For example, through the online virtual store platform, feedback the consumption habits and needs of end consumers, and feed back the information of changes in consumer market demand to the distribution center. The distribution center selects high-quality fresh products according to the products provided by upstream manufacturers and delivers them to end consumers through the logistics system. At the same time, some commodities will also be transported to community fresh stores with the help of urban logistics system to meet the offline consumption needs of some users. In this process, the distribution center is in the central position. Upstream agricultural producers and service chambers of Commerce provide fresh products to the distribution center, which generally has perfect warehousing, logistics and refrigeration equipment to reduce the adverse impact of seasonal and cyclical factors on fresh products. At the same time, the distribution center timely delivers fresh products to consumers according to the feedback of end consumers, the whole fresh consumption link is shortened, and the circulation efficiency of fresh products is greatly improved.

Figure 4 Omni channel supplies chain management of community fresh food



## 5.2 Innovation path of new retail marketing model

### 5.2.1 Pay attention to details, service quality and enhance the sense of pleasant experience

After the occurrence of COVID-19, people's health and living standards and diet health level were further improved. In addition, epidemic prevention and control also gave birth to the "house economy", and the development of self operated app development and takeout platforms of businesses accelerated to meet the increasing demand for online orders. Fresh frozen products and fruits have high requirements for storage and transportation, and there are strict regulations on distribution and arrival time. In different seasons, the delivery time needs to be adjusted accordingly, and the fresh distribution is required to be completed within 1 hour at the fastest, so as to ensure that its quality is not affected. At present, after receiving orders, the merchant platform immediately picks, re picks, packages, picks up and transports. In the whole process, the quality of food may deteriorate due to improper storage and lead to consumption disputes. The correct approach is that once the seller receives the app delivery order, it will pick up the user's order according to the goods prompt, and the refrigerated and frozen products will be packaged in special ice bags or fresh-keeping bags. It is required to complete this operation within 60 seconds. Send it to the re picking place through the voice prompt, use the app platform to notify the rider to pick up and deliver the bill immediately, and the whole process machine prompt and voice warm broadcast. Users can view the information in real time after placing an order, enhance the visual sense of shopping, and make online shopping a relaxed and pleasant experience. At the same time, we should optimize the scene design and service process, pay attention to detailed service and brand improvement, increase product classification management, pack food and non food in bags, and pay attention to the beauty of product placement and the convenience of customer extraction.

### **5.2.2 Pay full attention to customer evaluation and feedback to enhance customer trust**

New retail online shopping takes trust as the link, fully straightens out the relationship between platforms, merchants and consumers, continuously increases the sense of quality service and experience from the perspective of customers, and innovates marketing service methods, so as to stand out from the fierce online competition of merchants on various platforms, gain more vitality and trust through self-service value-added, and enhance customer satisfaction and loyalty. Increase the dimension of accurate customer portrait, understand customers' subjective consumption intention, and obtain users' objective service evaluation. Add a platform for instant response to multi-channel feedback, deal with customer problems at the first time, return and exchange for free without reason, and relieve the worries of customers who are not satisfied with shopping. Make use of new media and other marketing tools to create brand influence and public relations publicity, gradually complete the branding of the platform, make customer consumption become habitual consumption, customers become enterprises and brand supporters, and customers have viscosity with brands and enterprises.

### **5.2.3 Pay attention to online and offline digital integration and strengthen the sense of user participation**

Since 2020, COVID-19 has changed people's consumption habits, and community group purchase has been booming. Compared with online group buying, the community group buying needs to set up a service department in the community or other specific places. Consumers can pay money in the service department and obtain after-sales guarantee when there are problems with goods. At the same time, group buying organizations can also collect residents' purchase needs through the service department and contact appropriate businesses to provide goods. Online order summary and offline centralized extraction combine the convenience of online shopping with the low price advantage of product group purchase, and customers' needs become the ability to realize directly. At present, chain retail brand enterprises attach great importance to online customer mining and drainage, and regularly send main products by means of wechat scanning code into the group, so as to benefit users in the form of group purchase or low price.

In the post epidemic period, consumers' psychology, demand and behavior is changing. At the same time, retail enterprises are moving from "flow market" to "stock market". A large number of group social marketing models based on social interaction have emerged, from product thinking to sharing thinking, from simple which product is easy to use, operation steps, user evaluation, purchase channels and the buyer recommendation, to unintentional chatting, intentional consultation and help seeking, and active willingness to share. People not only alleviate the loneliness and depression caused by long-term closed home, but also share through group communication, Also find a sense of identity and belonging. After the psychological and social needs are met, there will be some dependence and trust, and finally rely on material consumption to solve the real physiological needs. Moreover, sharing for the purpose of making friends and communication essentially contains the functions of product marketing and promotion. After being recognized by the group of friends, it naturally "turned into powder", and the sharing economic model has successfully made a soft landing since then. Sharing for the purpose of making friends and communication, strengthening the deep link with consumers, building a new consumption channel through private domain traffic, forming a new agency relationship and reaching the consumer terminal. After the emergence of the social marketing model, customers from being shared to sharing, often participate in

community topics, pay attention to, chat and discuss, spend a lot of time in the community, and customer needs become a connectable and manageable stock. Operators integrate online big data, depict user portraits, collect user evaluations, improve products and services, upgrade new products, accurately serve users, integrate resources online and offline, and produce good marketing results. More representatives are the community marketing of xiaohongshu, microblog, wechat and QQ platforms, as well as the convenient group purchase represented by meituan optimization, Shihui group, orange heart optimization and dingdong shopping. Various new retail marketing models have been emerging and blooming during the epidemic period, and have been continuously practiced in the experimental field of new retail.

Times create heroes, changes in the consumption environment lead to changes in the consumption scene, and the upgrading of consumption demand leads to changes in the new retail model. Marketers should study the new characteristics of the new retail model, study the current changes in consumer demand, timely make corresponding changes in marketing strategies, integrate existing new retail resources, adjust, optimize, innovate and develop marketing models, so as to better adapt to the new retail changes of intelligent upgrading and digital transformation.

## CONCLUSION

New retail is actually an old and novel concept. It is said that it is obsolete because it has quickly become the focus of attention in the industry since Ma Yun first put forward the concept. It has been mentioned too frequently. In this contemporary era of rapid changes in scientific and Technological Development and people's consumption concept, such frequency often means obsolete and obsolete. Of course, this means that celebrities follow suit, but more because many people in the industry believe in Ma Yun's vision and their own judgment. In the new economic era of continuous integration of online and offline, this emerging retail model, which integrates the advantages of both sides and has a solid foothold, naturally attracts people's attention. It is novel because it has not even a unified concept or definition since its birth, but there are always several words in the words describing or summarizing this emerging business model: information technology, big data analysis and people-oriented. These central words are full of freshness, especially when compared with traditional retail methods, new retail takes consumers as the noumenon and emphasizes giving priority to consumers' consumption experience, which seems to be a very trendy point of view. As the most prominent and collectivity type of new retail, the convenience store has always emphasized the concept of "upgrading the convenience level of consumers", and taking the "Internet plus people" as the core. The industry generally believes that in today's rapidly changing science and technology, driven by big data, new retail can promote the comprehensive transformation from price consumption to value consumption.

The outbreak of new retail is not achieved overnight. It has experienced a series of inevitable and accidental factors to have today's pioneering situation. It needs the city where it is located to provide relatively perfect infrastructure, include mainstream consumers with novel ideas and high consumption level, and need network information technology as a solid backing for big data analysis. At the same time, the efficiency of logistics distribution service is also essential.

## REFERENCES

- Special research report on China's community group buying industry in the first half of 2020 International brand watch (2020). (32), 68-71 doi:CNKI:SUN:GJPC. 0.2020-32-026.
- Liu Yan (2021). Research on the operation mode of community e-commerce supply chain of fresh agricultural products Business Economics Research (04), 102-105 doi:CNKI:SUN:SYJJ. 0.2021-04-029.
- Li Lianying, Nie Leling & Fu Qing (2020). Analysis on the differences of consumers' willingness to buy community e-commerce fresh agricultural products -- An Empirical Study Based on 578 consumers in Nanchang city Journal of agriculture and forestry economics and management (04), 457-463 doi:10.16195/j.cnki. cn36-1328/f.2020. 04.49.
- Li Lei & GUI Lin (2021). Under the background of post epidemic situation, Beijing community fresh agricultural products distribution model Northern Horticulture (22), 142-149 doi:CNKI:SUN:BFYY. 0.2021-22-024.
- Zhang Yixin, Zhang Jinhui & Chen Jingru (2020). Research on the development of new and old fresh enterprises under the Internet -- Taking Yonghui supermarket and HEMA fresh as an example National circulation economy (15), 14-16 doi:10.16834/j.cnki. issn1009-5292.2020. 15.004.
- Zhang Xumei, Wu Yuhe, Wu Shengnan & Dan bin (2020). Research on the omni channel transformation path and mechanism of fresh physical stores under the Internet Environment -- Based on the longitudinal case study of Baiguoyuan from 2008 to 2018 Soft Science (03), 129-136 doi:10.13956/j.ss. 1001-8409.2020. 03.21.
- Fang Jing & Huang Xin (2019). Consumption drive and the evolution path of new retail under the background of Omni channel Business Economics Research (12), 12-15 doi:CNKI:SUN:SYJJ. 0.2019-12-004.
- Shen Jie (2019). Research on community marketing model of fresh agricultural products under the background of new retail Journal of Xinyang University of agriculture and Forestry (02), 36-39 doi:10.16593/j.cnki. 41-1433/s.2019. 02.009.
- Du Peng, Zhou Yuyan & Xu Jin (2019). The realized path of Omni channel supplies chain integration under the new retail background Business Economics Research (11), 20-23 doi:
- Zhang Jianjun & Zhao Qilan (2019). Integration and optimization of Omni channel supply chain for new retail -- from the perspective of service leading logic Contemporary economic management (04), 23-29 doi:10.13253/j.cnki. ddjjgl. 2019.04. four
- Jiang Huimin & Xu Xiangyun (2020). The development logic and strategy of new retail community marketing under the background of consumption upgrading Business Economics Research (08), 89-92 doi:CNKI:SUN:SYJJ. 0.2020-08-023.
- Sun Zhidong (2020). Discussion on marketing channel optimization of fresh agricultural products under network conditions Agricultural economy (07), 138-140 doi:CNKI:SUN:NYJJ. 0.2020-07-051.
- Wang Lijun (2020). Discussion on community new retail under epidemic blockade Modern commerce and industry (17), 207-208 doi:10.19311/j.cnki. 1672-3198.2020. 17.107.

- Xu Xiaoyu (2017). Research on O2O e-commerce operation mode of fresh community (Master's thesis, Nanjing University of Posts and Telecommunications)  
<https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201801&filename=1017860057.nh>
- Cheng Chun (2020). Research on experience marketing strategy of fresh e-commerce enterprises under the background of new retail -- Taking HEMA fresh as an example JOURNAL OF CHANGCHUN UNIVERSITY (03), 1-6  
doi:CNKI:SUN:CDXB. 0.2020-03-001.

# DISCUSSION ON INNOVATIVE WAYS OF MEDICAL CHINESE TEACHING FOR FOREIGN STUDENTS MAJORING IN MEDICINE IN HIGHER VOCATIONAL COLLEGES

XUE YANG<sup>1</sup>, NUNTIYA NOICHUN<sup>2</sup>

<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1147164454@qq.com*

## ABSTRACT

Medical Chinese is a professional Chinese teaching courses for medical students, with Chinese as a means of skills training, medical knowledge as the teaching content, pay attention to cultivate the students of daily life and medical field of Chinese language communication ability, and the dual properties of language teaching and professional teaching, high quality medical Chinese teaching for students medical professional teaching and clinical practice teaching. In order to effectively improve the clinical Chinese communication ability of international students, this paper discusses the medical Chinese teaching methods from the construction of the actual teaching experience, the development of school-based teaching materials and the application of various teaching methods.

**Key words:** medicine, international students, Chinese teaching, innovative ways

## INTRODUCTION

In recent years, the increasing comprehensive national strength and the continuous improvement level of college education have attracted more and more foreign students to study in China, and quickly promoted the development of education of Chinese students. With the continuous major breakthroughs in China's pharmaceutical field, the number of international students choosing the medical major has always accounted for a large proportion. Take Tongren Polytechnic College as an example, in 2017, 77 international students were enrolled, including 67 selected medical major; in 2018, 145 students were enrolled and 116 selected medical major, steadily accounting for half of the country.

## LITERATURE RIVIEW

### 1 The necessity of carrying out medical Chinese teaching

Medical Chinese is a professional Chinese teaching course offered for medical professional students. Different from the basic Chinese and cultural courses, it takes medical knowledge as the teaching content, focuses on cultivating international students' daily life and Chinese language communication ability in the medical field, and has the dual attributes of language teaching and professional teaching. The aim is to reduce or remove language barriers for international students to learn from medical professional courses, and to help international students to better solve the practical problems of

communication in medical scenarios, so as to meet the needs of clinical internship. High-quality medical Chinese teaching plays a basic role in supporting the medical professional teaching and clinical practice teaching of international students. [1].

## **2 The existing problems in medical Chinese teaching**

### **2.1 Lack of compound teacher resources**

At present, the teachers teaching medical Chinese courses in domestic medical schools are mainly divided into two categories, one is medical professional teachers and one is Chinese teachers. Some schools, such as Zunyi Medical University, undertake the basic teaching of Chinese teachers and the basic part of the teaching according to the content and difficulty of the selected textbooks, and the professional teaching. At present, our school foreign Chinese teachers undertake the teaching task of medical Chinese courses.

By understanding and familiar with medical knowledge of medical teachers teaching medical Chinese courses, can explain professional knowledge more accurate and thoroughly, but due to the lack of systematic second language acquisition and teaching theory basis, in practical teaching is difficult to besides the development of sentence type, sentence practice and grammar, etc. Simply facing foreign students in the way of teaching Chinese students leads to a dull classroom atmosphere, students' low interest in learning, the lack of effective interaction between teachers and students, and the teaching effect is not ideal.

By Chinese teachers experienced Chinese teaching teaching task of medical Chinese course, the advantage is familiar with the second language acquisition, understand the characteristics of international students learning Chinese, can create scenarios, guide students to communication practice, stimulate students' interest in learning, better complete the heavy and difficult teaching and expand appropriately. However, Chinese teachers have not received medical professional training and lack of knowledge reserve. In actual teaching, they often encounter embarrassing situations that students cannot answer questions about medical professional knowledge. In the process of lesson preparation, there is also difficult to understand and digest some medical knowledge, and often powerless.

### **2.2 Lack of teaching materials in line with the characteristics of Higher Vocational Students**

Teaching materials are the carrier of teaching. Choosing suitable teaching materials in line with students' characteristics is one of the conditions to achieve good teaching results. At present, our school adopts a series of practical medical Chinese textbooks published and issued by foreign language teaching and Research Press in 2009, which are divided into "language", "basic" and "clinical". Each chapter can be used together or separately. It is a professional Chinese textbook specially designed for foreign students receiving medical undergraduate education in China. Due to the different educational system between Higher Vocational Colleges and undergraduate colleges, our university only offers medical Chinese courses in the freshman year of foreign students. In order to complete the teaching task within the limited classroom teaching time and achieve the established teaching effect, our school selects the "basic chapter" in this series of teaching materials as the teaching content. This content is basically synchronized with the main professional courses of the same grade students of higher vocational medical specialty in China. It focuses on the training of listening and speaking ability with the content of professional courses as the longitude and the commonly used medical communication scenes and typical cases as the latitude. While cultivating language communication ability,

it pays attention to the transition and connection of language knowledge and professional knowledge. At present, there are no medical Chinese teaching materials for higher vocational students in the market. Under this situation, this textbook has played a very positive role in the professional Chinese teaching of medical students in our university [2].

Of course, the shortcomings of undergraduate teaching materials used in college teaching are also obvious. Both the teaching content and difficulty need to be designed and adjusted according to the actual situation.

### **2.3 Students have learning difficulties**

Medical Chinese course belongs to professional Chinese course. A large number of obscure medical professional vocabulary and unfamiliar medical communication environment make learning much more difficult than basic Chinese course. In addition, the Chinese foundation of foreign students in higher vocational colleges is relatively weak, which is easy to produce fear and retreat. Through the questionnaire survey of 2017 and 2018 medical students in our university, although 82% of the students believe that the medical Chinese course is helpful for them to learn other medical courses, nearly half of the students believe that learning this course will feel pressure and not easy.

## **DISCUSSION**

### **3.1 Strengthening the construction of compound teaching staff**

As a part of second language teaching, medical Chinese teaching is a professional Chinese teaching with Chinese as a skill training means and medical knowledge as a teaching content. In view of this particularity, the author believes that the teachers who undertake the medical Chinese teaching of foreign students should not be single Chinese as a foreign language teachers or medical professional teachers, It should be a compound talent with both teaching Chinese as a foreign language skills and relatively perfect medical professional knowledge. Compared with medical teachers who lack the theoretical basis of second language acquisition and teaching and do not understand the learning characteristics, laws and psychology of foreign students, Chinese teachers with rich experience in teaching Chinese as a foreign language are more suitable to be trained into such compound talents [3].

### **3.2 Developing school-based teaching materials in line with the characteristics of Higher Vocational Students**

Following the principles of practicality, communication, knowledge, interest, scientificity and pertinence, the series of courses of practical medical Chinese by FLTRP has filled the gap in medical Chinese education for foreign students in Chinese colleges and universities and played a positive role in medical education for foreign students in Chinese colleges and universities. However, as the teaching materials used by medical students in higher vocational colleges, each school still needs to design and adjust according to its own actual situation. Taking our university as an example, medical students are basically from Southeast Asian countries, of which Laos has the most students. Few of them have basic English, and most of them do not understand English. FLTRP's teaching materials are bilingual, but for them, English does not help them learn this course. In addition, the junior college system is three years, and the study time in school is only two years. At present, medical Chinese is only opened in the freshman year. It pays attention to the professional basic knowledge, but it lacks the study of some contents of clinical practice, and loses the opportunity to understand the practice process and the characteristics of each department in advance. Next, according to the characteristics of our students, we will start with the selection of teaching content and difficulty setting, still adhere to the principle of practicality first, highlight communication

and interest, and develop school-based teaching materials suitable for our school and of universal reference value to medical students in higher vocational colleges.

### **3.3 Adopt a variety of teaching methods to stimulate students' interest and motivation in learning**

#### **3.3.1 Strengthen listening and speaking and overcome psychological obstacles.**

The purpose of medical Chinese teaching is not only to reduce or remove language barriers for foreign students to learn medical courses, but also to help foreign students better solve the practical difficulties in medical scenes [4], so that they can learn to communicate with teachers, doctors, nurses, patients and family members, so as to meet the needs of clinical practice. In the teaching process, the listening and speaking teaching method is adopted. If conditions permit, take students to the hospital for internship, feel the communication language in the real medical scene and imitate learning. Fully mobilize students' enthusiasm and enhance self-confidence through repeated training.

#### **3.3.2 Create situations, role play and communicate.**

Although the foreign students who enter the professional study have a certain Chinese foundation, they lack of life experience and do not understand the current Chinese medical environment. Therefore, it is difficult to associate and expand the use of medical vocabulary and commonly used clinical sentence patterns, which is easy to produce fear of difficulties. Teachers should appropriately expand and supplement the contents of teaching materials in teaching, and pay attention to the intention to create scenes in students' internship. Teachers and students play roles respectively for communication practice, which can not only activate the classroom atmosphere, but also improve students' interest in learning.

#### **3.3.3 Introduce cases and the team completes the task.**

With the participation and help of medical teachers, the teaching teachers provide students with cases with typical clinical significance for analysis and discussion in groups. Students are required to express their opinions and explain the reasons in the whole working process from inquiry, prediction, auxiliary examination, diagnosis to treatment. In the process, teachers will ask questions about students' expression, and the diagnosis basis and treatment scheme of the disease will be discussed by the students. Such communication can not only improve the oral expression ability of foreign students, but also promote the strengthening and consolidation of professional knowledge [5].

## **CONCLUSION**

In short, medical Chinese teaching for foreign students majoring in higher vocational medicine is still groping and exploring, teaching experience and teaching means are not rich and diverse, and high-quality compound teachers have not been established. However, medical Chinese teaching has attracted the attention of front-line Chinese as a foreign language teachers in recent years. It is hoped that through the training of teachers, the development of teaching materials and the improvement of teaching methods, we can effectively improve the enthusiasm and effect of medical students studying medical Chinese.

## REFERENCE

- Wu Ri xia.Discussion on Medical Chinese Teaching for International Students majoring in Clinical Medicine [J].Curriculum Education Research, 2017 (50): 239-240.
- Wang Jing.Study on Chinese Teaching Status of International Students majoring in Clinical Medicine of Dali University [J].Dali University Journal, 2017,2 (2): 90-92.
- Yan Li.On Medical Chinese Teaching for Clinical Medical Students [J].Northwest Medical Education, 2013,21 (6): 1146-1147.
- Liang Zhongbao.Discussion on the Chinese Teaching Model of Foreign Medicine [J].Hubei Adult Education College Journal, 2013,19 (5): 84-85.
- Wu Jing.On the penetration of Traditional Chinese Culture in Chinese Teaching for Thai Students [J].Education modernization, 2019,6 (60): 270-271.

# INNOVATION MODE OF HOTEL MANAGEMENT UNDER THE BACKGROUND OF THE INTERNET

WENPING YANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 53862597@qq.com*

## ABSTRACT

In recent years, China's sustained and rapid development, the level of science and technology is also constantly improving, the network and information technology are fully and in-depth used in all fields, and the Internet has become a new hot spot sought after by all walks of life. At present, China has entered the Internet + era. The arrival of Internet + has not only created different opportunities for the hotel, but also makes them face huge challenges. To be specific, as an important choice for travel, business investigation, visiting family and friends and other accommodation, only by making continuous service innovation can hotels gain a foothold in the fiercely competitive modern market. This paper combined with the characteristics of the "Internet +" era background, the hotel service innovation situation and reference analysis, find out the current hotel deficiencies and its influencing factors, such as service personnel quality, hardware facilities, management mode, operation mode, and other factors, and targeted "tourism +" and "Internet +" through innovative thinking, perfect supporting facilities, improve talent structure, online and offline service innovation strategy.

**Key words:** Internet thinking, business development model, innovation of ways, hotel

## INTRODUCTION

### 1. Impact factors of hotel service innovation under the background of Internet +

#### 1.1 Theory of service innovation related

The theory of "innovation" comes from the Development Theory " created by Schumpeter. At present, the academic community has not reached a consensus on the meaning of service innovation, but scholars and experts at home and abroad have put forward many different views from different perspectives. Hjalager (2010) Based on the customer perspective, proposing service innovation refers to the product or service changes that can be directly discovered by customers [1<sup>2</sup>]. Liu Tianhui (2018) believes that on the basis of the hotel service management, through the resource integration, to seek the innovation impetus and resources for long-term development, and finally to realize the development mode of the goal of the hotel continuous operation is the service innovation. It is also pointed out that the service innovation has the characteristics of irregularity, intangible, extensive novelty and value orientation. [1<sup>3</sup>] Shi Can pointed out that service innovation, under the guidance of market demand, changes existing products and services, so as to better meet customer needs and obtain benefits. [1<sup>4</sup>]

Thus, although scholars at home and abroad have opinions on the definition of service innovation, but there are some similarities: first of all, starting from demand, service innovation is oriented to market demand, namely to fully understand customer demands and desire and combined with time background, market development for full analysis, on the basis of put forward new ideas for service. Secondly, in terms of form, service innovation includes tangible innovation and intangible innovation, which can innovate not only on tangible products, but also on intangible innovation in service process, management mode, and operation mode. Third, in terms of the purpose, the direct purpose of service innovation is to meet the needs of customers, and then to create a new development impetus to promote the continuous development of the enterprise, and finally to achieve sustainable operation.

To sum up, the author believes that service innovation refers to the market demand-oriented, through tangible or intangible innovation of service products, processes, technology, market, so that customers and potential users can feel different or new or improved service methods from the previous, so as to obtain new development impetus and achieve sustainable operation.

## **1.2 Impact factors of hotel service innovation under the background of Internet +**

To analyze the influencing factors of hotel service innovation is to clarify the driving mechanism of hotel service innovation under the background of Internet +, so as to solve some problems of lack of innovation motivation in the current process of hotel development. This article will elaborate from the following four aspects:

### **1.2.1 Employee Quality Factors**

Under the background of Internet + era, one of the important influencing factors of hotel service innovation is the quality of hotel employees. Professional quality of the hotel staff is generally not high, hotel often lack of special system training, and there is insufficient self promotion consciousness, personalized service consciousness, service innovation related professional knowledge, so it is difficult to leave a good impression on customers, a great negative impact on the quality of hotel service, thus hinder the development of the hotel.

And if the professional quality of the internal staff is low, the hotel service innovation to attract more customers will be weak. Therefore, in the Internet + era, the hotels must organize more professional training to strengthen the construction of the staff's professional quality, cultivate their sense of responsibility, give full play to their strong role in promoting the hotel service innovation, and actively contribute to the development of the hotel service industry.

### **1.2.2 Hardware factors**

The modern market is full of fierce competition, and if hotels want to survive and develop for a long term, they must have sufficient capital supply. Without the strong capital chain support, it will be difficult for the service quality and level of hotels to keep up with the trend of The Times, and to be in the weak position in the competition with the same industry. Once there is a shortage of funds, the hotel's hardware facilities cannot keep up with the development of "Internet +". In addition, employees will be greatly reduced, the customer experience will not be satisfied, and the hotel service quality will be reduced, not to mention discuss the problem of advanced problems such as service innovation.

Times change such as fleeting, hotel hardware facilities as one of the important components of hotel services, is an indispensable factor to potential users and customers, however, thick capital, foundation and keep pace with The Times is not the standard of

each hotel, the above hardware factors on the Internet + the background of hotel service innovation has an important influence.

### **1.2.3 Software factors**

Now it is in the era of developed information technology, and the Internet is everywhere. In the 21st century, people have formed the habit of "checking everything online". Obviously, it is difficult for enterprises that reject Internet technology to survive in the new era, and those enterprises that are good at flexibly using Internet technology to develop and innovate are showing endless vitality. The same is true of hotels in the Internet + background.

Internet + has overturned the past service concept, and made the traditional operation and sales strategy and other hotel software factors fundamentally changed. Under the support of network and information technology, emerging hotels have accelerated work efficiency, optimized customer experience, and improved the competitiveness of the hotel in the market. At the same time, it also promotes the hotel to have a closer relationship with its customers, provide tailored services for its customers, and facilitate their life during their stay.

### **1.2.4 Market factors**

People's quality of life and pursuit are also making continuous progress with the rapid development, and the needs of users are more diversified and personalized, prompting the hotel to accelerate the speed of service innovation. In addition, foreign hotel chains continue to seize the market in China and the rise of emerging Chinese hotels in China have made the competition in the hotel industry more fierce, so the hotel face must implement service innovation to seek survival and sustainable development.

In the final analysis, the innovation motivation of service mainly comes from the hotel must try to make more customers and potential users attracted, meet the personalized and diversified needs of customers, and realize the continuous profit and sustainable development of the hotel. Under the background of Internet + Times, to realize service innovation, hotels must pay attention to the change and development trend of the market environment, and grasp the hot spots of current events, so as not to be eliminated in the historical trend. ◦

## **2. Strategy of hotel service innovation under the background of Internet +**

### **2.1. Keep up with the pace of The Times and innovate the development thinking**

After the collision between Internet + and hotels, with the development and the continuous improvement of customer demand, the hotel has shown a weak state, and the middle-end hotels have gradually become the new favorite of the modern market. The development of The Times calls for the progress of Internet + thinking. The quality of life in the background of Internet + is paying more and more attention, especially in the tired and stressful journey, customers are more eager for a comfortable and pleasant experience, so the hotel should give full play to good accommodation experience. In addition, the hotel should also follow the characteristics of —— Internet +, train fans, and promote celebrities and stars to increase their attention to the hotel. Only by catering to the development of The Times, synchronizing with the Internet thinking, and constantly injecting vitality into the service innovation, can the hotel not be eliminated by the market.

In fact, the hotel innovation is not a revolutionary one, it can only be seen as a micro-innovation. However, its innovative ideas cater to the needs of The Times: for the majority of customers who can not afford the one-price full-package high-consumption services

such as resorts and high luxury hotels, can they not consume the product selection portfolio of one or several of the services? At the same time, it also opened up a new idea for hotel practitioners, the Internet under the background of hotel new service innovation point, the hotel's traditional hardware, software facilities, service, location and marketing still has a key influence, but about customer accommodation experience hotel soft environment construction and hotel corporate culture construction has a lot of improvement space, in this relatively broad field, hotel to keep innovation, after all, in the Internet age, seemingly small investment may bring return beyond imagination.

## **2.2 Improve supporting facilities and innovate products and services**

Under the background of Internet +, the hotel should improve its supporting facilities and innovate its products and services. First of all, it should study and set up customized products and services. In the context of Internet +, the hotel can use big data to analyze and arrange customer habits and preferences, and customize personalized products and services to make customers have a pleasant and comfortable experience; Secondly, the hotel should provide diversified products and services. Under the background of "Internet +", the hotel should actively cooperate with other subjects to realize the diversity of products and services, attract customers and retain the hearts of customers, so as to enhance the competitive strength and realize service innovation in various forms.

When the increase in hotel revenue is limited to room income and facing operating difficulties, hotel practitioners begin to rethink the future operating value of the hotel. Operating the hotel and extending new product lines such as e-commerce and crowdfunding, the scene value of the hotel has been discovered, and playing a good role model for the innovation of products and services of the hotel. It is worth noting that under the background of the Internet + era, the rise of the new generation of consumer groups as an emerging consumer army makes the innovation and development environment of hotels become more diversified and complex. In front of this situation, hotel practitioners should grasp the accurate hotel product, cultural positioning, location and resources characteristics and other flexible product and service innovation. Of course, returning to the essence of hotel service is the same context of the whole industry for thousands of years, and customer satisfaction is still the only indicator to judge whether the hotel is popular. In the long run, improving the service quality must be the top priority of the hotel service innovation.

## **2.3 Improve the talent structure and innovate the management mode**

Scientific management mode and excellent talents are the important driving forces to achieve high-quality service innovation. Hotel should combine the characteristics of Internet + era, innovation improve management mode, keep pace with The Times, at the same time should recognize the importance of talent training, strengthen comprehensive service quality, strengthen professional training, improve talent structure, innovation management mode, for hotel service innovation form excellent talent team, under the guidance of "customer-centered" service concept, to meet customer needs, truly valuable service innovation.

With a new management mode of "direct + franchise + IP + hotel + electricity", the hotel breaks the physical bottleneck of hotel operation, innovates the traditional hotel industry upgrading, direct stores and franchise in parallel, on the one hand, using capital to realize the rapid expansion of the hotel, on the other hand, it can charge certain fees to franchisees. At the same time, through the cooperation with IP, e-commerce, photographers

and financial service institutions, to build their own ecosystem, and finally obtain the housing fee income, e-commerce income, commodity exhibition fee, etc., so as to realize the diversification of income sources, and make full use of the unlimited opportunities brought by the Internet +.

## **2.4 Combine online and offline, and innovate operation methods**

Under the background of Internet +, various app and websites have become the main ways for customers to book hotels. Therefore, the hotel should optimize the online display effect to attract customers. Of course, no matter how good the network publicity is, it will ultimately fall on the customer experience, so the hotel must constantly strengthen the product and service experience and real value. At the same time, the hotel should timely respond to customers' opinions and feedback, properly deal with with analysis, further optimize products and services, and form a benign interaction with customers. Make good use of the new characteristics of the Internet + era, combine online and offline, innovate the operation mode, and promote the hotel service innovation to achieve new breakthroughs.

In recent years, big data has developed rapidly. After continuous statistical analysis of data, people's understanding of "service" has been updated. The hotel service has gradually transformed into personalized and customized service, and quickly realized the interconnection between customers and hotel and customers and scene. Through big data analysis and user portrait, combined with its main demand characteristics to create the scene in the hotel, forming a strong cultural and life atmosphere scene, so that the hotel can take into account the role of IP offline experience place and community offline experience station. The offline heat brought by the IP and the community feeds back to the online traffic such as the mall, and the benign interaction between online and offline, thus creating an excellent operation model. In this era of the Internet of everything, it is a good example for the development of the hotel.

## **CONCLUSION**

"Internet +" provides new expectations and ideas for people to pursue better social production and quality of life, creates new and innovative ideas for hotel service innovation, and also makes them face huge challenges. After the project analysis, we know that in order to realize the service innovation and upgrading of the hotel under the background of Internet +, it is necessary to make targeted and strategic innovation in the thinking, product service, management mode and operation mode of the hotel. Starting from the needs of customers, to improve the customers' occupancy experience as the goal, take advantage of the Internet +, seize the opportunity, cater to the development of The Times, realize the transformation and upgrading, enhance their comprehensive strength in the fierce modern market competition, and better cope with the challenges.

There are still some shortcomings in this paper. In the course of the survey, the data collected in the hotel service innovation research under the background of Internet +; secondly, with only a few months, we cannot feel the deeper content in practice. In all, there are still some problems in this paper and some room for progress. I hope that the future practice can solve these problems and achieve deeper and more objective research.

## REFERENCE

- Hu Guangjian.Schumpeter's Innovation Theory and its Enlightenment to China's Economic Development [J].Contemporary economy (second half), 2007 (06): 41-42.
- Vila M, Enz C, Costa G. Innovative Practices in the Spanish Hotel Industry.Cornell Hospitality, 2012(71):75-85.
- Orfila-Sintes F, Mattssona J.Innovation Behavior in the Hotel Industry [J] . The International Journal of Management Science, 2009(37):380-394.
- Sun Shenghong.Research on the Impact Factors and Development Strategies of Hotel Service Innovation in the Internet Era [J].Inner Mongolia Science, Technology and Economy, 2018 (15): 37.
- Liu Hui.Strategy of tourism hotel products and services under the background of "Internet +" [J].Tour tour (month), 2018 (10): 82-84.
- Xia Yuemin.Strategy of tourism hotel products and services under the background of "Internet +" [J].Business Economy, 2018 (09): 66-67.
- Bao Juan.Empirical Impact of —— Based on Consumer-perceived Service Innovation [J].Journal of Sichuan Tourism College, 2018 (04): 34-39.
- Xu Zhaohui.An Analysis on the Innovative Strategy of Hotel Service [J].Business Theory of China, 2018 (17): 138-139.
- Zhang Shukun.Innovative Research on Economy Chain Hotel Service [D].Henan University, 2013 (01): 9-22.
- Xu Hong, Li Xuan.Review of Hotel Service Innovation Research [J].Journal of Tianjin Business University, 2013,33 (02): 7-12.
- Xu Hong, Liu Yuqing, Liang Jia.Customer perceived composition and impact of hotel service innovation study —— is based on data from budget hotels [J].Tourism Journal, 2017,32 (03): 61-73.
- Hjalager A M.repairing innovation defectiveness in tourism[J].Tourism Management,2002,23(5):465-474.
- Liu Tianhui.Research on the Innovation Strategy of Stop Park Hotel Service Based on Customer Value [D].Lanzhou University of Technology, 2018.
- Shi Can.Study on the Impact of Environmental Scanning on Star Hotel Service Innovation [D].Hebei University of Economics and Trade, 2019.
- Xie Chun.Research on the Business Model of Smart Hotels [D].Zhejiang University of Technology, 2019.
- Wu Hongye.Research on the Business Model Innovation and Its Evolution of the Smart Hotel Industry [J].Day in the journal.2020,(2).45-49.
- Zhou Jie.XHKJ Hotel Development Strategy Research [D].Henan University, 2019.
- Wang Jianxi, Lin Xiaoyi.Domestic Research Dynamic and Prospect of Modern Technology and Hotel Development [J].special area.2019,(6).104-107.
- Xia Xiangwei, Huang Xuebin, Qu Chao.Ctrip Online Review Research of the Smart Hotel based on NVivo software [J].Modern business.2021,(1).3-7.
- Chen Qi.Research on Undergraduate Hotel Management under the Development of Smart Hotel [J].commerce.2020,(1).192-194.
- Lu Zheng.Research on Room Operation and Management Improvement of Hunan Zhonghan Holiday International Hotel [D].Hunan University, No.59.2017.
- Liu Lele, Sun Ting, Wang Huafeng.Design and Construction of Open Radio and Television Smart Hotel Platform System [J].Radio and TV technology.2020,(8).77-81.

- Lin Yuan Guai. Research on the Application of the Internet of Things Technology in the Construction of Smart Hotel [J]. *Internet of Things technology*. 2018, (10). 68-69, 73.
- Xia Xiangwei, Huang Xuebin, Qu Chao. Ctrip Online Review Research of the Smart Hotel based on NVivo software [J]. *Modern business*. 2021, (1). 3-7.
- Wang Wei. Smart shopping mall operations in the new retail era [J]. *Mall modernization*. 2020, (8). 13-14.
- Huang Li. Research on the Development and Innovation of Smart Hotel Based on Customer Experience [J]. *Mall modernization*. 2020, (19). 12-14.
- Zhao Jingxian. User Experience Design in Smart Hotel- -Take Buthirst as an example [J]. *Design*, 2020, (17).
- Zhu Chasong. The rise of weak location: The comparative study of "Internet +" Times [J]. *City Building*, 2020, (10).
- Xie Jun. Smart Hotel and Its Development Countermeasures under the Internet + Environment [J]. *Enterprise Reform and Management*, 2020, (9).
- Luo Xingqing, Zheng Yutong, Liu Changjie. Promote the secondary consumption of home stay industry, and create a new path of poverty alleviation through rural tourism [J]. *China Development Observation*, 2020, (5).
- Wu Xiaojun, Qiu Jialu. Airbnb Study on housing Price-Based on data from 36 cities in China [J]. *Journal of Tourism*, 2019, (4).
- Chen Zhongde. Research on the advantages and strategic choice of traditional hotels to chain hotels [J]. *National Circulation*, 2019, (13). doi:10.3969/j.issn.1009-5292.2019.13.005.
- Sun Zhaohui. Share the status and development of short rent- -Take the development of Airbnb in China as an example [J]. *Journal of Henan University of Science and Technology (Social Science Edition)*, 2019, (2).
- in. Integration and innovation of smart hotel management under the background of tea culture [J]. *Fujian Tea Leaf*, 2018, (9).
- Zhou Qingdong. Application of Intelligent Control System in Hotel Room [J]. *Electronic World*, 2018, (24).

# RESEARCH ON THE INNOVATION OF EMPLOYMENT MANAGEMENT IN COLLEGES AND UNIVERSITIES FROM THE PERSPECTIVE OF SYSTEM ENGINEERING

**YUANYUAN ZHAO**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 990524724@qq.com*

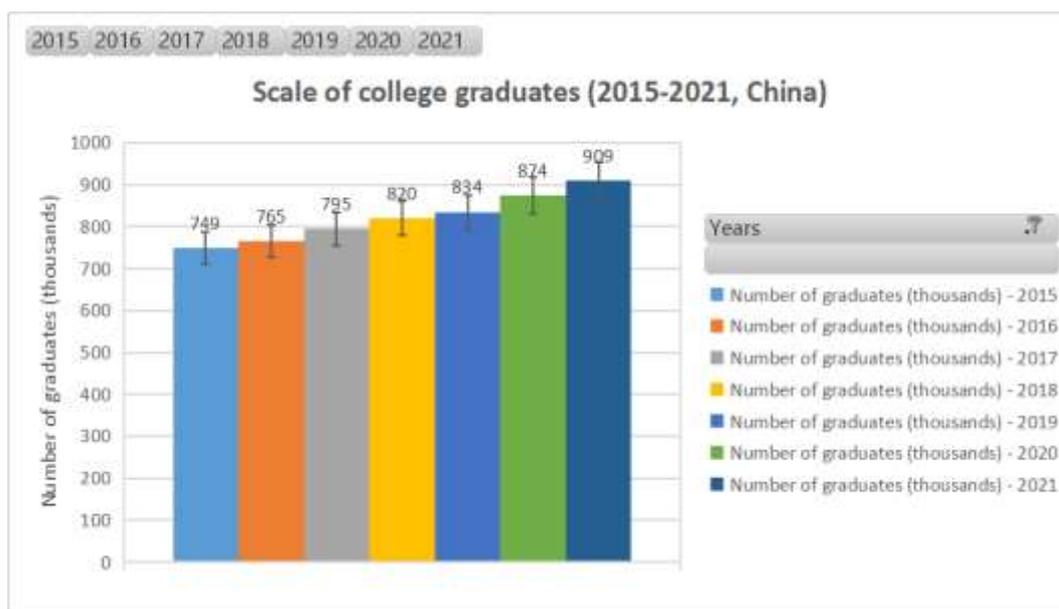
## ABSTRACT

In recent years, with the continuous reform and development of higher education in China, the scale of college enrollment and graduates has continued to grow. However, because college graduates cannot be fully transformed into real human resources, the talent training model of colleges and universities is not synchronized with the needs of social development, and the comprehensive quality of graduates is not. Due to reasons such as the incompatibility of Gaohe's employment mechanism with the needs of the unit, employment pressure continues to rise, and the employment of graduates has become an important task in front of colleges and universities. The difficulty of higher education in adapting to the needs of economic, social development and changes in the job market has become a real problem. This article regards the employment management of college students as a system, studies the employment management system of college students with the idea of system engineering, and gives a structural model of the college employment management system. And use this model to analyze the problems of employment management in colleges and universities, and give countermeasures and suggestions to improve the level of employment management in colleges and universities.

**Keywords:** employment management, system engineering, structural model, countermeasures

## INTRODUCTION

This paper uses system engineering theory to study the employment management of colleges and universities, from the perspective of the process of college employment management, constructs a structural model of college employment management, and analyzes the shortcomings in college employment management, and promotes the orderly, stable, and efficient work of college graduates' employment management.



Scale of college graduates (2015–2021, China)

Years	2015	2016	2017	2018	2019	2020	2021
Number of graduates (thousands)	749	765	795	820	834	874	909
Growth rate (percentage)	2.1%	3.9%	3.1%	1.7%	4.8%	4.0%	

The employment of college graduates involves thousands of households, is related to the vital interests of the people, and the country's economic development and social stability. The importance of the employment of college graduates is self-evident. At present, the number of college graduates is increasing year by year, the contradiction between supply and demand has become increasingly prominent, and it is becoming more and more difficult to manage the employment of college students. At the same time, the employment management of college students is affected by many factors such as universities, employers, and government-related responsible entities; social, economic, policy, and humanistic environmental factors; internal school positioning, enrollment plans, talent training, employment guidance services and other links Impact. Many scholars have conducted research on the employment management of college students. For example: Li Yongjie (2008) proposed the construction of China's employment service system based on system theory, Li Pu, Yang Dexiang (2010) focused on how to improve the employment competitiveness of college students, and gave a training system to enhance the employment competitiveness of college students, Shao Hua (2015) Based on the perspective of the synergy theory, the innovative measures for the employment of college students are discussed, Wei Wei, Chen Chaotian (2016). Based on the system engineering theory, a structural model of the university student employment management system was proposed from the government perspective, and the connotation system and complex characteristics of the student employment management system were analyzed. Tong Dandan et al. (2021) discussed the new type of colleges and universities from the perspective of lifelong career development. Construction and implementation of employment guidance service system.

## LITERATURE REVIEW

### 1. Related concepts of systems engineering

System engineering starts from the whole, according to the needs of overall coordination, comprehensively uses relevant system science theories and methods, and uses computers and mathematics as tools to analyze system structure and functions, including system modeling, simulation, analysis, optimization, evaluation and decision-making And so on, in order to obtain the best or satisfactory system plan and put it into practice.

Basic viewpoints of system theory:

**1.1 The relevance view:** the universal interaction and interdependence between the elements of the system, between the elements and the system, and between the system and the environment is the correlation. The various elements within the system exist due to interdependence; the system is an organic whole with specific functions composed of interconnected and interacting elements, and is the prerequisite for the existence and development of the elements; the system environment also determines the existence and development of the system Base.

**1.2 Holistic viewpoint:** The system is an organism formed by the function of elements. Only when all elements maintain high performance can it be possible to ensure the high performance of the system as a whole. And this kind of performance is not a simple superposition of the element performance, but there is a relationship that "the overall function is greater than the sum of the necessary functions", which is the essence of integrity.

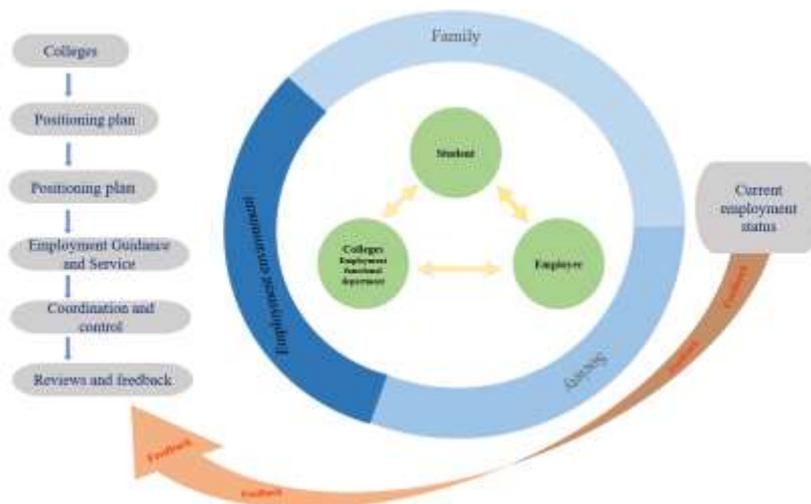
**1.3 The view of order:** the order of the system mainly refers to the order of the spatial structure and the order of time, so that the elements in the system have a certain order and can produce certain functions through the connection between them. The order of the system is the performance of adapting to the environment, and the environment determines the position and order of the elements in the system.

**1.4 Dynamic view:** The organic relevance of the system is dynamic and changes with time. This kind of system is called a dynamic system, on the contrary it is called a static system. Any system is a system of change and development. It should be said that there is no absolute static system.

### 2. The structural model of the employment management system in colleges and universities

The process of college employment management includes the following links: school positioning and enrollment plan, talent training, employment guidance service, guidance and coordination, evaluation feedback, these links are a gradual process. Based on the employment system composed of the three inner subsystems of college employment management, students, and employers, and the three outer subsystems of society, family, and employment environment, we propose a college employment management system from the perspective of the employment management process of colleges and universities Structure model.

**As shown:**



*The Innovative Structural Model of Employment Management System in Colleges and Universities*

The core is the three internal subsystems of college employment management, employers, and students. They are the most critical components of the college employment management system. The three constitute a whole, but they are also affected by the society, family and employment environment. The outer subsystem includes the family subsystem, the social subsystem, and the employment environment subsystem. The employment environment subsystem includes economic environment, policy environment, social environment, humanistic environment and natural environment.

In the structural model, the school's positioning and enrollment plan accept the management and guidance of the government, and at the same time have a certain degree of autonomy. Enrollment, training and employment are the three steps of talent training in colleges and universities, and the three are closely linked and interact with each other. The quality of enrollment affects the quality of talent training; the quality of talent training affects the quality of student employment, which in turn affects the enrollment and development of colleges and universities. From this perspective, employment is an important factor affecting the development of universities.

This part of talent training is closely related to the student subsystem. The overall planning and implementation process of talent training in colleges and universities is the key to enhancing students' employment competitiveness. Through the study and practice during the school period, college students can acquire more systematic basic knowledge and professional knowledge, as well as comprehensive qualities that meet the needs of the society, which will lay the foundation for high-quality employment in the future.

The employment guidance service of colleges and universities is mainly implemented through the employment management department of colleges and universities. First of all, it is necessary to improve the construction of employment guidance institution system, employment guidance system construction, employment guidance teacher team construction, and employment guidance curriculum design. Secondly, we should explore new ideas and new methods for the implementation of specific content such as career counseling, employment guidance courses, career planning courses, entrepreneurship education systems, employment guidance activities, job search skills training, career management skills training, etc. An excellent employment guidance service system can help deepen students' understanding of employment, occupation, career and career planning, and life planning, improve students' literacy and abilities, and thereby increase the employment rate. The employment guidance service system of

colleges and universities should promote an integrated employment guidance model of teaching, research, practice, and evaluation.

The link of "guidance and coordination" means that colleges and universities should not only guide and coordinate the job search and employment issues of employers and students, but also guide the active participation and cooperation of society and families in the work of promoting employment.

Evaluation feedback means that colleges and universities need to accept feedback from students and employers, as well as evaluations from society and families. Through evaluation feedback, the existing problems and deficiencies are fed back to all links of the management process, combined with the evaluation feedback opinions, the existing problems, deficiencies, or omissions are adjusted and optimized in a timely manner, and sometimes it is repeated many times to enable college students to manage employment. The system exerts the best function and effect.

### **3. Countermeasures and suggestions for college employment management based on the structural model of college employment management system**

#### **3.1 System thinking, focusing on integrity and purpose**

The integrity of the system is the most important feature of the system, and the integrity of university employment management is manifested through the comprehensiveness of the system. School positioning and enrollment plans, talent training, employment guidance services, guidance and coordination, evaluation feedback, these links are interlinked, and it is easy to cause a phenomenon that affects the whole body. Paying attention to the whole needs to deal with the interrelationships between the various links and various subsystems in the university employment management system, and at the same time, it is necessary to grasp and control the overall effect and the partial effect, so as to form an organic whole. The purpose of the system is to promote high-quality employment of college graduates. Colleges and universities should think about problems from the perspective of the whole country, the whole region, and the whole system, actively adapt to the needs of national and local development strategies and local economic and industrial development needs, and dynamically adjust and optimize the professional layout. The formulation of enrollment plans, the revision and improvement of professional training programs, the adjustment and optimization of professional structure, etc. should focus on the goal of promoting graduates to achieve higher quality and fuller employment.

#### **3.2 Overall optimization and strengthening of synergy**

The relationship between the various links and subsystems of the college employment management system is complicated. In order to make the system work better, it is necessary to strengthen the system's coordination. On the one hand, it is the collaboration within colleges and universities, which mainly includes two points: (1) Establish an information feedback channel for two-way communication between enrollment and employment. When formulating enrollment plans, colleges and universities should organically integrate enrollment and employment, so that the training of college talents and the demand for social talents can be effectively connected; social needs should be taken into account, and enrollment majors should be set up reasonably; the scale of professional enrollment should be considered, while economic and social development and the development of new industries should be considered. the trend of. (2) Deepen the reform of education and teaching, realize the coordinated linkage of training, enrollment and employment, improve the quality of talent training, and improve the comprehensive competitiveness of employment. Specifically, colleges and universities must take the cultivation of "thick foundation, strong ability, and wide-calibre" applied talents as an important goal of their talent training, deepen education and teaching reforms in professional construction, curriculum systems, curriculum settings and teaching content,

and promote students The resilience, adaptability, and comprehensive ability. At the same time, in education and teaching, colleges and universities should further change their concepts, adhere to the ability-based, pay attention to the cultivation of innovative ability, mobilize students' enthusiasm for innovation and entrepreneurship, and improve their ability to practice innovation and entrepreneurship; increase student entrepreneurship education, activate their entrepreneurial passion, and have a certain entrepreneurial intention For students and majors with certain potential for entrepreneurial development, we will further offer "double entrepreneurship" courses with role simulation and on-campus training as the main content to stimulate entrepreneurial awareness and in-depth training of entrepreneurial capabilities; for students with entrepreneurial behavior and entrepreneurial capabilities, and Entrepreneurship is closely related to majors, organizes off-campus practice and entrepreneurial incubation, and builds a bridge between theory and practice for students' practical actions in entrepreneurship; combines the first classroom with the second classroom, and combines the curriculum with entrepreneurial competitions, visits and other auxiliary activities , Enrich and improve the curriculum system. On the other hand, the external coordination of universities is to strengthen the synergy between universities and the government, universities and employers, universities and society, universities and families, etc., so that the system can be used in various periods of university employment management. All kinds of functions spontaneously form an orderly structure to promote the synergy of the system; increase the degree of mutual cooperation, mutual contact, and mutual coordination among all parties, so as to realize the optimization of the behavior and function of the university employment management system, and ultimately improve the university Employment quality of college students.

### **3.3 Improve the employment guidance service system**

The employment guidance service system for college graduates mainly serves college students. The content covers the connections between colleges and enterprises, colleges and governments, colleges and the market, etc., to build communication bridges for college graduates and enterprises; to track the employment status of graduates, And it is necessary to track the society's evaluation of college graduates, keep abreast of the dynamics of the workplace, study, analyze, and predict the changes and trends of the job market, so as to serve the majors and courses of colleges and universities, and serve the needs of college students. The formulation and implementation of training plans, etc.; integrate the concept of employment guidance in colleges and universities into the teaching model, stimulate the consolidation of college students' professional theoretical knowledge, and strengthen their practice. Provide comprehensive employment guidance education for college students to encourage college students to understand themselves objectively, establish correct employment concepts, and enhance their competitiveness in employment.

Suggestions for improving the employment guidance system in colleges and universities:

(1) Improve employment guidance organization. A sound employment guidance organization is the basis for promoting high-quality employment for college graduates. Therefore, the responsibilities and functions of each work department must be clarified, and a work model of two-level management and three-level operation must be promoted.

(2) Strengthen the construction of the employment assessment and evaluation system. Strengthen the management of employment objectives, increase the self-inspection of the daily work of the employment guidance department and the guidance, inspection and evaluation of the employment work of the colleges and departments, and improve the employment assessment and incentive system.

(3) Establish a high-quality and efficient employment guidance team; improve the construction of employment guidance content; strengthen the construction of the

employment guidance team system; pay attention to the construction of the employment guidance curriculum system.

(4) Strengthen the construction of an informatized network employment service platform. Colleges and universities should build a networked and informatized employment service platform to achieve "one-stop" services. The construction of the employment information platform should satisfy the operation of both the computer terminal and the mobile phone APP client, so that students can access it through computers, mobile phones, etc. Secondly, the employment service platform should have functions such as recruitment services, entrepreneurship service guidance, employment procedures, career planning formulation, statistics on employment information, research functions, education evaluation, and graduate tracking. Constructing an efficient employment information platform is an effective way to promote innovative employment management mechanisms in colleges and universities

## CONCLUSION

College employment management is a complex and open system. Based on the viewpoints and methods of system theory, this paper puts forward the structural model of college employment management system from the perspective of college employment management process, and combines the basic viewpoints of system theory, and gives some countermeasures and suggestions for college employment management, with a view to providing colleges Employment management provides new ideas.

## REFERENCES

- Adams.L.P,1967,“The Public Employment Services and Management, ”Industrial & Labor Relations Review.
- Chen Chao – tian and Gong Chun – yan, 2011, “Thinking Pattern and its Block diagram for Social Management Systems Engineering, ”IEEE AIM SEC 2011, pp.863 – 866.
- Leiserson.W.M,1919,“Employment Management, Monthly Labor Review”, 9(4): pp. 207 – 216.
- Watson.T,Watson.D, 1999,“Human Resourcing in Practice: Managing Employment Issues in the University”Journal of Management Studies,36(4):pp.483 – 504.
- Qian Xuesen et al. On Systems Engineering[M].Changsha: Hunan Science and Technology Press, 1982
- Stigler G L. The cost of subsistence[J]. American Journal of Agricultural Economics,1945,27(2):303-314
- Balintfy J L. Mathematical modeling and human nutrition[J]. Science,1973,181(4099):581-582
- Li Yongjie. Research on the Construction of China's Employment Service System[D]. Doctoral Dissertation of University of Electronic Science of China, 2008.
- Li Pu, Yang Dexiang. Research on the Cultivation System to Improve the Employment Competitiveness of College Students[J]. Journal of Southeast University (Philosophy and Social Sciences Edition), 2010, 02: 122-125+128.
- Shao Hua. Research on College Students' Employment Innovation Based on the Perspective of Synergy Theory[J]. Hunan Social Sciences, 2015, 05: 209-212.

- Wei Wei, Chen Chaotian. Structural model and optimal control of college graduate employment management system engineering[J]. Southern Economics, 2016, 05: 87-96.
- Wei Wei, Chen Chaotian. Analysis of the connotation system and complex characteristics of the employment management system for college students[J]. Higher Education Exploration, 2016, 10: 114-118.
- Tong Dandan, Yang Hongyan, Li Chunqiu. Construction and implementation of a new employment guidance service system in colleges and universities[J]. Daqing Social Sciences, 2021, 4:142-145.
- Liu Jia,Wang Xianjia. Optimal Decision Theory of Systems Engineering and Its Development Strategy[J].Systems Engineering Theory and Practice,2020,40(08):1945-1960.
- Ouyang Ping. With informatization as the support, pioneering a new pattern of employment and entrepreneurship services for higher vocational students: A review of "Integration and Innovation: The Theoretical Development of Education Informatization"[J].China Science and Technology Papers,2020,15(06):735.
- Zhang Yanhong. Incentive Mechanism for Innovation and Entrepreneurship of College Students[J].Education and Careers, 2020(01):64-68.DOI:10.13615/j.cnki.1004-3985.2020.01.011.
- Xie Tianbao, white smile. Research on the Changes of Employment Demand and Talent Training Mode of Information Management and Information Systems Majors in Big Data Environment[J].Employment of Chinese College Students, 2018(16):58-64.
- Li Jikai. Research on the Management of Employment Information System for College Graduates in the Era of Big Data: A Case Study of Nankai University[J].Future and Development, 2018(7):78-83.
- Wang Shuopeng. Research on the Application of Student Employment Information Management System in Colleges and Universities at Home and Abroad[J].Employment of Chinese College Students, 2021.(12).45-48
- CHEN Zhijun. Innovation transformation is a systematic project[J].China Science and Technology Forum, 2021(03):2.DOI:10.13580/j.cnki.fstc.2021.03.001.
- WANG Shibo,KANG Ming,WANG Cheng,YANG Chunmei. Research on the Training Model of Information Management and Information System Professionals:Based on the Perspective of Employment[J].Hebei Enterprise, 2019(1):119-120.

# NEW FORM OF EDUCATION UNDER THE COVID-19 PANDEMIC ONLINE EDUCATION

**JIAN MA**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1772649712@qq.com*

## ABSTRACT

Since 2020, changes in the social environment and the combination of the Internet and education have made students and teachers quickly adapt to online learning and teaching at all levels of education, and the actual needs and application scope of online education have been greatly improved, which also forces the rapid improvement and development of large live streaming platforms. In addition, due to the epidemic outbreak, students are switching from offline classes to online classes, which is a huge change in education methods. The development of online education breaks through the limitation of time and place, and students can enjoy educational resources anytime and anywhere. Through this study, we can explore the current situation and status analysis of online education, and conduct SWOT analysis to analyze its development trend, so as to provide targeted opinions and suggestions for some education companies.

**Keywords:** Online delivery, internet+, Change in the way of education

## INTRODUCTION

### 1. Research background

#### 1.1 Development status of online education

In 2020, due to the outbreak of COVID-19, People's Daily life was greatly impacted, and students could not go to school to study. During the outbreak, primary and secondary schools across the country switched the teaching scene from offline to online, which changed students' learning habits, improved teachers' and parents' awareness of online education, and promoted the development of K12 online education. The online education industry has become hot, and the scale of the online education market is also expanding. The number of online students and their frequency of use on several major teaching platforms, such as Ding ding, Yu classroom and MOOC, have increased exponentially, making online classroom and online learning the new normal. [1].

Primary and middle school students are under great pressure from entering high schools. On the one hand, they are not allowed to choose schools during the compulsory education period and the school burden is reduced. On the other hand, nearly half of the students cannot go to ordinary high schools after the compulsory education period. Students are like indigenous people living in the Internet world. For them who practice the concept of "Internet is life", online courses are like returning to the familiar visual culture world. All of a sudden, smart phones, tablets and computers have legitimately become their learning and entertainment tools for getting along with each other. There is no doubt that the abundant time on the Internet gives students more opportunities to have access to a full range of video courses, and those courses that meet their preferences and

meet their needs also improve students' initiative and enthusiasm in online learning to a considerable extent.

Distance online education has long been viewed as an alternative approach to education, especially for adult learners who continue to seek educational opportunities. And with the huge changes in the social environment in 2020, students and teachers at all levels of education have quickly adapted to this virtual teaching mode.

## **2. Overview of Online Education**

### **2.1 What is online education**

Online education, as the name implies, is the use of the Internet and other modern information technology for teaching a new way of teaching. Through the Internet, students and teachers can carry out teaching activities even if they are thousands of miles apart. The rich interaction and collaboration really breaks the limitation of time and space. Students can learn actively and repeatably anytime and anywhere, which is the most convenient way of learning. Personalized teaching, can independently choose teachers, teaching style and other personality standards. Through the application of big data and artificial intelligence to realize the automation of teaching management, real-time fine Education association online education development process and new path ideas, carry forward its innovation, to provide readers with comfortable reading feelings.

Quasi master the teaching situation, learning difficulties and main problems, provide matching teaching resources, targeted guidance to students, improve students' learning efficiency. It makes up for the imbalanced educational resources in traditional education and realizes the sharing of educational resources. It can make all kinds of high-quality and rich educational resources not limited by time, space and region, quickly and timely radiate to more students in remote mountainous areas and poor areas, so that they can obtain better education through online education, and promote education equity. Online education can be divided into three categories according to the types of services provided: tools (question bank, taking photos and searching questions), platforms (teachers open an account to teach, and students can choose teachers and courses for live interactive learning), and content (teachers upload courses, and students learn by watching videos). Online education business owners should focus on four main areas, namely preschool education, K12 education (kindergarten through 12th grade high school), higher education and vocational training. Among them, the largest share is the higher education market, which refers to the online academic education market. In terms of teaching methods, it can be divided into large class system, small class system, 1 to 1 or 1 to N system, and video class. According to the business segmentation, online education includes language education, K12 stage education, examination and certificate training, children's interest cultivation and early education, online learning tools, etc.

### **2.2 The development of online education**

China's online education started slowly from the end of the 20th century and experienced the embryonic stage (from the end of the 1990s to 2005). During this stage, the Domestic Internet just started and the online education experience was poor. The state approved 68 colleges and universities as the national distance education pilot. In the exploration stage (2006 -- 2012), network bandwidth service was improved, video courseware was the mainstream of online education, and the enterprise business model was being explored. New Oriental Online, Hujiang Online school and other online schools were put into operation. Rapid growth stage (2013-2017), the technological upgrading of the Internet and mobile Internet provided space for the development of online education, and the emergence of live classes opened up the business model; In the initial maturity stage (from 2018 to now), the integration of resources, technological progress and service

upgrading drive the continuous innovation of service mode. The market competition is fierce, the product system is mature, and the policy supervision is becoming stricter. Among them, in 2017, because the new contents such as live, short video transmission, such as online education products also began to actively explore, and gradually on the basis of cash, at the same time, new technologies, such as artificial intelligence in the application of online education products also have increased interest in the product, from the marketing point of view, it also be online education product advertising channels and one of the selling point.

### **2.3 Online education opportunities**

In traditional education, teachers are indoctrinators of knowledge, while students are passive recipients. The defects of this teaching method can no longer adapt to the development of The Times in today's rapid development of "Internet + education". "Internet + Education" gradually reconstructs the underlying structure of traditional education, while the proposal of online education also brings a new spring breeze to education methods and provides new ideas and directions for the reform of education and teaching in the future [1].

The booming development of online education, such as some online platforms for university courses, including MOOC, Chinese University MOOC, Xue tang Online, and some public course apps, such as Tencent Classroom, netease Open Class, Xue tang Online, You dao Elite Class, And De dao, have provided more opportunities for people at different levels who want to continue their education. The level of social democratization has been further improved, and more people who are willing to learn have equal opportunities for education [2]. We must admit that online education has no specific and strict restrictions on the time and place of learning, and everything is in accordance with the habits and hobbies of learners. Therefore, online education is the product of the personalized development of office workers, and it is like a high-quality service tailored to a certain person. Learners can choose the appropriate time and place to study according to their actual situation, which improves their freedom of education.

The boom in online education has also led to an explosion of online conferences and live video streaming. The online conference system represented by Tencent Conference allows experts, scholars and students from anywhere in the world to join in, providing a new platform for online real-time communication; The short video live broadcasting system represented by Dou yin allows short video promotion and online live broadcasting of goods, providing new opportunities for online trading economy. In addition, virtual field trips and virtual LABS are emerging online interaction modes. To sum up, online education will drive multi-directional and multi-angle modern emerging industries. At the same time, these new industries will react to online education and build a platform for its development. No matter which model is finally selected, they will be developed to provide complete educational information solutions to the system integrators, become the only way for the development of economic and cultural industries.

### **3. Development trend of online education technology in special period**

Under the background of "Internet + Education", online and offline mixed teaching is the trend of future education. Learners learn from online teaching resources before and after class, while teachers mainly organize teaching resources and solve problems for students. For teachers, they should have the information literacy required by the information age [9]. Through the popularization of 5G network and AI technology, the integration of online and offline teaching, and the reform route of actively developing "Internet +" courses, the paper puts forward strategies for better development of online education in the future. And simple course of primary and middle school students, for example, it is not hard to imagine that we students through the delivery of preparation

before, to highlight in advance, online teaching, using the courseware of visual break through difficult point, after class for learning difficult students push short video recording of teaching, or according to the learning situation once again back to the classroom activity, will be discussed without being limited by the space communication between teachers and students, Such a teaching mode more clearly defines the subject status of students in learning activities [10].

This paper discusses the development trend of educational technology from three aspects :

First, a highly open and shared online course system. Moocs have opened the door to large-scale online education, initially realized the open sharing of high-quality course resources, and significantly improved the fairness of education. However, from the perspective of the actual demand of "ceasing learning without stopping classes", existing MOOC resources still have problems of insufficient quantity, uneven quality and low openness [5]. In addition to MOOC, there are also personalized temporary video recording, live teaching, and integrated media courses. Its core is to promote, interconnection of different MOOC platform, promote the online courses is editable, make teachers and students can be independent series according to the requirements of teaching content close to the curriculum resources, and then seamlessly live online courses, lectures, offline video teaching, finally realizes the adjust measures to local conditions, according to their aptitude of personalized online teaching.

Second, online and offline integrated digital teaching platform. MOOC can provide large-scale open and shared online courses, and also put forward higher requirements on the learning time, learning ability and self-control of the students. If the teaching process completely depends on students' online autonomous learning, simply video-teaching and transferring it to the network platform will easily lead to the dilemma of low course completion rate and poor self-study quality, and the actual effect of MOOC teaching may even be lower than that of traditional classroom teaching. Therefore, the online and offline hybrid teaching with MOOC resources for small-scale students, which is compatible with the autonomy of online learning and the participation of classroom teaching, has become the mainstream direction of the reform of university teaching mode. It is urgent to redefine and build the next generation digital teaching platform according to the needs of hybrid teaching. In order to achieve this goal, it is necessary to re-establish the operation norms and digital standards according to the asynchronous and synchronous teaching needs of hybrid teaching, and link the course content, platform carrier and hardware facilities to form an integrated digital learning environment.

Third, teaching AIDS based on big data/artificial intelligence. In recent years, with the popularization of big data application and the breakthrough of deep learning technology, artificial intelligence has shown a strong advantage of empowerment and started to deeply integrate with all walks of life. Online education, with its original Characteristics of the Internet, has the natural soil for big data/artificial intelligence technology to take root and sprout. There are three main technical links to realize the teaching assistance based on big data/artificial intelligence: one is the digitalization of the teaching process. Large-scale intelligent application is the premise of enough scene big data, in order to realize effective digital intelligent auxiliary teaching is not only to the curriculum resources, but also on students' autonomous learning, teacher, professor, the interaction between teachers and students, teaching management, the evaluation process for standardization and digitization, the lifecycle of the formation of teaching large data [6]. Second, the intelligentization of teaching activities. With teaching big data, various intelligent teaching applications can be realized, which are mainly reflected in intelligent teaching management and accurate personalized autonomous learning. The former mainly

serves teaching managers and teachers, such as artificial intelligence response robot that partially replaces teachers, teaching analysis and prediction system used to supervise students' learning process, etc. [7].The latter mainly serves the autonomous learning process of students, such as adaptive learning based on artificial intelligence. Through data analysis and periodic feedback, the knowledge stickability of students during personalized learning can be increased and the success rate of autonomous learning can be increased. The third is the intelligentization of teaching evaluation. At present, online teaching evaluation is based on students' online learning course data, homework completion, periodic test scores.

#### **4. SWOT analysis of online education**

##### **Strengths**

Nowadays, Internet technology develops rapidly and is everywhere. 5G comes one after another, provides wave after wave of technology and carrier support for the development of online education, and greatly excavates the advantages and potential of network teaching. Through the test the outbreak, compared with the traditional classroom teaching, online learning, foster strengths and circumvent weaknesses have time the characteristics of flexibility, convenience and low risk, and break the traditional education time, region and technical limitations, more will be beneficial to the realization of education resources, provide students with more stable and efficient, more refreshing learning experience. At the same time, the field of higher education in China is also constantly changing and innovating to keep up with international standards. There are many famous UNIVERSITIES in the United States that have started to provide online opportunities for domestic students to study, and the recognition of master's degrees from many foreign universities in China is gradually increasing, which is guaranteed to be valuable. Compared with graduate school in China, online study has obvious advantages with low time cost and high cost performance. Online learning is bound to receive more attention as another quality option in the near future, as the national entrance exam becomes increasingly demanding. Artificial intelligence. The innovations in the application of ARTIFICIAL intelligence in education include speech teaching based on speech recognition technology, online model test and evaluation based on facial recognition technology, etc., to realize the intelligent education of human-machine integration, the integration of knowledge and action, and the integration of virtual and real. The education mode is increasingly personalized.

##### **Weakness**

According to the survey, Chinese online education users especially value the quality of teaching, faculty and teachers, and are highly sensitive to price. At present, offline education still occupies an absolute and leading position, while online education, as its supplement, is bound to have some shortcomings.

1. Online education is not standardized and lacks supervision. Affected by the epidemic, the online education market has become extremely hot. Driven by huge market demand, a variety of education platforms have emerged, but the problems behind them have emerged one after another. First, the quality of teaching content on various platforms is uneven. Second, online education apps have many compliance problems in the protection of personal information. Most of these are common problems common to online education apps: the lack of disclosure or transparency of privacy policies before using personal information; Forcibly disallow account logout. How to ensure the quality of online teaching and protect the legitimate rights and interests of students and parents during the epidemic has become the focus of the media and the public. Therefore, how to ensure the legal compliance of teaching content, qualification access and teacher qualification in the online education industry is not only a problem that online education

institutions need to rationally face, but also brings tests and difficulties to the regulatory level [13].

#### Opportunity

2. The need for epidemic prevention and control. By the beginning of October 2020, the cumulative number of confirmed COVID-19 cases abroad had exceeded 30 million, and the epidemic was becoming more and more severe, with a large number of returnees pouring into China, leaving China still facing the risk of large-scale outbreak. Below this circumstance, let the online education development that already heats up be in full swing originally, show the potential that the star starts a prairie fire. Under the requirements issued by the Ministry of Education, online education during the epidemic has adopted a government-led approach, with universities as the main body and the participation of the whole society, to coordinate online and offline education. The epidemic has rapidly expanded the user scale of online education industry, reduced the cost of acquiring customers for enterprises, and promoted the construction and development of online education industry. Online education platforms are increasingly returning to the essence of education, focusing on innovation in product design, making full use of their own advantages, using technology to support the quality of courses, and making long-term plans to explore new development space in the market [11].

#### 2.National policy support.

(1) The introduction of "no suspension of school", education informatization as a guarantee means. Recently, in order to control the epidemic, the Ministry of Education and the Ministry of Industry and Information Technology issued a notice on the arrangement of "suspension of classes during the extension period of primary and secondary schools", requiring all colleges and universities across the country to postpone the start of the spring semester in 2020. As soon as the policy came out, "not suspending classes" immediately became the focus of public opinion. Online education ushered in the spring, which is not only good for the education information industry, but also spawned the construction and development of the industry.

(2) The construction of education informationization has reached 2.0, "three full, two high and one big" to promote development.

At present, China's education informatization construction has entered the 2.0 stage, from the completion of setting up the scene education informatization technology and platform to the popularization of the application market, the deep integration of innovative information technology and education model; To achieve the strategic goal of building "three links and two platforms" infrastructure and steadily moving towards "three benefits, two high levels and one big".

The epidemic in 2020 has forced almost all courses on the Internet, which has changed the learning habits and modes of the past, and led to the launch of knowledge payment platforms. "No online education" has become a true portrayal of the current society.

#### Threat

1. Online education has higher requirements for information equipment and network environment. Good hardware equipment and network support are sufficient conditions and basic guarantees for the smooth and comprehensive development of network classroom. However, in real life, it is faced with the difference of economic development level between urban and rural areas and the unbalanced development of online education resources. Advantaged families not only provide their children with smart phones, laptops, ipads and even home theaters, but also provide them with abundant online education resources. In contrast, urban low-income class and migrant worker families located in remote areas do not have such good learning conditions. They often

suffer from lag, delay and even disconnection due to poor hardware equipment and network signal, and their learning conditions are quite different [12].

2. It is not easy to be accepted by parents of students who hold traditional educational concepts. In the information age, children are addicted to electronic products and sit in front of computer screens for a long time, which can easily lead to myopia and so on. In recent years, frequent incidents of students addicted to mobile phones and their parents have conflicts and even commit suicide by jumping off buildings are examples. So it makes sense that online learning can cause anxiety and resistance among parents. At the same time, online classes often lack supervision of students, resulting in a small number of students being late, absent from classes and cheating in exams. Some teachers have to ask parents for active cooperation to help supervise students to attend classes, complete class notes and homework after class. Therefore, some parents believe that video classes will only make children lose concentration and keep up with the pace of teachers, resulting in a decline in academic performance. It is an external threat to the development of online education that parents cannot affirm or even doubt the effect of online education.

### **5. Problems existing in online education and solutions**

1 、 Limited use of technology platforms and related conditions  
Although online teaching has been widely used in people's life with the progress of Internet technology and the development of application platforms, it has only become a part of college teaching as an elective course, which shows that its application in college teaching is quite limited.

In the context of the sudden epidemic, stable and orderly offline teaching activities in normal times were hindered and it was difficult to carry out, and online teaching quickly became popular as an alternative. As a suddenly re-used teaching mode, online teaching first tests the technical foundation and operational level. The current application platform cannot play a greater role and function, which is mainly limited by three conditions: first, the lack of hardware platform operation; Second, the defects of technical conditions themselves; Third, the operation and use of teachers and students proficiency is not high. For the first point, online education relies more on related electronic products and hardware such as the Internet. Electronic products as the basic carrier, computer or mobile phone is the main; The Internet relies on wired networks, 4G or 5G networks for mobile phones and so on. These two parts are required hardware. Due to the sudden attack of the epidemic, the majority of teachers and students were not fully prepared. According to the data, among the six classes led by teacher L at present, taking one class as an example, only two fifths of them take computers home, two fifths of them do not take computers, and one fifth of them do not have computers.

In addition, half of those who brought a computer home had no Internet or inadequate reception. Moreover, students generally have smart phones, and the Internet can reach 4G in their hometown.

Therefore, on the one hand, the number of students who can use computers to study is very limited. On the other hand, although students can use mobile phones to study, there are two obvious shortcomings: first, mobile phone pages are relatively small, compared with computers, learning effect is greatly reduced; Second, the computer courses that students have learned require more practical operation, which is difficult to carry out without computers. According to the teachers of the college: "Although students can use mobile phones to watch video learning, but as a practical operation class, the effect is not good, just like learning bicycle and swimming, watching others learn and learn by themselves, is not the same.

On the second point, platform systems often crash due to the number of people using them online at the same time. For example, teacher L leads six classes with about 50 students in each class, and four of them offer database courses. Due to frequent platform crashes, it is difficult to effectively promote and complete the teaching process. With regard to the third point, proficiency in using the application platform is a basic prerequisite for successful online teaching, which actually requires a process. Since there have been few major epidemics or similar situations before, online teaching activities are not common, and the use of the new platform is under the unified arrangement of the school. Teachers and students are new to the platform, and proficiency is not enough. In the process of using, some problems will be exposed naturally, which not only increases the difficulty of teaching, reduces the actual effect of teaching, but also affects the enthusiasm of teachers and students and even the relationship between teachers and students.

31. The prominent formalism in the teaching work Online teaching activities rely heavily on Internet technology and application platforms. Under the current advanced but far from enough technical conditions, although the goal of school suspension is guaranteed, in the process of teaching work, a large number of formalism phenomenon can also breed, greatly reducing the effect of teaching. According to the Ministry of Education and the requirements of this province, combined with their own actual situation, the computer college of the above university unified arrangement of online teaching. At the beginning, teachers were required to build classes and set up corresponding courses on the above application platform, but there was no clear instruction on the specific form of teaching activities. Teachers could not quickly adapt to the new teaching mode according to their original teaching experience, and they were in a blind stage. Seeing the popularity of online live broadcasting, some teachers of the college also tried to broadcast live on platforms such as "YY" and "Douyu" to complete their teaching tasks, which made them in full blast. After all, "work is the rice bowl of teachers, so they must be serious". But it is said that not many students watched, the effect is not good. In order to avoid increasing the burden on teachers and students, the provincial education department also issued a notice, the general content is not necessary to require teachers to record the course or live online, nor will it be forced to implement the management of teachers or students to punch the clock and other traces. The college forwarded the provincial notice. Because the college itself relaxed the requirements, and teachers are also very blind, so formalism is more obvious, mainly reflected in the following aspects.

One is the negative attitude and coping attitude in the curriculum setting before teaching.

32. Digestion and reconstruction of teacher-student relationship in teaching process First, the use of the platform is limited by relevant conditions, including problems in equipment and network conditions, frequent crashes of the platform system during operation, and problems caused by insufficient proficiency in using the application platform for the first time. Second, formalism appears in large numbers in the teaching work: some teachers have negative attitudes in the course setting; Lack of flexibility and low participation in the teaching process; Some teachers give free rein to homework after class. These problems correspond to the effect shown in the initial stage, that is, in the current online teaching process, only a small number of students can study independently, teacher-student relationship cannot be effectively established, and the teaching effect cannot be presented to the maximum extent. These problems arise from two potential presuppositions of online teaching: one is the physical basis of platform hardware

and software; The second is to emphasize the value foundation of student autonomy. The former has reached certain conditions, and as an objective existence, can be improved step by step, so the latter is mainly considered here. Students' learning autonomy is based on the former, but in practical application, the existing advantages of network technology have not been brought into play, but the weakness of online teaching has been highlighted. The latter emphasizes the autonomy of students, or even completely depends on the autonomy of students, while ignoring the autonomy of teachers, another subject in teaching activities. This can be divided into two aspects: First, the weakening of the management and supervision functions of teachers. Since the application platform is the main way to construct the relationship between teachers and students, teachers and students are not in the physical space, so teachers basically do not understand the learning state and behavior of students, so they cannot carry out effective management and supervision, let alone guidance. Compared with offline classes, teachers and students are in the same classroom and always face to face during class. Teachers can clearly understand students' learning status and behaviors in class. As one teacher said, "I know which students are listening carefully, which are having fun and which are learning by themselves." Lack of solid teaching environment, completely rely on students to learn independently, it is not practical significance. Second, teachers' negative attitude towards students is powerless. In the physical classroom, in the face of negative attitudes of students, teachers can use all kinds of way and method, can mobilize student's enthusiasm and initiative, also can effectively suppress the students' negative and even destruction, most of the students are able to according to the methods and requirements of the teachers, give full play to their initiative, and self-regulation and restrain their own behavior. However, in online teaching, relying on students' autonomy and initiative, teachers cannot effectively use existing methods and methods to mobilize students' enthusiasm and initiative. This is manifested in actively participating in teachers' teaching activities, completing all kinds of homework, but also independently expanding learning. It is not enough to rely only on the students themselves, but also need the patient guidance and effective supervision of families, and even the participation of social forces. Therefore, in order to improve the current stage of online teaching, teachers should not only further stimulate the role of leading students, but also need the active participation of family and even social forces. Through the joint efforts of all parties, the mechanism of timely communication and exchange should be established, and various effective methods and methods different from offline classes should be adopted to rebuild the teacher-student relationship, ultimately reducing the impact of the epidemic and maximizing the realization of the goal of "school suspension without suspension".

## CONCLUSION

With the development of society, online education's advantages will become more obvious, while its disadvantages will gradually improve. All walks of life to keep up with the trend of the Internet, education is no exception, in today's information, people accept ability is stronger, to this new way of education also have more expectation, the future will gradually become the mainstream of education mode, one of the online education learning really become part of people's life.

## REFERENCES

- Fu Weidong, ZHOU Hongyu. Challenges brought by COVID-19 to online education in China and countermeasures [J] journal of hebei normal university (education science edition), 2020,22 (2) : 14 ~ 18
- ChuFeng. [J]. Internet Weekly, 2021(07) : 14-15.]
- Tao Xiping. Actively promote the deep integration of artificial intelligence and education [N]. China Education News, 2019-06-15.
- Zhang Xiaofeng. Multiple impacts of COVID-19 prevention and control on Higher education in China [J]. Beijing Education (Higher Education),2020(4):29-31.
- Wan Kun, Zheng Xudong, Ren Youqun. Ready for scale-up Online Learning? Online learning and intelligent technology application in the post-epidemic era [J]. Journal of distance education,2020,38(3):105-112.
- WU Di, YU Liqin, RAO Jingyang, et al. The Challenge and Improvement strategy of Information Literacy in Large-scale and long-term online teaching [J]. Electronic education research, 2020,41(5):12-17,26.
- Liang Yingli, Liu Chen. Current situation analysis, Typical Characteristics and Development Trend of artificial intelligence education application [J]. China Electronic Education,2018(3):24-30.
- Yan Wei, Lu Yujiang. SWOT analysis and strategy selection of online teaching in colleges and universities in post-epidemic period [J]. Guangxi Education, 2020, 23:6 ~ 9
- Chen Ying, Zana, Yang Jun, et al. Opportunities, Challenges and Countermeasures of Regional Teacher Education under the "Internet +" Environment [J]. Information Technology Education in Primary and Secondary Schools, 2018, Z1: 33-36.
- Fu Hongzhen. Application and Thinking of Online Teaching in intelligent Environment [J]. Principal of Primary and Secondary Schools, 2021(07) : 66-67.]
- Li Biwu. Cold Thinking about "Internet + Education" [J]. China Information Technology Education, 2015(17) : 96-99.]
- Zheng Yanlin, ZHAO Changming. Teaching online: Are We Really Online -- A New Understanding of the Connotation of Online Teaching [J]. Education Informatization in China, 2020, 19:24-26.
- Dong Lixin. Research on the Problems and Strategies of online education development under the Background of "Internet +" [J]. Shanxi Youth, 2021(07) : 36-37.]
- Ho K K. E-lesrning and the Deepening reform of higher teaching (PART I). China Electronic Education,2002(2):8-11
- HongYan. Open Resource from Elite to Public: The evolution and Implications of TED. Modern Educational Technology,2013(4):12
- Wang Wenquan. Online teaching practice based on Tencent Classroom. Journal of Shenzhen College of Information Technology,2020(5):56
- By Randy Garrison. By Terry Anderson. Ding Xin translation. Network Learning in the 21st Century -- Research and Practice Framework [M]. Shanghai: Shanghai Higher Education Electronic Audiovisual Publishing House
- Trentin G. The Quality-Interactivity Relationship in Distance Education [J] Educational Technology, 2000, 40( 1) : 17-27.
- FuHongZhen. The application and thinking of online teaching in intelligent environmen [J] principal, 2021( 07) : 66-67.
- Xi-ping tao. We will actively promote the deep integration of ARTIFICIAL intelligence and education [N] . China Education Journal, 2019-06-15

# INNOVATIVE HEALTH MANAGEMENT OF DIABETES A NEW MODEL IN THE INTERNET AGE

YANAN ZHAO

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 524433529@qq.com*

## ABSTRACT

For diabetes, the long treatment period, real-time monitoring and even the need for regular dosing, potential side effects of drugs, diet control, etc., all further increase the troubles that diabetes brings to patients in their lives. The latest medical model uses a portable blood glucose meter for blood glucose testing at home or in the community, uploading test results through mobile phones, and doctors reading patient data through online channels such as Internet hospitals, giving patients medication guidance, dietary advice, etc. This model not only brings convenience to diabetic patients, but also meets the health management needs of most chronic diseases.

**Keywords:** diabetes, internet, hospital, big data, POCT, blood sugar

## INTRODUCTION

Diabetes is a metabolic disease characterized by hyperglycemia. The main symptoms are "three more and one less", namely polydipsia, polyphagia, polyuria, and weight loss, which can easily lead to serious complications, resulting in eye, kidney, cardiovascular and Damage to the nervous system and its dysfunction and failure. According to the latest statistics from the International Diabetes Federation, there are about 425 million diabetic patients in the world, of which 114 million Chinese have diabetes. With the aging of the population and people's unhealthy eating habits, diabetes has become the number one chronic disease killer related to people's livelihood and health, and there is a trend of gradually spreading to young people. For chronic diseases, the long treatment period, potential side effects, real-time monitoring and even timing of dosing have further increased the troubles diabetes brings to patients in their lives. For example, diabetes can lead to blindness, and diabetic patients need to be screened for retinopathy on a regular basis. Regular insulin injections and blood sugar monitoring will also cause daily pain to patients. Every year, thousands of patients who undergo heart surgery need to be treated before surgery. Insulin is injected continuously for 24-72 hours, during which blood sugar needs to be checked every hour, and the pain caused by each blood test is unbearable for the patient. As technology develops, will there be better solutions for blood glucose sampling, monitoring, management, screening for diabetic retinopathy, and insulin delivery?

Diabetic patients have a high frequency of medical treatment, and offline management is difficult. Traditional blood glucose testing equipment has been rapidly updated, seeking innovation. The combination with mobile medical, telemedicine, blood glucose meter and mobile medical APP is the most common form. Internet medical care

can optimize diabetes patients through online and offline linkage. Improve the efficiency of diagnosis and treatment, so as to play a role in controlling and alleviating the deterioration of the disease. Today, Chinese Internet companies and medical institutions mostly take diabetes management as the starting point and launch a variety of management services for diabetic patients.

## **RESEARCH METHODOLOGY**

Use domestic and foreign databases to retrieve articles and summarize.

Data Sources:

### NCBI

NCBI refers to the National Center for Biotechnology Information. is the largest database related to biotechnology. The keywords of "poc" and "diabetes" were searched through the literature database "PubMed", and the papers from 2015 to 2022 were screened to find relevant data, as well as the popularity and accuracy of poc. Foreign countries such as Japan, India, Denmark, etc. have reported articles on POCT screening for diabetes, as well as articles that can reduce the cost of treatment<sup>[1],[2]</sup>.

### cnki.net

Chinese search for the progress of domestic Internet hospitals and poc combined application in the health management of diabetes. It is found that this method is relatively new and has been promoted, but has not really penetrated into primary hospitals and families.

## **LITERATURE REVIEW**

### **1.1 POCT**

POCT is a new field of laboratory medicine development, a laboratory medicine technology used next to the patient. On January 10, 2011, the Ministry of Health officially issued the "Management and Clinical Operation Specifications for Portable Blood Glucose Monitors in Medical Institutions", which proposed that the selection of blood glucose meters should meet the ISO standard with high accuracy, strong anti-interference ability, and the hematocrit range should be controlled at least within 10 requirements such as 30% to 60% and easy operation. The management of POCT in American hospitals tends to be perfect, and there are clear regulations and unified standards for POCT regulations and industry management, POCT quality management and personnel management. The American Diabetes Association (ADA) recommends POCT devices as an important means of in-hospital blood glucose monitoring in patients with diabetes. Although the evidence for lowering glycated hemoglobin is not strong in children, adolescents, and young adults, continuous glucose monitoring (CGM) may be beneficial in these patients.

The automation and miniaturization of analytical instruments and the diversification of inspection items are the development directions of POCT in the future.

Simple, fast, easy-to-populate and field-tested diagnostic technologies require miniaturized experimental instruments, easy operation, and timely and accurate results reporting. Such products are increasingly favored by clinical medical staff. In order to reduce the discomfort caused by frequent blood collection and pain in diabetic patients, non-invasive percutaneous testing may be an important development direction of POCT.

## 1.2 Internet Hospital

People's acceptance of Internet medical care has gradually increased. At the beginning of 2020, in the sudden global outbreak of the new crown epidemic, Internet medical care gave full play to its advantages such as "no contact", "cross-space", "fast response", etc. Pressure, avoiding cross-infection and other aspects play an important role, and have become a favorable supplement to this battle against the epidemic, providing a strong backup "cloud battlefield" for the battle against the epidemic.

According to the statistical report on the development of China's Internet released by CNNIC, at the end of June 2013, the Internet penetration rate in China was 44.1%<sup>[5]</sup>, and in 2016 it was 51.7%<sup>[6]</sup>.

In March 2020, this number has risen to 64.5%<sup>[3]</sup>. A study in Spain<sup>[4]</sup> showed that the application of the Internet can improve the awareness of the disease in patients with diabetes. Therefore, Internet-based health education strategies will be another viable option to facilitate the self-management process of diabetic patients outside the clinic, and the successful application of Internet-based health literacy interventions will help reduce health inequalities. Compared with traditional channels, Internet channels have more advantages and can help patients and medical staff to communicate and feedback in real time, provide educational support, and online peer support; while traditional channels come from doctors and experts, and are generally considered to have higher reliability. Therefore, it is suggested that medical personnel should fully consider the basic characteristics of the population when using the Internet to disseminate information, continue to develop and use traditional channels to improve the availability of information, and at the same time expand the influence of the Internet in diabetic patients and improve online health information. Credibility and ability of people with diabetes to screen and identify health information.

"Internet + medical care" is in line with the core essence of the "Healthy China 2030 Plan" proposed by the state. Empowering medical care with technology has effectively alleviated the problem of the shortage of medical resources in my country, and has improved medical efficiency, directed health management, and promoted high-quality medical resources. Shen and other aspects play an active role.

The online management of diabetes in Internet hospitals not only has the commonalities of chronic disease management in Internet hospitals, but also includes the characteristics of diabetes management. Intelligence, efficiency, convenience, accessibility and sustainability are its important characteristics. Intelligent information technology is an important support for the online management of diabetes in Internet hospitals. The application of information technologies such as artificial intelligence, IoT technology, and big data has expanded the dimensions of diabetes management and improved management efficiency. For example, existing POCT products: smart blood

glucose meters, smart blood pressure monitors and other smart devices can monitor and manage all-round data of diabetic patients, which is an important supplement to offline testing data.

## **2 Diabetes health management method (POCT + Internet hospital)**

### **2.1 Hospitals' approach to diabetes management needs to be updated**

The treatment of diabetes consumes a lot of medical and health resources, which not only affects the health of citizens, but also increases the economic burden of individuals and the country. Therefore, the prevention and treatment of diabetes by medical staff is always facing huge challenges. With the continuous development of social medical level, the medical model for diabetic patients is gradually changing. In the past, it focused on prolonging the life cycle of diabetic patients and preventing and controlling complications. Now, it focuses on striving for a better quality of life for patients.<sup>[7]</sup>

An important part of managing patients with diabetes relates to efforts focused on controlling hyperglycaemia.<sup>[8]</sup>Hyperglycaemia is measured using a haemoglobin A1c (HbA1c) test, which assesses the average glucose level of the previous 60–120 days. Near normal glycemic control levels in diabetes care reduce the development and progression of complications.<sup>[9]</sup> Therefore, it is important to public health that the timely and appropriate management of HbA1c is part of the care pathway for patients with diabetes in primary care.<sup>[10]</sup> General practitioners often play an important role in the management of HbA1c levels.<sup>[11]</sup>

Hospitals need information-based solutions to manage blood sugar, the main reasons are: (1) The overall incidence of diabetes is high, exceeding 10%; (2) Among inpatients, about 80% of the endocrinology department are diabetic patients, and other related departments have diabetes patients The proportion is about 10%, and there are more hospitalized patients with hyperglycemia; (3) Every hospitalized patient needs accurate, convenient and safe blood sugar management.

At present, many large general hospitals have implemented hospital information management systems, but many of them are limited to PACS information management systems such as billing, registration, and office work. The information-based blood glucose monitoring and management system is the development trend of blood glucose management in hospitalized diabetic patients.

### **2.2 Using POCT as an intermediary platform, linking multiple scenarios such as primary medical care, home monitoring, and medical institutions, obtaining patient data, and providing online intervention guidance for patients has become a new diabetes health management model.**

2.2.1 National policy: The state actively takes measures to control the high incidence of chronic diseases. Encourage medical Internet and commercial insurance. And by promoting chronic disease triage and treatment, it aims to improve the efficiency

of medical resource utilization and service level, and improve the commercial health insurance payment system.

In the future, with the advancement of triage treatment and medical informatization, diabetes management will rely on the services of primary medical institutions, and divert medical treatment from first-grade, second-grade, and third-grade hospitals. Real-time condition monitoring and consultation are completed through medical informatization.

### 2.2.2 Market demand:

1). The patient base is large. my country has a large population base, and the prevalence of diabetes is increasing year by year. Due to the low diagnosis rate of diabetes, many diabetic patients do not know that they have the disease, and these potential diabetic patients will be gradually released in the future. As people's health awareness increases, the number of physical examinations and regular check-ups for related diseases (diabetes) increases, the diagnosis rate will increase, and diabetic patients will be effectively treated.

2). Strong ability to pay. According to the IDF report, in 2015, 11.6% of the global medical consumption was spent on diabetes treatment of about US\$673-1,197 billion. Direct medical expenditures due to diabetes in China account for 13% of the country's total medical expenditures. The number of inpatients and outpatients is high. Diabetic patients are mainly middle-aged and high-aged groups, and these groups have a certain wealth accumulation and high ability to pay.

3). Self-management is difficult. Due to the lack of knowledge of diabetes, the complex treatment process, almost lifelong treatment, and other factors lead to poor patient compliance. Mobile medical (POCT instrument) management can make up for this difficulty.

Based on the above national policies and market demands, POCT+ Internet hospitals can provide sustainable services while integrating medical resources.

At present, there is a shortage of medical resources in my country, and mobile medical care is working with localized medical resources to achieve resource sharing. Strengthen self-monitoring of blood sugar in patients, so that patients can timely understand the effect of their blood sugar control, and then urge them to take medical compliance behavior. Establish a good doctor-patient relationship, communicate to enhance patients' trust in doctors, and improve patient compliance and medical efficiency. It can also save the doctor time. Provide individualized treatment plan, which is beneficial for patients to comply with medical treatment, and can check the doctor's dosage, precautions, etc. at any time through the mobile App. Realize the closed loop of online consultation and offline control. (figure 1)

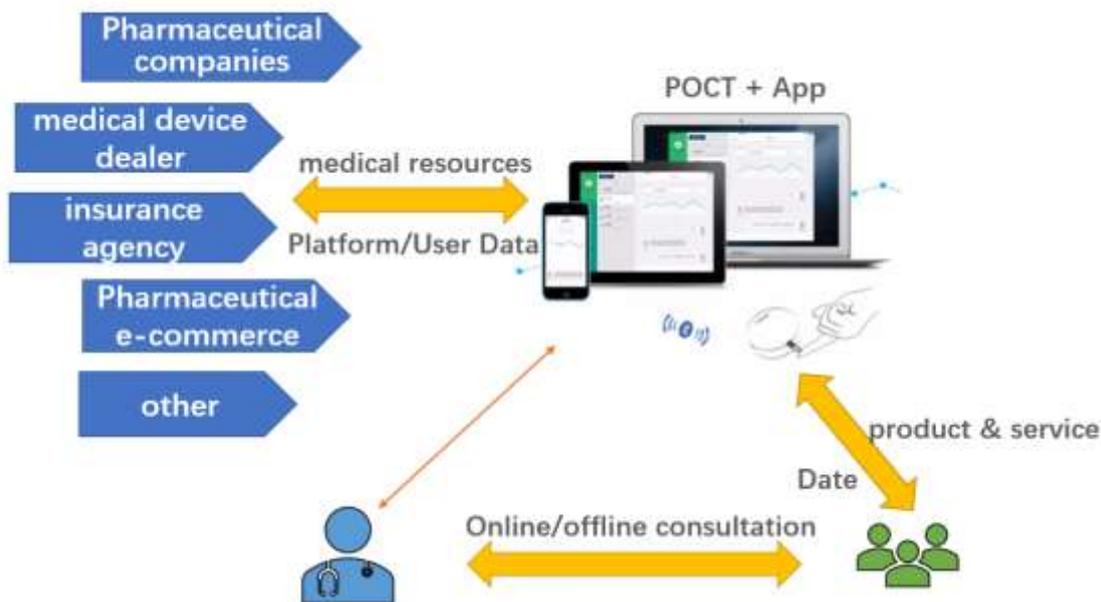


Figure 1 The diabetes App integrates the industrial resource chain to form a closed-loop diabetes management around the App

Data services and doctor services are the core of domestic mobile diabetes management apps. The task of the app is to use data and doctor services to cultivate patients' self-management habits and achieve the purpose of gaining long-term user stickiness. The data service includes three processes of data collection, analysis and feedback, and storage, among which the doctor service will also participate in the process of data feedback.

### 3. Intelligent products and individualized services.

Using POCT as an intermediary platform, it links multiple scenarios such as primary medical care, home monitoring, and medical institutions, and obtains a large amount of health data. With the gradual implementation of technology, POCT is penetrating various grassroots markets and C-end markets. POCT is suitable for detection in different scenarios, expand more in the out-of-hospital market, increase investment in home testing, and launch more intelligent products.

3.1 Dario's all-in-one smart blood glucose meter is an innovation in the digital age that provides a complete blood glucose monitoring solution.



The device includes a blood glucose meter, a test strip box that can hold 25 disposable test strips, and a blood collection device. It is small and light enough to fit directly in your pocket, and it is also very powerful, except that it only needs a small drop of blood. In addition to high-precision detection, it only takes 6 seconds to read, and it can be connected through the audio jack of a smartphone to directly record, track, map and analyze blood sugar data and upload it to a cloud server, even without bringing its own battery, smartphone. The power required by the device can be supplied.

Dario Health has inherited the innovative spirit of Israel and integrated various functions in the blood glucose detection process into a small portable device, which can be regarded as the most comprehensive diabetes solution.

3.2 The diagnosis and treatment model of Jingdong Internet Hospital is patient-centered. Patients communicate with doctors online, and doctors can issue electronic prescriptions, which are delivered to their homes by nearby pharmacies, allowing patients to easily enjoy health management from consultation, electronic prescriptions, and door-to-door medicine delivery. Station service.

## CONCLUSION

This article is based on the rapid development trend of online management of Internet hospitals, the current development of POCT, and the large number of diabetic patients, the complex diagnosis and treatment process, and a series of health management issues such as long-term blood sugar testing and consultation. It is expounded that in the Internet era, with the rapid development of science and technology, the model of POCT + Internet hospital provides sustainable services for the health management of diabetic patients. Reduce patient compliance and pain during testing; increase patient self-management awareness and improve the quality of life of diabetic patients.

## REFERENCES

China Internet Network Information Center. The 32nd China Internet Development Statistical Report Report [R]. Beijing: China Internet Network Information Center, 2013.

- Zhang Wanyu, Sui Dangchen. Problems and countermeasures in the development of "Internet +" community elderly care service industry [J]. Journal of Shaanxi University of Science and Technology (Social Science Edition), 2017, 35(4): 78-84.
- China Internet Network Information Center. The 45th Statistical Report on Internet Development in China [EB/OL]. (2020-04-28) [2020-06-28]. [http://www.cac.gov.cn/2020-04/27/c\\_1589535470378587.htm](http://www.cac.gov.cn/2020-04/27/c_1589535470378587.htm).
- ZHAO X. Relationships between sources of health information and diabetes knowledge in the U.S. hispanic population[J]. Health Communication, 2014, 29 (6) : 574-585.
- Troels Kristensen , Frans Boch Waldorff , Jørgen Nexøe Variation in Point-of-Care Testing of HbA1c in Diabetes Care in General Practice 2017 Nov 9;14(11):1363. doi: 10.3390/ijerph14111363.
- Naoya Yahagi Fingertip Screen Using POCT HbA1c Analyzer at Community Pharmacies Is Effective for Early Recognition of Diabetes .2016 May;64(5):564-566.PMID: 30695369
- Progress in Health Literacy and Internet Utilization of Diabetic Patients ZHAO Na , ZHANG Yong, QI Jun-ping, ZHANG Hai-liang, DAI Run-jing, ZHU Xiang-dong, FAN Jing-chun doi10.3969/j.issn.1001-568X.2021.11.0014
- Kharroubi A.T., Darwish H.M. Diabetes mellitus: The epidemic of the century. World J. Diabetes. 2015;6:850–867. doi: 10.4239/wjd.v6.i6.850. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Nicholas J., Charlton J., Dregan A., Gulliford M.C. Recent hba1c values and mortality risk in type 2 diabetes. Population-based case-control study. PLoS ONE. 2013;8:e68008. doi: 10.1371/journal.pone.0068008. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Little R.R., Rohlfing C.L. The long and winding road to optimal hba1c measurement. Clin. Chim. Acta. 2013;418:63–71. doi: 10.1016/j.cca.2012.12.026. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Schroll H., Christensen R.D., Thomsen J.L., Andersen M., Friborg S., Sondergaard J. The danish model for improvement of diabetes care in general practice: Impact of automated collection and feedback of patient data. Int. J. Fam. Med. 2012;2012:208123. doi: 10.1155/2012/208123. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Xu Yu, Bi Shoufang, Wang Weiqing, et al. Status of the prevalence and control of diabetes in adults in China: Interpretation of the 2010 China Chronic Disease Surveillance and Diabetes Special Survey Report [J]. Chinese Journal of Endocrinology and Metabolism, 2014, 30 ( 3): 184-186.
- Nathan DM, Buse JB, Daridson MB, et al. Medical management of hyperglycaemia in patients with type 2 diabetes: a consensus algorithm for the initiation and adjustment of therapy [J] . Diabetes Care, 2009, 52 ( 1) : 17–30.
- Xu Shan, Sun Fengying, Yao Qianlan, et al. Meta-analysis of blood glucose test results comparison between blood glucose meter and biochemical meter [J]. Journal of Practical Laboratory Physicians, 2020,12(2):73-76.
- HUANG Jing Binhai Hospital, Tianjin Medical University General Hospital Evaluation of Clinical Value of POCT Blood Glucose Meter in Blood Glucose Detection China Medical Device Information: 1006-6586(2021)16-0145-02

- China Internet Chronic Disease Management Industry Insight Report 2016 // Shanghai iResearch Market Consulting Co., Ltd. iResearch Consulting Series Research Reports (2016 Issue 10) [C]. Shanghai iResearch Market Consulting Co., Ltd., 2016: 61.
- Office of the State Council. Opinions of the General Office of the State Council on Promoting the Development of "Internet + Medical Health" [EB/OL]. (2018-04-28) [2021-04-13]. [http://www.gov.cn/zhengce/content/2018-04/28/content\\_5286645.htm](http://www.gov.cn/zhengce/content/2018-04/28/content_5286645.htm).
- Junker R, Schlebusch H, Luppia PB. Point-of-Care testing in hospitals and primary care [J]. Dtsch Arztebl INT, 2010, 107 ( 33) : 561 – 567.

# EMPLOYEE ATTENDANCE APPLICATION BASED ON DYNAMIC FACE RECOGNITION

JINGHUI ZHAO

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 7113437@qq.com*

## ABSTRACT

In this paper, the background and current progress of face recognition technology are described in detail, and the characteristics and differences of static face recognition and dynamic face recognition technology are introduced respectively. Aiming at the problems of cheating on attendance, inefficient attendance and inflexible attendance, a complete set of face is designed based on the latest in-depth learning dynamic face recognition technology. Identifying the staff attendance system, the characteristics, functions and technical requirements of the attendance system are clearly defined, and the specific requirements and matters needing attention in the implementation of the face recognition attendance system are regulated in detail.

**Keywords:** dynamic face recognition technology, Face recognition algorithm, Dynamic face recognition attendance, Pattern recognition, Face image preprocessing, Face feature extraction

## INTRODUCTION

### 1.1 background and research significance of face recognition technology

At present, most of the employees use the three traditional methods of swipe card, fingerprint and static face recognition. The swipe card method is prone to card loss, degaussing and other problems, which can not prevent employees from cheating, such as punching card on behalf of others, and the cost of use and management is relatively high; Fingerprint attendance is inefficient, and belongs to contact identification, which is easy to spread bacteria; The biggest problem of static face recognition is that the efficiency of recognition is very low, even often unable to recognize. If the number of attendance is large, it will cause the dilemma of waiting in line for attendance.

At present, dynamic face recognition technology based on deep learning has become mature, and has been applied in many application scenarios. Based on various problems of attendance application, it is of great significance to use dynamic face recognition technology to replace traditional attendance research methods such as traditional cards and fingerprints.

#### 1.1.1 Historical background of face recognition

Since the 1980s, with the development of computer, Internet, artificial intelligence, automation and computer vision technology, people's enthusiasm for computer face recognition technology has gradually increased. Many research institutions or

organizations have devoted a lot of time and manpower to this field, These researches in the field of computer face recognition technology have very important theoretical value and application value in the field of intelligence and automation.

The main goal in the field of artificial intelligence is intellectualization, which enables machines to have the same or similar ability as human thinking ability, and enables machines to have the ability to recognize and deal with things. In addition, it studies human perception and processing ability and mechanism of things based on psychology, behavior, medicine and other disciplines, And these research results can be applied to practice, there are a large number of intelligent robot research and development projects, and there are practical robots in some scenarios. The research of computer face recognition technology is developed in this context, because researchers found that many things that are very simple for human are very difficult for computer or machine, such as face recognition, voice recognition, language understanding and so on. If we can develop the same machines or systems as human beings, machines can do many things instead of human beings in many fields or scenes, which can save manpower and achieve high efficiency.

Face recognition technology is a comprehensive technology field based on computer vision technology and computer pattern recognition technology. Face recognition integrates computer vision technology and computer pattern recognition technology, and is widely used in the fields of computer automation, artificial intelligence and robot. Face, like iris and fingerprint, belongs to human biometrics. Theoretically, there are no two identical faces. Face is unique and can be used to represent the only person. Moreover, face has great advantages over other biometrics. Face recognition is of great significance to automation and artificial intelligence, The research of face recognition technology has great practical value for human and society.

Face, as a human biometric, has inherent advantages. Compared with other biometric technologies, face recognition technology has the advantages of non-contact, non perception and naturalness, which are also the main characteristics of face recognition technology. Non contact means that face recognition does not need to be contacted by the sampled person or the recognized person in data collection and application, and there are not too strict requirements for distance and angle. Non perception means that face recognition does not need the recognized person to make a high degree of cooperation behavior in the application or scene of recognition. It can complete the recognition completely without the recognized person's perception. Generally, it can be recognized in the general visible range. Naturalness means that human face is a natural biological feature of all human beings, and it is unique. Compared with iris recognition and fingerprint recognition, face recognition has more application scenarios and scope. In the sampling process, the sampling of iris recognition and fingerprint recognition is unique, and the biological characteristics of different samples are not exactly the same. Iris and fingerprint images will not get different results at different times, that is to say, the recognition image is as unique as the sample image. But in face recognition, the acquisition and recognition are affected by external factors, such as the angle of the face, the light and shade, the facial expression and other factors. Even the same person obtains face images under different factors, there are great differences. It is because of the influence of many external factors, which brings the complexity and difficulty of face recognition technology, the technical requirements of face recognition will be higher than other biological recognition technology.

At present, fingerprint recognition machines and systems have more practical applications, and there are many landing applications in airport security, identity

verification and other scenes. But the application of face system is not so popular. The sampling of face image in face recognition is very convenient, and it can collect, recognize, analyze and compare face images in non-contact condition. Therefore, face recognition is faster and more convenient than fingerprint recognition system and DNA identification technology, so face recognition technology is of great significance [2].

At the beginning of the research on face recognition, it was mainly based on the analysis and comparison of the main external contour of the face image, but it was relatively difficult to obtain the contour of the face image. At that time, based on this situation, people's research on face recognition technology was almost stagnant, and the development speed was relatively slow. Later, after the introduction of Neurology, physiology, vision and other technologies into the theory of face recognition technology, face recognition technology has been re accelerated, and face recognition technology has been a higher level. There are many practical applications and systems in the field of face recognition, which play a key role in the fields of automation and intelligence. At present, some domestic research institutions, scientific research institutions and enterprises are engaged in this research, and have made a lot of achievements. Now there are mature products on the market.

### **1.1.2 Current development of face recognition**

After decades of research, combined with neurophysiology, brain neuroscience, computer vision and other technologies, face recognition technology has become more and more mature. In the process of research, it also plays a great role in promoting other disciplines. With the rapid development of computer technology and the rapid decline of computing cost, some previous time-consuming and space-consuming pattern matching algorithms, such as the introduction of large samples, the extraction of multi-dimensional feature parameters, modeling and so on, have attracted people's attention again.

#### **1. Research progress in physiology**

Neuropsychology mainly takes some people with visual cognitive errors as the research object. Although these people have normal vision, they can't correctly realize what they see. For example, some people can recognize certain characters, but they can't say the meaning and meaning of each character. Another example is that some people can distinguish a person's appearance, recognize a person's face and facial features, but they can't associate a face with a specific person. This kind of people have the ability to perceive things, but their ability to recognize things is relatively poor. In order to study the causes of this phenomenon, German neuroscientists in the 19th century divided human cognition into two parts: perception and association, which are complementary and indispensable. Perceptual ability is mainly responsible for receiving external visual stimuli and establishing an internal representation; The associative ability is responsible for finding and searching in the corresponding storage area according to the internal representation results, so as to get the corresponding representation and make appropriate external response.

#### **2. Research progress in neurology**

Professor and team of neuroscience of St. Andrews School in the UK have come to a conclusion after years of research that if some areas of the right hemisphere of the human brain are damaged, the ability of face recognition will be affected. There may be special executive cells in the human brain for face recognition or recognition, which can be called face recognition cells. Some foreign researchers have found that this kind of visual

executive cells also exist in the lower cerebral cortex of rhesus monkey in experiments, which can infer that there are methods and mechanisms specially used for analyzing and recognizing faces in the lower cerebral cortex of human beings [3].

### 3. Advances in computer vision

In the middle of the 20th century, with the emergence of computers and the gradual popularization of the computer automation, the performance and computing power of computers are becoming more and more powerful. The application of computer technology in various fields has been greatly developed, involving the traditional computing field, automation, engineering, life and other aspects. The earliest concern is the computing power of the computer, with the increasingly powerful computing power, people have higher and higher requirements for the computer, hope that the computer is more intelligent, and can more intuitively describe the object in the objective world, not limited to the abstract description of the object as before. Computer vision technology is a branch technology in the field of artificial intelligence, and it is also a very important technology in the main goal of artificial intelligence. The research purpose of computer vision technology is to enable the computer to analyze all kinds of signals related to the image, and make corresponding responses according to the results, so as to be applied to specific fields.

The research of computer vision itself has nothing to do with application, but the results of computer vision are related to many fields. The relationship between some related applications and computer vision research is listed below.

The research of computer video technology itself is not related to specific applications, but the results of computer vision should be combined with many application leaders. The following examples illustrate the correlation between computer vision technology and related industries or application directions.

- Aerospace image application: computer vision technology in the field of aerospace is mainly used for terrain and buildings using visible light and radar to facilitate the comprehensive analysis and improvement of the geometric model of map or object, weather forecast and some military applications.
- Robotics: computer vision technology in robot applications, mainly used to describe three-dimensional objects, can be identified by light and X-ray description of the object, so as to get the object model and object reflected light model.
- Astronomy: the application of computer vision technology in astronomy mainly uses the radiation of celestial bodies to describe their geometry and analyze the structure and composition of celestial bodies.
- Neuroanatomy: it is used to analyze the structure of neurons, determine the spatial position of neurons by electron microscope, and describe the connectivity and conduction relationship between neurons.
- Medicine: computer vision technology in medical applications, can be used to describe human organs, can also be used to describe the composition of human cells, biological chromosome composition, protein chain analysis. Generally, X-ray, ultrasound and other techniques can be used to observe body organs; For biological cells, electron microscope can be used to analyze the pathological principle and diagnosis results through the body model.
- Physics: computer vision technology in the application of physics, can be used for the

discovery of new particles and the identification of new particle track, can find out the motion law of some particles.

- Chemistry: computer vision technology in chemical applications, can analyze the chemical model, can use electronic density to get molecular structure.

## 1.2 Theory and structure of face recognition

### 1.2.1 Theory of face recognition

Face recognition is based on the theory of pattern recognition. Pattern recognition is the process of matching the image represented by computer with the known category. In the process of recognition, the objective objects in computer vision are mapped from the feature space to the model space. In the process of pattern recognition, the most important thing is to find the feature space of the sample, and classify the sample through the feature space of the sample. Therefore, it can be considered that the process of pattern recognition is the mapping process from the feature space of the pattern to the type space. In the process of pattern recognition, the dimension of pattern is infinite, which means that the data set of physical world observation in pattern recognition has diversity. In the first mock exam, the properties of any pattern space are expressed as the necessary condition of the feature space. The objects and time in the objective world are measurable in physics, and such measurable data can be described in terms of functions. And this kind of data can be merged into a set of schema definitions. In the change from pattern space to feature space, because the dimension of pattern space is too large, the dimension of pattern space is compressed and synthetically analyzed to get low dimensional feature space. This process is called feature extraction or feature selection. There is a certain mapping relationship between the feature space and the type space in the process of pattern recognition. This mapping relationship generally uses the existing experience and knowledge to classify the feature space parameters. This classification process is called judgment decision, and the knowledge and experience used in judgment decision are called judgment rules [4].

Face recognition technology is a face recognition technology based on pattern recognition theory. Pattern recognition is a complete process of matching the image described by computer with the specified category. The process of pattern recognition is to transform the object described by computer vision from the described feature space to the object model space with a specific method. In the whole process of pattern recognition, the most important method is to abstract the object's feature space, and realize the matching and classification of objects through the object's feature space. Therefore, in a certain sense, it can be considered that the process of pattern recognition is actually the conversion process from the pattern space through the feature space to the type space. In the process of pattern recognition, the dimension and dimension of pattern can be infinite, that is to say, the diagonal and data in the physical world of pattern recognition are diverse. In pattern recognition, any one of the conditions that represent the feature space needs to be clear and measurable in physical terms with the object and time in the objective world, and these measurable data can be described by function. And all data classes can be attributed to a specific pattern. In the process of mapping from pattern space to feature space, sometimes because the data dimension of pattern space is too large, we need to reduce the dimension, that is, compress the dimension. This process is called feature extraction or feature selection. In the process of pattern recognition, there is a certain mapping relationship. This relationship refers to the relationship between feature space and type space. We usually classify feature space according to experience and knowledge. This classification process is a decision-making process, and

the experience and knowledge we use are the so-called judgment rules.

The whole process of pattern recognition includes preprocessing, feature extraction and classification.

### 1. Pretreatment

The first step of pattern recognition is image preprocessing. So-called image preprocessing is to extract the target samples of pattern recognition. The target of pattern recognition is to obtain the samples to be identified as far as possible without the influence of external factors. In short, the preprocessing work includes reducing or eliminating the interference in acquisition, such as noise, light, angle, posture and other factors. The main purpose is to achieve high signal-to-noise ratio of sampling, reduce various blurring of image, improve image quality, reduce distortion, image normalization, etc. [5]. For example, the nonlinear image is converted into linear image, and the coding, transformation, adjustment and standardization of the image are all considered as preprocessing work. It should be noted that there is no unified or standardized effect requirement and pretreatment results at present, and can only be judged according to objective observation. In short, preprocessing is very important, and the preprocessing process should include all the work before pattern recognition.

### 2. Feature extraction

In order to ensure the accuracy of pattern recognition, we usually collect as many sample data as possible, but this will cause the data dimension of sample data in the pattern space to be too large or too much, which will increase the whole processing time, and also affect the accuracy of pattern classification. In the process of sample data collection, Not all features have the same significance for the representation and description of things. In pattern recognition, classification requirements are different, and the types of feature data have different meanings. The purpose of feature extraction is to extract features that have obvious effect on pattern recognition process. Through feature extraction process, the dimension and dimension of data can be compressed, This can be of great significance to the data processing, can reduce processing time and reduce processing costs.

The function of feature extraction is to get the feature space of samples for classification. The features extracted by the same objects under different classification methods need to meet the minimum probability of classification errors under this classification principle. In the process of feature extraction, we can also use appropriate orthogonal transformation and statistical relationship to extract the most valuable feature data, The features that do not affect the recognition results are discarded to achieve the purpose of efficient and accurate classification.

### 3. Classification

Classification is the process of dividing the features in pattern recognition into corresponding type space. Classification can also classify some unknown types into a certain type, and classification can also make negative judgment on some types. In the process of pattern recognition, the classification conditions can be given in advance, and the ones belonging to the same type usually have high similarity. However, it is inevitable to make certain mistakes in classification, because whether it belongs to the same category is only judged according to similarity. The classification process can only be referred to by a certain error rate. Good pattern recognition method, in the sample feature space, there should be good classification algorithm to ensure the lowest error rate. Therefore, reducing the error rate in pattern recognition is the main problem in pattern

recognition research [6].

We described the basic principle and process of pattern recognition, and the whole process of pattern recognition is carried out according to the process described above. In addition, there is a concept of learning process in the process of pattern recognition. The so-called learning process refers to the automatic adjustment of classification standards and functions through the change of style feature data. This process is also a process of continuous training for classifiers. This process belongs to the early work of pattern recognition, which is mainly used to train a high-quality recognition model.

The classifier must realize the classification decision of unknown category attribute samples. Therefore, the design of classifier must first determine the requirements for classification error rate and select appropriate decision rules. In order to make the classifier effectively make classification decision, it is necessary to train the classifier first, which is the learning process of the classifier. The important concept of pattern recognition in the process of learning and deleting classifier.

The classifier also needs to realize the classification and judgment of unknown category samples. So when designing the classifier, it is necessary to have a clear requirement for the error rate of the classifier. Reasonable judgment rules and standards are adopted. In order to make the classifier more effective judgment, a lot of training must be carried out for the classifier, that is, it is necessary to make the classifier have a large number of learning processes, In this way, we can get a good classification method and model.

Classification is divided into statistical pattern recognition and syntactic pattern recognition according to classification characteristics. Statistical pattern recognition is based on the density function of experimental sample data in feature space. Syntactic pattern recognition is based on the structural characteristics of graphics. It is applicable to more complex image analysis and understanding by using linguistic form theory technology, Most of the recognition methods are statistical pattern recognition methods.

### 1.2.2 Composition of face recognition system

Face recognition system includes three modules: face image preprocessing module, image representation and feature extraction module and face image recognition module.

#### 1. Face image preprocessing

Face image preprocessing in face recognition refers to a series of processing processes to minimize the influence of external factors on recognition target, and the use of face image to meet the standard requirements and specifications of face image of face recognition system. The preprocessing process includes face image alignment, grayscale, normalization, noise elimination, geometric transformation, geometric correction and other operations. These operations need to be implemented by specific algorithms. After these preprocessing, the face image can be standardized, which can play a great role in the accuracy and stability of face recognition.

The preprocessing of face image mainly includes face correction, enhancement of face image, normalization and so on. Face correction is to get the face image with correct face position; Image enhancement is to improve the quality of face image, not only in the visual image more clear, but also to make the image more conducive to the computer processing and recognition. The goal of normalization is to obtain the standardized face

image with the same size and the same gray value range. Here are some simple pretreatment methods.

### (1) Histogram equalization

Histogram is a point operation, which changes the gray value of the image point by point, and tries to make every gray level have the same number of pixels, so that the histogram tends to balance. Histogram equalization can make the input image converted into an output image with the same pixel points at each gray level (that is, the output histogram is flat). This is very useful for image comparison or segmentation.

Set the image to have  $n$  gray levels,  $M$  pixels,  $h_a(n)$  is the histogram of input image  $a(x, y)$ , and image  $B(x, y)$  is the output after the histogram equalization of the input image.

### (2) Median filter

Whether it is directly acquired gray image or gray image converted from color image, there is noise in it, and noise has a great influence on image quality. Median filtering can not only remove the noise of the isolated points, but also keep the edge characteristics of the image, and it will not make the image fuzzy significantly, which is suitable for the face image in the experiment.

Median filter is a nonlinear signal processing method, so median filter is a kind of nonlinear filter. Median filter was first applied to one-dimensional signal processing, and then it was referred to the processing of two-dimensional image. Median filtering can overcome the image detail blur caused by linear filtering to some extent, and it is very effective to filter out pulse interference and image scanning noise.

In general, a sliding window with several points is used to replace the gray value of the specified point (usually the center point of the window) by the median value of the gray value of each point in the window. If there are odd elements in the window, the median value is the gray value of the intermediate element sorted by the gray value. If there are even elements in the window, the median value takes the average value of the gray level of the two elements after the elements are sorted by the gray value. Because the image is a two-dimensional signal, the shape and size of the median filter have a great influence on the filter effect. Different window shapes and sizes are often selected for different image contents and different application requirements.

### (3) Normalization

The normalization of face image aims to make the photos of the same person consistent under different imaging conditions (illumination intensity, direction, distance, posture, etc.). Face normalization includes two aspects: one is geometric normalization, the other is gray normalization. Geometric normalization, also known as position calibration, will help to correct the size difference and angle inclination caused by the change of imaging distance and face posture. The purpose of this method is to solve the problem of face scale change and face rotation. The three parts include face scale normalization, plane face rotation correction (skew head), deep face rotation correction (face twist). The 3D model of face is needed for strict deep face rotation correction. Gray normalization is used to compensate the face images obtained in different light intensity and light source direction. To reduce the change of image signal caused by light change alone.

## 2. Feature extraction of face image

The variability of face determines the diversity of face recognition, but

theoretically there are no two identical faces. Therefore, the face is unique, which is a natural biological feature that can be used as the unique identification of human beings. Based on the same principle, when the spatial image of human image is mapped to machine space, it is also characterized by diversity and uniqueness. There are usually two ways to express face images.

#### (1) Face representation based on feature

It is often very important for the number of features and the reduced dimension of training samples. For example, suppose we are performing face recognition, which is to determine the identity of a person based on the facial image training data set with a mark. One way is to feature the brightness of each pixel on the image. If the size of the input image is  $32 \times 32$ , which means that the feature vector contains 1024 feature values. The new image is judged by calculating the Euclidean distance between the 1024 dimension vector and the feature vector in our training data set. And then the minimum distance tells us the person we are looking for.

However, if we have only a few hundred training samples, it will be problematic to run in a space of 1024 dimensions. Moreover, Euclidean distance behaves strangely in high dimensional space. Therefore, we can use PCA to reduce the dimension of feature space by calculating the eigenvectors of the covariance matrix of the 1024 dimension eigenvectors, and then map each eigenvector to the maximum eigenvector.

Because the feature vector of 2D data is 2-D, the feature vector of 3D data is 3-D, and the eigenvector of the data is 1024. In other words, for visualization, we can reshape each of the 1024 dimensional eigenvectors to a  $32 \times 32$  image.

Feature based face representation is mainly divided into frontal features and lateral features.

- Frontal features mainly refer to various distance ratios and angle values, such as distance between eyes, distance between cheeks, eye size and distance or angle value formed by the combination of feature points.
- Side feature refers to the concave and convex points formed by the side projection of face image, which are used as feature points, such as mouth, nose tip, jaw, eyes and so on.

#### (2) Face representation based on image

Image based face representation is to transform the face image into a mathematical matrix, and extract various algebraic features from the mathematical matrix, including eigenvalues, eigenvectors, transformation coefficient values and so on.

The two methods mentioned above need to extract features from the target face image, and in the first step, the location of the features needs to be determined, which is the so-called feature detection. There are usually three feature detection methods: model parameterization method, template based method and mathematical operator method.

### 3. Face recognition

Face recognition includes inter class recognition and in class recognition. Inter class recognition is the recognition between different kinds of objects. For example, to recognize the face from an image with background is to recognize the face image from other objects, also known as face detection; Intra class recognition is the recognition between different individuals of the same object, for example, recognizing the specified face image from many face images

## **2.Dynamic face recognition technology**

### **2.1 Background and conditions of dynamic face recognition technology**

The research background and research conditions of dynamic face recognition technology are the important constraints of face recognition in dynamic environment. If there are no certain restrictions and requirements, the scale of its sample data set will not be controlled, so it is impossible to successfully carry out face recognition in dynamic environment.

#### **2.1.1 Research background of dynamic face recognition**

In the early research field of face recognition, the research mainly focused on the recognition of static face images. Static face recognition is not very convenient in the process of use. For example, in some scenes, the recognized people are not willing to complete the recognition process under the condition of high cooperation, and the user experience of static face recognition is not very good, It is not convenient for the recognized person to obtain the static face image, which also causes the application of static face recognition is not very wide. This requires more applicable and convenient face recognition technology, dynamic face recognition technology is developed in this context. The complexity of dynamic face recognition technology is much larger than that of static face recognition, but the application prospect of dynamic face recognition technology is much larger than that of static face recognition.

At present, the application demand of face recognition is more and more, and some research institutions or enterprise teams invest more and more manpower in the research of dynamic face recognition technology, which also promotes the rapid development of dynamic face recognition technology.

In essence, dynamic face recognition is to recognize the acquired video sequence or video sequence. The recognition object of dynamic face recognition has more human information than that of static face recognition. However, the recognition difficulty of dynamic face recognition is also caused by the variability, uncontrollability, multi angle, multi pose of dynamic face image, It will also greatly affect the effect of recognition. Therefore, dynamic face recognition technology is more difficult and complex than static face recognition technology.

- The acquisition of face image source needs to be combined with specific application to determine the method of image acquisition. The acquisition of image will affect the efficiency of recognition. In the general recognition process, video sequence image is adopted. The file format is common AVI file, MPG file, RM file and so on. The video coding format is usually MPEG-1, MPEG-2, MPEG-4 and so on [8].
- Image extraction, extracting face images from continuous video sequences which can be used for recognition, is an important part of dynamic face recognition. In dynamic image sequences, it is possible to obtain highly fuzzy face images. Therefore, it is necessary to carefully study how to obtain high-quality and clear face images.
- The correlation problem of face image in video sequence, compared with the static image, the dynamic image has the same local area of the face image, which has the great possibility of repeated features. It is very important to study the correlation of face image information. This correlation processing process has an important impact on the recognition efficiency, and is the focus of dynamic face recognition technology.
- Face posture, face deformation, illumination, moving speed and other conditions will

have a certain impact on dynamic face recognition. It is very important to study these problems for the performance and accuracy of dynamic face recognition system.

### **2.1.2 Constraints of dynamic face recognition**

There is a big difference between dynamic face recognition and static face recognition. In static face recognition, the recognized face is in a relatively static state, which belongs to highly cooperative recognition. There are certain restrictions for the image, such as the face needs to face up, no light effect, static and so on. The object of dynamic face recognition or the current face image in a dynamic state is to deal with a moving image sequence, which will cause instantaneous image blur and other problems. Dynamic face recognition is different from static face recognition in technology.

To study the limited conditions of dynamic face recognition technology, we can learn from the requirements of static face recognition. The following will analyze the application background of dynamic face recognition and static face recognition technology in detail. We can refer to the restrictive conditions of static face recognition and get different restrictive conditions of dynamic face recognition.

① There will be motion blur in the face image of the dynamic image, even sometimes all the images in the moving image are fuzzy. This situation belongs to a special situation, which has a great impact on the dynamic face recognition. In this case, people can even distinguish the human eye, so this kind of sample has little significance for the research of face recognition. In the experiment, we should try our best to obtain the relatively static and low ambiguity face image [9].

② In the moving image, people's posture and clothing are also related, there is not much change, only in this way can we achieve instant face image, your background consistency is higher, image information is more relevant.

③ The time of dynamic face image sequence is limited to a certain range, because too much image information will reduce the recognition speed.

④ In the process of motion, the motion of the face relative to the imaging device is limited to the following two cases: one is that the imaging device is on the front normal of the face, and the face moves along the front normal direction, that is, the vertical distance between the face and the imaging device changes, which reflects the change of the size of the image area occupied by the face in the image; Another case is that the imaging device is on the face normal, and the face moves perpendicular to the face normal, so the face appears in different regions of the image in the moving image sequence. In addition, it is also limited that there is no complex cloud motion case composed of the two motion cases, but it is allowed to include a moment of human face stillness.

⑤ Dynamic face recognition and static face recognition have similar requirements for facial expression, and both require the use of expressionless face images as much as possible, because the features of expressionless face images change little, and the more complex the expression in motion, the more changes it will lead to the difficulty of image recognition. In the process of dynamic face recognition, the requirements for facial expression are more stringent.

⑥ The rotation and pitch of the head, the rotation angle and pitch angle of the head will have a certain impact on the change of the face image. Although the small rotation and pitch of the head does not have a great impact on the recognition, the large rotation will affect the effect of dynamic face recognition to some extent.

⑦ The video sequence composed of gray image can reduce the influence of color space, because gray level can still reflect the influence of illumination and the effect of imaging equipment.

Because the dynamic face image provides more information, if dynamic face recognition reasonably uses the constraints, it can reduce the recognition complexity, reduce the dynamic interference factors, and improve the face recognition rate. Based on these constraints, the research of dynamic face recognition technology is more important and necessary.

### **3.application theory and technology of dynamic face recognition**

#### **3.1 Application principle and process of dynamic face recognition attendance**

Dynamic face recognition attendance system is a deep learning dynamic face recognition technology based on neural network. It is oriented to a specific range of people, such as enterprises, institutions, administrative units and other institutions. It can manage and apply employee attendance more quickly, conveniently and intelligently.

##### **3.1. 1 basic principle**

The dynamic face recognition attendance system uses a special HD face camera to capture the face, extract the features of the captured face image, compare it with the faces in the registered face database, and finally identify the specific identity of the current personnel in the camera through 1: n identity recognition and search, and complete the attendance recording.

##### **3.1. 2 basic process**

The basic process of dynamic face recognition attendance system includes face registration image acquisition, face image registration and warehousing, face image capture, face image comparison and attendance recording,

#### **3.2 technical requirements for dynamic face recognition attendance application**

Dynamic face recognition attendance has certain requirements for hardware and software performance, and the best use effect can be achieved only when the requirements are met [10].

##### **3.2. 1 characteristic requirements**

###### **1. Advanced requirements**

Dynamic face recognition attendance system is based on the latest in-depth learning face recognition technology. It belongs to the current very advanced biometric recognition technology. It has high recognition efficiency, high accuracy, non-contact and non perceptual recognition, which brings great convenience to users. It can establish the standardized management image of the enterprise, improve the management level, and standardize the internal management system at the same time. It can improve the security level of enterprise management and avoid the loss caused by card loss or password disclosure when using card or password alone; The face recognition algorithm based on deep learning can accurately extract face features, complete face comparison and search in milliseconds, and support 1:10000 face recognition capability.

###### **2. Reliability requirements**

Dynamic face recognition attendance system can save management cost and improve management efficiency. Front end face recognition is adopted, which is not

affected by network conditions. Face data and authority judgment are deployed in the front end of the device, and face recognition can be completed within 500 milliseconds; Localized deployment supports offline identification, and network interruption or platform downtime will not affect normal use.

### 3. Convenience requirements

The dynamic face recognition attendance system adopts the architecture of centralized data control and terminal distributed application, which can realize centralized and unified data management. Each data can be queried and managed remotely, which greatly improves the management level of the unit. Collect face information quickly. You only need to brush your face to complete authentication (1: n comparison  $\leq 0.5s$  / person) and respond in seconds.

## REFERENCE

- Shen Li. Principle and algorithm of face recognition [M]. People's Posts and Telecommunications Press, 2017: 10-15
- Zhang Zhongsheng. Behind the brush [M]. China industry and Information Technology Publishing Group, 2017:8-9
- SAMAIA F.Face recognition using hidden Markov models[M]. Cambridge: University of Cambridge,1994.
- Zhang Lian Xing, Luo lie. Confidence discriminant embedded hidden Markov model face recognition [J]. Computer application research, 2010:5-6
- SIGARI M H. Best wavelength selection for Gabor wavelet using GA for EBG algorithm [C],2007:35-39.
- Le Yi. Detailed explanation and practice of classic model of deep learning Caffe [M]. China industry and information publishing group, 2017, 12 (1): 103-108
- Zhao Yongke. Deep learning - 21 days of actual combat Caffe [M]. China industry and Information Technology Publishing Group, 2017:20-21
- HYV RINEN A, KARHUNEN J, OJA E. Independent component analysis [M]. New York: John Wiley and Sons, 2001: 147-164.
- Huang Pu, Chen caikou. ICA face recognition method based on local face image [J]. Computer engineering and design, 2010:2550-2553
- Hairy nebula Opencv3 programming introduction [M] Electronic Industry Press, 2017,50-55

# THE INFLUENCE OF ERROR MANAGEMENT CLIMATE ON THE INNOVATIVE BEHAVIOR OF GENERATION Z EMPLOYEES

**JINGYA BAI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: baixiaobai1437@outlook.com*

## ABSTRACT

Innovation is the fundamental source of scientific and technological development, as well as the source of continuous innovation of management methods, and plays a pivotal role in the country and society. In the process of innovation, mistakes are made constantly. Based on existing research, we have found that the error management climate has a positive effect. However, in the process of research, few scholars have conducted research on the combination of error management climate and the innovative behavior of generation Z employees. At present, the academic community is not clear how much the error management climate affects the innovative behavior of Gen Z employees and what the mechanism is. The study of this effect may involve multiple mediating variables, and the research process will be extremely complex. This paper studies the influence of the error management climate on the innovative behavior of generation Z employees in Chinese society and the mechanism of its effect by means of literature research and questionnaire survey. By constructing organizational support and innovation self-efficacy as the mediating variables of independent and dependent variables, this paper puts forward the research hypothesis of this paper. Through research, this paper finds that the error management climate has a positive impact on the innovation behavior of generation Z employees, and its effect is still significant under the control of the mediating variables of organizational support and innovation self-efficacy.

**Keywords:** error management climate, innovative behavior, generation Z employees,

## INTRODUCTION

### 1.1 Background of the study

In organizations, errors may always exist. For example, employees cannot finish the task before deadline, forgetting to send a message in time, hiring the wrong person, and so on. For a long time, people think that making mistakes are very bad things; it will bring serious loss to the organization; in the organization, people should try to avoid the occurrence of errors, and do a good job in the prevention of errors. However, enterprise practice proves that due to the information acquisition for people to making decision is limited; the error cannot completely prevent. Wherever it may produce, so researchers become to treat the error more scientifically, shift attention to how to reduce the harm as much as possible after the error occurred, and ultimately learn from errors, and promote

the organizational goals on. Error management teaches people how to learn from mistakes. Error is not good in itself, but when it happens, it will be very useful for the organization to learn from the mistakes and improve the work flow. Error management can guarantee that the error is found and reported in the first time, while eliminate the negative impact caused by the error and learn from it, which is needed by the modern enterprise.

Innovation is the development direction of the company's continuous progress. The three elements of an enterprise are labor, capital, and land. As long as the enterprise makes good use of the three elements, it will inevitably bring unlimited potential to the development of the enterprise. However, the competition in the market has become increasingly fierce, and many companies can no longer bear the cost of innovation and begin to compete for the development direction of the stock, which is not conducive to the development of the country and society. Facing the increasingly complex market environment, enterprises can only form their own core competitiveness by innovating in strategy, operation and management, developing and making good use of various elements. Therefore, innovation is the most important means for enterprises to obtain and maintain a competitive advantage.

Growing up in the digital age, tech-oriented "Gen Z", the oldest have entered the workforce, filling entry-level positions and becoming key members of the office. The mobile internet and social media shaped them. They pursue independence more, and pay attention to the realization of their own feelings and self-worth. The digital technology they have been exposed to since childhood has changed their social relations and consumption behavior. More importantly, changed their perception of what constitutes a good career opportunity. This generation will be as disruptive and revolutionary as the digital technologies they grew up with. "Gen Z" young people are escaping the traditional office climate and tending to more flexible work styles. Perhaps in the near future, they will also reshape and change the way we work in the future. Now is a new era of development and reform, innovation will inevitably have a huge impact on generation Z employees, and innovation will inevitably become the theme melody for enterprises to change their management methods. In the future development process, we can already foresee that the economic growth will be led by the innovation of generation Z employees. Whoever grasps the "Gen Z" will grasp the future.

By sorting out researches on employee innovation behavior at home and abroad, this study finds that there are not many studies on the impact of error management climate on the innovative behavior of generation Z employees in China, and the mechanism of this impact is not sufficiently discussed. So far, scholars have not reached a consensus on the mechanism of this effect. Based on the above analysis, this study explores the impact of error management climate on the innovative behavior of generation Z employees based on social cognitive theory, and examines the chain-like multiple mediating roles of organizational support and innovation self-efficacy in the relationship between the two. Understanding the relationship between management climate and the innovative behavior of generation Z employees, so as to make corresponding suggestions for the organization to promote employee innovation.

## **1.2 Research questions**

Generation Z employees yearn for safe, stable and simple work. They can constantly switch between various jobs, and once they are dissatisfied with the work they do or encounter difficulties at work, they will choose to quit. Their attitude towards innovation is like living in the world of the metaverse. At work, mistakes are inevitable. However,

under the existing management system of enterprises, once employees make mistakes, they will definitely bring certain punishments. The patience and self-esteem of generation Z employees are a little fragile under the pressure of corporate work.

The management method of enterprises for mistakes at work is prevention, and preventive measures are taken to reduce the opportunities for employees to make mistakes. But in complex work situations, the chances of making mistakes are great. Most enterprise organizations regard employees as a factor of production and manage employees as a resource. But under the management style of Gen Z, employees should be regarded as employees with innovative value. The question studied in this paper is whether there is a management method of error management climate that is more effective than error prevention, and the mechanism of its influence.

### **1.3 Research significance**

First, this study explores the impact of error management climate on the innovative behavior of generation Z employees, expands the research on the antecedent variables of the innovative behavior of generation Z employees, and provides a new theoretical perspective and entry point for understanding the generation of innovative behavior of generation Z employees. Innovation is the first of the five development concepts, and the field of innovation has always been a hot field of academic research. There have been a large number of researches on employee innovation behavior at home and abroad, and academic circles have a clear understanding of the causes and mechanisms of employee innovation behavior. The previous research on the antecedent variables of employee innovation behavior mainly focused on leadership style, job characteristics, organizational situation and other aspects. Error management climate is also a factor of organizational context. However, so far, there are few domestic literatures on its impact on the innovative behavior of generation Z employees. This paper supplements the research in this area, so it has important theoretical significance.

Second, this study explores the chain-like multiple mediation effects of organizational support and innovation self-efficacy between error management climate and generation Z employees' innovative behavior, and deepens the analysis of the mechanism of employees' innovative behavior. In recent years, scholars at home and abroad have discussed the mediating mechanism of error management climate affecting individual behavior, and found that many variables can play a mediating role between error management climate and outcome variables, and innovation self-efficacy is one of the more typical mediators' variable. However, the existing research generally studies a single mediation path, that is, the independent variable acts on the outcome variable through a single mediation path, and there are only a handful of double-mediation and chained multiple mediation paths. Considering that human behavior is the result of the combined action of the objective environment and human subjective cognition, its generation mechanism may be complex, and there may be multiple mediating paths at the same time, and there may also be correlations between mediating variables. The mediation model can better describe the complex behavioral mechanism of individuals.

Third, this study explores the influence of psychological factors on innovative behavior, and deepens the understanding of the process mechanism of innovative behavior. Previous studies usually explored the influence path of environment-psychology-behavior, but did not study the influence relationship between psychological factors. In fact, people are individuals with subjective initiative. The individual's psychology does not only make mechanical stress responses to the environment, but can autonomously adjust the impact

of the environment on its own psychology, and ultimately control its own behavior. In the production process of innovative behavior, there is also an influencing relationship between individual psychological factors, which is also confirmed by the results of this study.

## LITERATURE REVIEW

### 1.4 Error management climate

Error and mistake are not the same concept. Van Dyck et al. (2005) considered errors to refer to unintentional misconduct that is inconsistent with expected results due to lack of knowledge. Frese and Van Dyck (1996) pointed out that errors have three main characteristics: first, errors are caused by employees' unintentional behavior; second, errors usually arise from goal-oriented behavior; third, errors are difficult to avoid completely. In contrast to mistakes, mistakes are caused by intentional behavior and can be avoided.

Errors are generally considered bad and can have various negative consequences that can have many negative impacts on an organization, for example, resulting in decreased production, lower quality of products and services, resulting in customer churn, and even security incidents (Homsma, 1999). 2009). Errors are always present and difficult to completely eliminate (Edmondson et al., 2004; Garud et al., 1997), and are more common in complex systems such as organizations (Rybowiak et al., 1999). . Therefore, every organization faces the urgent problem of how to deal with and deal with errors (Z and B, 2011). There are two typical error handling methods: error prevention and error management. Error prevention is to avoid the occurrence of errors through preventive measures, that is, to eliminate errors before they occur. Error management emphasizes the active response and handling after the error occurs, such as through error communication, error learning, training, prevention and other means (Van Dyck, 2009; Frese and Keith, 2015), to minimize the negative impact of errors, and to minimize the negative impact of errors. Mistakes are seen as opportunities for learning and improvement, increasing their positive effects. Error management distinguishes the error itself from the negative consequences caused by errors, pays attention to eliminating the negative consequences caused by errors, and regards errors as an opportunity. Through analysis and learning, the possibility of future errors being reduced. In the constantly changing organizational context, error management is a more effective management method than error prevention, and can improve organizational effectiveness (W and H, 2000).

### 1.5 Generation Z

Generation Z is an internet buzzword that also refers to a new age crowd. The new "Generation Z" refers to the generation born between 1995 and 2009. They are seamlessly connected with the Internet information age at birth, and are greatly influenced by digital information technology, instant communication equipment, and smart phone products, so they are also called "Gen Z". For the "Next Generation", "Internet Generation", "Secondary Generation", "Digital Media Indigenous", etc. The characteristics of Gen Z employees are greatly influenced by the Internet. Their growth environment is accompanied by the development of the digital economy. With the continuous enhancement of society's consumption power, employees of Generation Z have great expectations for the return of work, but the real world is difficult to meet the consumption

desire of young people of Generation Z. Therefore, in the daily work of enterprise organizations, many employees will be full of uncertainty in the future under the situation of huge work pressure and constant mistakes. The innovation and development of enterprises will be closely related to the employees of Generation Z. Therefore, the management of errors in dealing with employees must be worthy of attention.

## **RESEARCH HYPOTHESES**

### **1.6 The influence of error management climate on employees' innovative behavior**

Error climate management is an active management practice. On the one hand, it can declare to employees that the organization is tolerant of mistakes, so that employees dare to take risks and explore and innovate; it has stronger innovation ability. Many past studies have confirmed the impact of an error management climate on innovation. Some scholars have found that the organization's attitude towards errors will affect the team's innovative activities and performance. If the organization's attitude towards errors is inclusive, and employees are encouraged to share their failure experiences and learn from failure cases, the team's innovation activities will increase. , the performance is also better. Others argue that the error management climate has a fundamental impact on innovation behavior. Some people also divide innovation into exploratory innovation and utilization innovation, and explore the impact of error management climate on organizational innovation. The results found that a good error management climate will promote the sharing of error information by employees and enhance the dissemination of knowledge, thus triggering exploratory innovation.

In addition, a climate of tolerance within the organization also promotes the sharing of tacit knowledge among employees, thereby promoting exploitative innovation. According to social cognition theory, environmental factors will have an impact on individual behavior, and error management climate reflects certain methods, technologies, systems and processes within an organization, and represents an aspect of environmental factors. Error climate management can make employees feel that the organization is tolerant of mistakes, and they will feel more secure psychologically. This impact is reflected in behavior, that is, they are more active in reporting their own mistakes, and they are more willing to communicate and share mistakes with colleagues. , more daring to explore, dare to try.

Therefore, error management climate can reduce the obstacles caused by the uncertainty of innovation and promote the generation of innovative behaviors. In addition to eliminating employees' concerns about making mistakes in the process of innovation, error management climate can continue to provide employees with internal and external resources of the organization and reduce obstacles to employee innovation. A good error management climate means having a complete error handling, error communication and error learning mechanism. The organization aims to build a learning organization and has built a special knowledge management system. Employees not only rely on their own strength to learn independently, but can Get the resources you need from the organization's platform. In such an environment, employees have more opportunities to learn from mistakes, and their ability to cope with and deal with mistakes is also stronger. Employees have a richer knowledge reserve, higher levels of skills and abilities, and are more likely to produce innovative behaviors. Accordingly, the following assumptions are made:

H1: error management climate has a positive impact on employee innovation behavior

### **1.7 The mediating role of organizational support**

Error management is an active management practice through which an organization provides employees with opportunities to communicate, learn, and improve. Therefore, in a good error management climate, employees are more likely to feel a high level of organizational support, and there will be more mutual help among employees. According to social cognition theory, the environment affects an individual's cognition, and cognition affects behavior. As an environmental factor, error management climate can affect the behavior of individuals by affecting their psychology. In a good error management climate, employees are not severely penalized for subtle, unintentional mistakes, and there are more opportunities to report mistakes, communicate mistakes, and learn from mistakes, so employees can feel that the organization cares about them support, concern and recognition. According to the principle of reciprocity, employees will also give corresponding rewards - embodied in a good work attitude, higher work enthusiasm and initiative, and more innovative results, as a return for the organization's favor. Therefore, the following assumptions are made:

H2: Sense of organizational support plays a mediating role in the relationship between error management climate and employee innovation behavior

### **1.8 The mediating role of innovation self-efficacy**

The atmosphere of an organization affects employees' emotions and cognitions. For example, a good innovation atmosphere can make organizational members experience a higher level of innovation efficacy, reduce their frustration when they encounter errors, and make them dare to continue to try. Error management is a positive and inclusive management method, which has a positive impact on an individual's psychological state and emotional experience. In an organization with good climate error management, employees have more opportunities to communicate and learn from mistakes, and their skills and abilities can be improved. Therefore, employees have a better evaluation of their own innovation ability and a higher level of innovation self-efficacy.

Innovation self-efficacy represents an individual's evaluation of his own innovation ability, is closely related to individual innovation behavior, and is one of the good predictors of individual innovation behavior. Many studies have found that innovation self-efficacy plays a mediating role in the relationship between various independent variables and employees' innovation behavior. According to social cognitive theory, an individual's behavior depends not only on the expectations of the outcome of the behavior, but also on the individual's self-efficacy beliefs. Innovation self-efficacy represents the individual's perception of their own innovation efficiency. It is one of the important psychological capitals of employees and an important factor affecting employees' behavior choices and efforts. Individuals with a high sense of innovation self-efficacy have higher efficacy beliefs in their own innovation ability at work, and have a firmer determination, even in the face of failure; they can continue to persevere, so they are more likely to actively seek improvement and innovation. Based on this, this paper proposes the following assumptions:

H3: Innovation self-efficacy plays a mediating role in the relationship between error management climate and employee innovation behaviour

## RESULTS AND FINDINGS

### 1.9 Hypothesis Test Results

The results of hypothesis testing support all the hypotheses proposed in this study. The results show that error management climate has a positive effect on employee innovation behavior, and this direct effect persists after controlling for all mediating pathways. Organizational support and innovation self-efficacy can not only act as mediating variables between the relationship between error management climate and employee innovation behaviors, but also constitute a chain of multiple mediators together. The results of the path analysis show that among all the mediating paths, the effect value of the path of error management climate-innovative self-efficacy-employee innovation behavior is the largest.

### 1.10 Research conclusions

This study explores the impact of error management climate on the innovative behavior of generation Z employees and the role of organizational support and innovation self-efficacy in the relationship between the two in a Chinese context. The main research conclusions are as follows: First, error management climate has a positive impact on employee innovation behavior, and this effect is still significant after controlling for all mediation paths. The better the error management climate perceived by employees, the more likely they are to generate innovative behaviors. This shows that the management practice of tolerance for mistakes, even in the Chinese context, will not hinder innovation because of traditional Chinese ideas such as saving face and keeping oneself safe. This is consistent with the research conclusions drawn in the Western context. As a positive management practice, error climate management has an open-minded attitude towards mistakes and is more tolerant to employees, which can dispel employees' concerns about being punished for mistakes (Zhu Yingjun and Pei Yu, 2014), and allow employees to learn and grow more chance. In an organization with a good error management climate, employees can grow in error handling, and the organization is tolerant of errors. Even if an error occurs at work, employees will not be afraid to report to their superiors and share their handling experience with others (Zhao Bin et al., 2017), these effects enable individuals to learn new knowledge, new skills, and improve their work through mistakes, thereby promoting innovation.

Second, organizational support plays a partial mediating role in the relationship between error management climate and employee innovation behavior. Few previous studies have incorporated organizational support into relevant studies on error management climate. In fact, an organization with a good error management climate provides employees with more emotional support for their tolerance of errors; provides employees with more opportunities for learning and growth, and provides employees with more material support. The better the organization's error management climate, the more employees can feel the support of the organization, feel that they are valued and cared for, and they will be more inclined to repay the organization with practical actions (Piercy et al., 2006), so more innovative behaviors will occur.

Third, innovation self-efficacy plays a partial mediating role in the relationship between error management climate and employee innovation behavior, and the path of error management climate-innovation self-efficacy-employee innovation behavior has the largest effect value. Innovation self-efficacy itself is an individual's assessment of their own innovation ability, so it can predict individual innovation behavior more than

organizational support sense. Many previous studies have confirmed the mediating role of innovation self-efficacy in the process of employees' innovation behavior, and this study also draws the same conclusion. The practice of error management provides a fault-tolerant mechanism for employees to try and make mistakes, and provides opportunities for employees to learn and grow. Therefore, employees are more confident in their own innovation capabilities, have more optimistic expectations for innovation results, and are more willing to try innovation.

Fourth, organizational support and innovation self-efficacy play a chain-like multiple mediating role in the relationship between error management climate and employee innovation behavior. Although the effect value of the intermediary path of climate error management-organizational support-employee innovation behavior is relatively small, organizational support can also affect innovation self-efficacy, thereby affecting employees' innovative behavior. Therefore, the role of organizational support cannot be ignoring. Previous studies have rarely introduced dual-mediation or chained multiple-mediation models to analyse the impact of error management climate on employee innovation behavior. In fact, the error management climate can have multiple effects on the psychology of employees. Specifically, employees will feel higher organizational support, and at the same time, they will have more optimistic expectations for the results of their own innovation, and have a higher evaluation of their own innovation ability, and the organizational support perceived by employees further strengthens this kind of Subjective perception ultimately leads to individual innovation.

## **RUSULT**

### **Prospects for future research**

In view of the above limitations, future research can be carried out from the following aspects: First, develop an error management climate scale suitable for the Chinese context. On the basis of absorbing and learning from foreign mature scales, new scales can be developed according to Chinese traditional culture, management style and system of Chinese enterprises. Second, expand the scope of research and increase the sample size. Subsequent research can investigate other cities, other types of enterprises, especially foreign-funded enterprises, and employees of non-enterprise organizations. When sampling, the sample should include as many individuals of all ages as possible to improve the representativeness of the sample. Third, collect data at different time nodes. Future research can try to conduct multiple surveys on the same individual at different time points, and ask respondents to fill in different scales during each survey, collect different variables, and form panel data for analysis. When conditions permit, random sampling can be used to select a considerable number of individuals, and individuals can be divided into experimental groups and control groups to conduct behavioral experiments to explore the impact of error management climate on employees' innovative behaviors.

## **CONCLUSION**

In the future enterprise management model, facing the characteristics of generation Z employees, enterprises should strengthen error management in daily work. Error management climate does have a positive effect on the innovative behavior of generation Z employees. In order to improve the development potential of enterprise organizations, we should attach importance to error management climate and stimulate employees' innovative awareness.

## REFERENCES

- Li Xiaonan. Research on the Influence Mechanism of Error Management Climate on Employees' Ambidextrous Innovation Behavior [J]. *Market Weekly*, 2021, 34(04): 157-160.
- Song Jun, Feng Shuo. The impact of error management climate on employee innovation behavior—a theoretical framework [J]. *China Collective Economy*, 2020(14):107-108.
- Zhang Zeyan. Research on the influence of Y company's error management climate on employee innovation behavior [D]. Northwest A&F University, 2020. DOI: 10.27409/d.cnki.gxbnu.2020.000369.
- Deng Siman. Can error management climate promote employees' innovative behavior? [D]. Jiangxi Normal University, 2019. DOI: 10.27178/d.cnki.gjxsu.2019.000126.
- Xu Lu. Research on the influence of error management climate on employee innovation behavior [D]. Tianjin University of Technology, 2018.
- Wang Chongming, Hong Ziqiang. Research on the relationship between error management climate and organizational effectiveness [J]. *Journal of Zhejiang University (Humanities and Social Sciences Edition)*, 2000(05):111-116.
- Bishop J W, Scott K D, Goldsby M G, et al. A construct validity study of commitment Perceived support variables: A multifoci approach across different team environments[J]. *Group & Organization Management*, 2005, 30(2): 153-180.
- Choi J N. Individual and contextual predictors of creative performance: The mediating role of psychological processes[J]. *Creativity Research Journal*, 2004, 16(2-3):187-199.
- Frese M, Keith N. Action errors, error management, and learning in organizations[J]. *Annual review of psychology*, 2015, 66: 661-687.
- Garud R, Nayyar P R, Shapira Z. Technological choices and the inevitability of errors[J]. *Technological innovation: Oversights and foresights*, 1997: 20-40.
- Gong Y, Huang JC, Farh J L. Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy[J]. *Academy of management Journal*, 2009, 52(4): 765 -778.
- Homsma G J, Van Dyck C, De Gilder D, et al. Learning from error: The influence of error incident characteristics[J]. *Journal of Business Research*, 2009, 62(1): 115-122.

# RESEARCH ON THE INNOVATION OF SMALL ENTERPRISE HUMAN RESOURCE MANAGEMENT UNDER COVID-19 TAKING X COMPANY AS AN EXAMPLE

**JIAWEN LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 649618027@qq.com*

## ABSTRACT

Human resource management is a series of management activities such as selection, use, training, assessment, reward and punishment of subordinate staff in order to achieve certain goals. With the increasing importance of small and medium-sized enterprises in the national economy, the problem of talent shortage continues to appear. Therefore, in the development of enterprises, the most important task of enterprises, in addition to business development, is to manage employees well. In today's changing market economy, human resources have become the key to the success of enterprises. An innovative human resources management model can adapt to market changes, not only ensure that the development of enterprises can meet market changes and carry out internal work more efficiently, but also ensure that enterprises improve their strategic position and win in market competition.

Taking X company as an example, this paper analyzes the current situation and existing problems of human resource management of X company on the basis of sorting out theoretical literature and interview investigation. It is considered that X company has backward human resource management concept, imperfect training system, insufficient reserve of innovative talents and unreasonable organizational structure, There are many problems in the recruitment process, such as formalism and lack of effective incentive mechanism. Combined with the characteristics and trend of current human resource management, it is proposed that X company should carry out human resource management innovation from the aspects of concept, recruitment, training and incentive, so as to help the development of X company at the present stage.

**Keywords:** human resource management, Small enterprises, COVID-19, Innovation and thinking

## INTRODUCTION

### 1.1 research background

With the continuous development of the era of knowledge, economy and information, the competition among enterprises depends more on the strength of talents. If enterprises want to continuously expand their own development and improve their competitiveness, they must constantly absorb high-quality talents matching their own development. Human resource management is to select, employ, educate and retain people according to the actual needs of enterprises. With the intensification of enterprise competition, the importance and necessity of human resource management in enterprises have become increasingly prominent. Human resource management has become the key to the comprehensive competitiveness of enterprises. Meanwhile, in early 2020, the outbreak of

COVID-19 had a great negative impact on China's economy. Various enterprises also suffered from varying degrees of losses, [1], facing a huge survival crisis. During the epidemic period, enterprises are facing greater production and operation pressure and human resource management challenges, and the uncertainty and instability of labor relations increase [2]. Therefore, in the face of the long-term impact of the epidemic, we should pay more attention to human resource management. How to adjust and innovate the human resource management of enterprises is particularly important at this stage.

Taking X company as an example, this paper finds that the current human resource management mode of X company has become a short board restricting the development of the enterprise, which can't help the enterprise form a competitive advantage in the same region and industry, and can't bring the expected economic benefits to the enterprise. Therefore, facing the new opportunities brought by the new situation and the new challenges brought by COVID-19, X's human resources management must be innovating at this stage.

## **RESEARCH SIGNIFICANCE**

With the development of social economy, the social status of enterprises is constantly improving and has become an important part of socialist market economy. Enterprises are the main channel to increase employment, an important force to promote the process of marketization, a new force of technological innovation, and play an important role in the development of the national economy.

First of all, human resource management of enterprises is an indispensable part of the daily operation and development of enterprises. It directly determines the achievement of enterprise talent model. Therefore, improving the efficiency of human resource management and improving the comprehensive quality of employees is conducive to the all-round improvement and strategic planning and deployment of enterprises. High standard human resource management can greatly promote employees' work awareness and efficiency, improve work planning and work objectives, and then help enterprises achieve all-round progress.

Secondly, with the increasingly fierce competition among enterprises, high-level talents tend to work with better space to achieve higher value pursuit. Optimizing and innovating the human resource management of enterprises can help enterprises promote the construction of talent team and slow down the brain drain. Therefore, in order to reduce the impact of talent flow on the stability of daily operation of enterprises, enterprises must start innovation with the actual allocation and management of human resources and change the traditional management mode.

Finally, the innovation of human resource management is conducive to enhance the comprehensive strength of enterprises. The direct purpose of human resource management innovation is to improve the overall quality of employees, establish a high-quality talent team, improve employees' subjective initiative and actively create their own value. Through the continuous adjustment of human resource management mode, the comprehensive strength of the enterprise is improved, so as to increase profits for the enterprise.

The research object selected in this paper, X company, is one of the typical small and medium-sized enterprises in the field of book publishing industry in Tongren City, Guizhou Province. There are a series of problems in its human resource management mode, such as insufficient reserve of innovative talents, backward recruitment methods, unclear effect of staff training, etc. in addition, the industry has suffered a new impact under the influence of the epidemic. Through the investigation and Research on the current situation

of human resource management of X company, this paper finds the problems existing in its human resource management, and puts forward innovative strategies for its human resource management mode, so as to accelerate the improvement of the comprehensive competitiveness of the enterprise, which has a certain practical significance for the development of the enterprise at this stage.

## **RESEARCH METHODS**

This paper mainly uses the following research methods:

### **1. Literature analysis**

At the beginning of this study, using various channels such as the electronic library of colleges and universities, we have widely collected and sorted out the literature related to this research topic. After analyzing and combing these academic achievements, we have basically defined the general framework and research direction of this study.

### **2. Interview survey**

This paper selects X company in Tongren City, Guizhou Province as the research object. Based on the preliminary investigation of the enterprise, after clarifying the purpose and task of the research, this paper formulates an interview outline and interviews the head of its human resources management department and some employees. Get deeper information through face-to-face language communication.

### **3. Qualitative analysis**

In the study, we comprehensively use the relevant knowledge of human resource management, conduct qualitative analysis on the current situation and existing problems of X enterprises based on the interview survey information, and take this as the starting point, and put forward countermeasures and suggestions on how to carry out human resource management innovation in the context of COVID-19.

## **LITERATURE REVIEW**

### **2 Relevant Theories And Research Status At Home And Abroad**

#### **2.1 Relevant theories**

##### **2.1.1 Connotation of human resources**

Human resources are the labor resources of enterprises. It is the sum of the population that promotes economic progress, social progress, labor force and production power. The basic form of human resources is physical strength and intelligence, and the dynamic effect reflected is wisdom and talent. Human resource management refers to actively organizing and reasonably placing the allocation of human resources, assisting specific material resources as support, and realizing the perfect combination of human resources and material resources under the background of relying on modern management methods. David Ulrich first put forward "human resource (HR)" through research and analysis. After carrying out relevant research work, he came to the conclusion that, "The performance that the enterprise management can control is about 50%, and the other half is controlled by unpredictable factors such as relevant government departments and climate. Among the performance that the enterprise can effectively manage and control, 19% is controlled by the personal quality of human resources managers."

##### **2.1.2 Scientific management theory**

The term "scientific management theory" was first put forward by Taylor, the "father of scientific management". In 1911, the publication of his representative work "principles of scientific management" marked the formation of scientific management theory. Scientific management theory advocates the use of division of labor, scientific and

standardized mode of production to improve workers' labor productivity, which lays a foundation for the formation and development of modern enterprise management theory.

Taylor's scientific management theory mainly includes the following aspects: First, work quota. Through the research on the phenomenon of "idling" of workers, Taylor proposed that we must formulate a scientific work share for workers in order to achieve the purpose of improving work efficiency and productivity. Second, reasonable employment. Reasonable employment means that the ability of employees should adapt to the characteristics of their jobs, arrange them to appropriate posts according to their advantages and abilities, and improve their professional ability through retraining. Third, standardization. Taylor's standardization includes standardized working environment, standardized generation tools, standardized business processes, standardized equipment and materials, etc. Fourth, the differential piecework wage system. Based on the labor quota, the excess part shall be calculated according to double of the normal amount, and the insufficient part shall be calculated according to half of the normal amount, so as to improve the work enthusiasm of employees. Fifth, the separation of planning and practice. Planning is to arrange and plan a certain work, while practical operation is to do specific work. Separate the management work from the operation work and improve the control level and planning ability of managers. Sixth, scientific management is an ideological revolution. Through scientific management, improve the time efficiency and work mode of employees, improve the wage level of workers, and improve the efficiency of enterprises, which is beneficial to workers and employers. Seventh, the principle of exception. The exception principle is to carry out certain decentralization and authorization. With the expansion of enterprise scale, enterprise managers can't take into account all things, and can improve management efficiency through authorization and decentralization. Loose management. [3]

### **2.1.3 Human capital theory**

In 1776, the concept of human capital appeared in the wealth of nations, which was put forward by the famous classical economist Adam Smith. He believes that social members acquire useful abilities through education, learning and other processes. The acquisition of these abilities needs to pay costs. Putting these costs on individuals can realize human capital. In 1906, Fisher, an American economist, first put forward the concept of human capital in his book the nature and interests of capital. In the 1960s, Schultz developed and created the human capital theory, which laid the foundation for the development of modern human capital theory. First of all, he elaborated the concept and nature of human capital. Human capital is the core resource and strength of enterprises and the core of enterprises to achieve economic growth. Secondly, it discusses the role of human capital in economic growth. Among the factors of enterprise growth, human capital has surpassed material capital. With the development of economy, the competition among enterprises is mainly reflected in the competition for talents. Human capital is the driving force of enterprise competition. Finally, it expounds the investment content and path of human capital. The core content of human capital theory is how to improve the quality and quantity of human capital. The finishing touch of human capital theory is to improve people's quality and standards. He pointed out that investment in education is an effective way to realize the quality and standards of human capital. [4]

### **2.1.4 Incentive theory**

The core of enterprise management is to manage people, fully mobilize the enthusiasm of employees, and make employees' personal goals close to organizational goals. It needs to be gradually implemented through incentive methods. Incentive refers to the process of analyzing employees' internal and external needs, guiding employees' behavior and making them actively serve the enterprise. The more the incentive standard

meets the needs of employees, the higher the compliance and satisfaction of employees, and they can better achieve the established goals of the enterprise; If the standard of incentive is too low, the more serious the burnout of employees will be, the proportion of turnover will begin to rise, and the farther away from the company's goals. Incentive theory mainly includes content incentive, process incentive and behavior incentive. [5] Incentive theory is a process of goal realization. It finds the opportunity and way to realize these plans by understanding the needs of employees, and stimulates the activities of employees' subjective initiative, so as to make greater contributions to the development of enterprises.

## **2.2 Research status at home and abroad**

The research of human resource management abroad began earlier. White is a foreign scholar who studied human resource management earlier Buck, in his book *Human Resource Management* (1958), pointed out that human resource management is one of the most important work of enterprises [6]; Raymond E. Miles (1965) put forward the Myers human resources model theory and suggested that enterprises use human resources to replace the term employee. At the same time, it discusses the importance of human resources to the development of enterprises; [7] Bill (1984)) demonstrated the relationship between the future of the enterprise and human resource management, and put forward the concept of strategic human resource management for the first time. [8] Harbisson (1989) believes that human resource is the most critical and core component of the enterprise, In the future, the competition among enterprises is mainly the competition of talents [9] Schuler (1992) proposed that the human resource management of enterprises must serve the strategic objectives of enterprises from the perspective of strategic human resource management [10]; Switzer (1997) specifically analyzed the role and significance of human resource outsourcing for enterprise human resource management [11]. Greet, Youngblood et al. (2009) analyzed the reasons why enterprises carry out human resource management outsourcing, mainly from the needs of enterprise reform and the improvement of enterprise competitiveness.[12]

Compared with foreign countries, China's exploration and development of human resource management started late. In 1980, the related concepts of human resources were introduced into China. Under the guidance of foreign advanced theories and ideas, Chinese scholars began to conduct in-depth research on human resource management.

Zhao Shuming (2001) introduced the theory of western human resource management into China. He believes that enterprises should adhere to the idea of humanistic management and focus on "people" in the daily process of human resource management. Human resources play a decisive role in the development of enterprises. [13] Meng Li (2001) studied the problems that should be paid attention to in the salary design of enterprises. She believes that it is not enough to motivate employees only by high income. Enterprises must establish a set of scientific, reasonable and effective salary payment system. [14] Ji Shaoying and Liu Chenhui (2002) believe that human resources are the creative and exploitable resources of enterprises through research. The important problems existing in enterprise human resources management include human resources mismatch, insufficient training and other problems. At the same time, they put forward the standards and implementation outline human resources development needs to comply with. [15] Xu Xiaodong (2004) introduced strategy into the research of human resource management. Traditional human resource management is not suitable for the development of enterprise strategic management, so it must be transformed and upgraded. [16] Lei Xueqing (2009) believes that the core and main work of human resource management is the effective integration and utilization of human resources. In management, we should emphasize people's leadership and initiative, and implement people-centered management.

With the intensification of market competition, the competition among enterprises is mainly the competition of talents. In order to achieve stable development, enterprises must pay attention to the management of human resources innovation. [17] Huang Jinfu (2010) through the analysis and research of domestic human resource management, believes that the biggest problem of human resource management in Chinese enterprises at present is to reduce the brain drain and need to retain talents through effective methods. He believes that the Countermeasures for enterprises to reduce brain drain mainly include introducing talents, cultivating talents, encouraging talents and so on. [18] Zhang Jianguo (2011) studied employee incentive methods and salary system. In order to better motivate employees, enterprises should implement the differential wage system. Only by working more and getting more can they better mobilize the enthusiasm and initiative of employees. [19] Zheng Zhijia (2012) studied the innovative methods of small and medium-sized enterprises in human resource management, attracting more labor force, attracting more excellent talents and improving the comprehensive quality of employees through innovation. [20] Wang Xianzhong and Li kaixu (2016) studied the human resource innovation management of small and micro enterprises and believed that there were some problems in the human resource management of small and micro enterprises, such as backward thinking, defective internal planning, poor effect of recruitment methods and so on. [21]

### **3 Analysis on the current situation of human resource management of X Company**

#### **3.1 X Company Profile**

Company X was established in December 2012 with a registered capital of 6 million yuan. Business scope: Wholesale and retail business of domestic books, periodicals and audio-visual products. With the advent of the Internet age and the impact of COVID-19 on the entity book industry, there has been an increase in brain drain rate and low efficiency in human resource management. In the past two years, the turnover rate has been closed to 15%.

#### **3.2 Analysis of human resource management organization structure of X Company**

By the end of 2021, the company has 35 employees. Among all the employees, there are 6 with college degree or above, 24 with college degree and 5 with high school degree or below, including 28 male employees and 7 female employees. In terms of age composition, the maximum age is 57 and the minimum age is 20,

At present, X company has a human resources department to carry out specialized management of the company's human resources. The human resources department is responsible for the daily work of the enterprise's human resources management, including talent introduction, salary accounting, performance distribution, employee training, corporate culture construction and team management. The human resources management department has one leader in charge, one department director and one personnel assistant. The human resources management department consists of three functional departments, namely, the general office, the training office and the recruitment office. There are three employees in the general office, which is mainly responsible for the comprehensive work of human resources management, including information transmission, daily assessment and evaluation of enterprise employees, salary review, salary distribution, attendance assessment and performance management; Two employees of the training office are responsible for the induction training for new employees, leadership training for leaders, teaching and enlightening old employees, heart to heart conversation, etc. Two employees in the recruitment office are responsible for the recruitment of the enterprise, that is, the selection of candidates, interview management, the placement of recruitment posts, the plan of talent reserve, the absorption of high-quality talents, etc.

### 3.3 Recruitment status

Through the interview, the author found that although X company has formulated a more reasonable human resource management plan, it can conduct post demand analysis to make the recruited employees consistent with the post demand. However, the diversity of recruitment methods and recruitment effect of X company are not satisfactory. For example, the company's demand for high-level talents is difficult to be met. According to the interview, the main recruitment and selection methods of X company are as follows: talent market, internal selection and internal recommendation. Managers said that the most difficult jobs to recruit are mainly high-level talents, including senior technicians and middle and senior managers, who have done well in the recruitment of general employees.

way	advantage	disadvantage	Adapt to the post	remarks
Talent market	The number of talents available for selection is large, and the range for enterprises to choose is large	The time is short, the workload of talent screening is large, the enterprise and employees need to run in, and the cost of recruitment is large	Civilian, financial and accounting	The regional talent market is not active and the effect is poor
Internal selection	Low cost, high loyalty and perfect information		middle manager	Main cadre selection system of X Company
Internal recommendation	High reliability; Enterprises have a better understanding of employees and can quickly adapt to new jobs	It is easy to form small collectives, which is not conducive to unity; Lack of guarantee of fair competition	Comprehensive business, general staff	Main recruitment methods of grass-roots employees of X Company

### 3.4 Staff training status

According to the interview results, the managers of X company pay general attention to training. Some employees said that the opportunity to receive training was not enough to meet the needs of improving their business ability in their daily work, and some employees thought that the time arrangement for providing training was unreasonable, which often conflicted with working hours or occupied employees' rest time; Enterprises provide a single means of training. The current enterprise training mainly uses teaching means. In the training, employees absorb limited knowledge, have low training participation, and the training effect is not good. Employees are more eager for experiential training.

## 4 Problems in the company's human resource management

### 4.1 Backward concept of human resource management

Through investigation and comprehensive analysis, Tongren City, Guizhou Province is a demonstration area for poverty alleviation in China. Due to the development of tourism, it gradually shows its development potential, but the regional talent market is

not active. In the past two years, it has been affected by the epidemic, and the level of economic development has declined to a certain extent. The managers of X company do not pay enough attention to human resource management. They regard human resource management as a simple personnel work, that is, employee recruitment, training, assessment and salary payment. They lack financial and material support. They are more traditional in human resource management and do not raise human resource management to the overall consideration of enterprise business strategy.

#### **4.2 The training system is not perfect**

After the recruitment work, company X often implements induction before training. In this way, in the long run, the work quality of new employees is difficult to meet the requirements and the work efficiency is not ideal. Managers should recognize the importance of pre job training. Pre job training is the most effective way to help employees understand the theoretical knowledge, working methods, working hours, working scope and other information of the post. At the same time, enterprises can also instill corporate culture into employees and help new employees integrate into the team more quickly. In addition, X company does not pay enough attention to the post training of grass-roots employees. Most of the training is for managers, and grass-roots employees rarely participate. The training content can't meet the needs of employees and it is difficult to help them improve their work efficiency.

#### **4.3 insufficient reserve of innovative talents**

Through the analysis of the composition of the educational background of the employees of X company, the overall educational level of the employees of the company is low. First, there is a lack of professional talents to meet the target needs of the current enterprise. Second, lack of certain work experience. Most of the new recruits are fresh students who have just stepped out of the school, lack work experience and do not have the ability to deal with emergencies. Third, there is a lack of high-level talents who have received higher education and do not pay much attention to the reserve of innovative talent pool. The company's situation is constantly developing, and the demand for talent structure is urgent. The recruitment demand of enterprises should tend to higher education talents, such as masters and doctors, to ensure the overall talent competitiveness of X company.

#### **4.4 unreasonable organizational structure of the company**

The current organizational structure of X company is complicated. Many matters are issued level by level, the time and experience are too long and cumbersome, and the timeliness, effectiveness and pertinence are insufficient. It is difficult for grass-roots employees to understand the intention and purpose of managers at the first time. The communication between employees is only limited to vertical communication. There is little mutual communication between departments, the business coverage knowledge is not communicated, and the skills are not brought into full play. Some departments have overlapping positions and responsibilities, and the position of authority is not clear.

#### **4.5 formalism exists in the recruitment process**

When X company needs human resources, the company simply employs employees through the talent market or internal recommendation. The recruitment process is relatively simple. It only establishes general recruitment standards and ignores the characteristic development needs of the company's publishing industry. Most of the new employees recruited by the enterprise are introduced by internal employees, or the families and relatives of some middle-level leaders. The inhalation of some employees is just a formality without investigating their own ability. Even for some posts requiring professional and technical level, they can enter the company without professional and technical assessment, which is not conducive to the normal and orderly progress of the company's daily management. It also makes a large number of candidates with high quality

and certain ability out of the company, reduces the reserve of high-quality talents, and objectively causes the waste and loss of human resources.

#### **4.6 lack of effective incentive mechanism**

The salary of X company's employees is mainly composed of basic salary, performance and bonus. However, the managers did not clearly explain the salary composition to the employees, and the employees basically did not know the content of personal salary composition. The monthly salary of new employees is low. They think that their hard work has not received the due salary return, and the current salary incentive system of the company can't play an effective incentive effect. X company mostly refers to other companies in the same industry in the design of employee compensation. The basic salary of new employees is low, and there is no basis for more pay for more work. As a result, new employees have great opinions, the enterprise can't attract and retain excellent employees, and the brain drain is serious.

### **5. Innovation strategy**

#### **5.1 establish a scientific concept of modern human resource management**

Enterprise managers should correctly understand the role of human resource management. Only by establishing a correct concept can they promote the healthy development of enterprises. Change management concepts, absorb advanced management ideas, innovate human resource management mode, re recognize the positive role of human resources in enterprise development, adhere to the people-oriented principle, promote employees to play a subjective and dynamic role, and realize the optimal allocation of human resources. The mode of human resource management should focus on stimulating the potential of employees, making the rational allocation of personnel, ensuring that the abilities of employees in each post are consistent with the needs of the post, and helping employees formulate career development plans to ensure that they can realize their personal value.

#### **5.2. Innovation of employee recruitment**

Recruitment is an important part of human resource management. If the company wants to make great progress, it cannot lack excellent talents. First of all, enterprises should clarify the demand for talent recruitment. Talents are the core strength of enterprise development. Enterprises need to ensure their continuous development and continuous injection of talents. Therefore, enterprises need to clarify the recruitment objectives and strengthen the recruitment of talents. Through a systematic analysis of the current development of the enterprise, focus on recruiting young employees of the post-80s and post-90s, because employees of this age group have a higher sense of innovation and self-realization, which is conducive to the vitality of the enterprise. Enterprises should clarify the types of talents to be recruited and the corresponding requirements of posts, and introduce professional talents with innovative spirit and innovative ability. The second is the innovation of recruitment channels. With the development of the Internet, the Internet has become the main channel for people to obtain information. Company X should vigorously carry out online recruitment, publish recruitment information on large recruitment websites, wechat, microblog and other platforms, quickly spread information in the form of forwarding in the circle of friends, reduce recruitment costs, and attract more job seekers to submit resumes instead of outright internal recommendation. The recruitment process can screen resumes through the Internet, reduce labor intensity, improve work efficiency and effectively improve the company's human resource management level. Effectively combine internal and external recruitment forms to promote the introduction of innovative talents to the greatest extent.

### **5.3. Innovation of training system**

With the development of enterprises and the intensification of market competition, the requirements of enterprises for employees are not only limited to the cultivation of basic work skills, but also pay attention to the improvement of comprehensive quality. There are some problems in the training mechanism of X company, such as insufficient funds, single training mode, poor training effect and so on. Therefore, the employee training system of X company can be innovated in combination with the actual situation of the company. First, training needs analysis. First, analyze the environment, development strategy and internal resources of the enterprise, so as to determine the focus of training; The second is to specifically analyze the needs of enterprise employees and clarify the content of training, so as to better improve the whole training system. Second, formulate scientific and effective training plans and innovate training methods. Formulate corresponding training plans according to the characteristics of different positions and posts. On the one hand, strengthen the training of managers, on the other hand, carry out targeted training for grass-roots staff, especially technicians. Third, the innovation of training methods. In addition to the traditional offline teaching, the training method can also specify the courses of credits that employees in different positions need to learn every year through the Internet platform. Employees can freely discuss the learning results on the platform. The training supervisor of the human resources management department is responsible for special information collection, giving employees feedback and making adjustments to the training courses. Through the Internet training platform, we can better understand employees' expectations, understand employees' learning trends, better plan future training projects, and enhance employees' sense of identity with the enterprise. Fourth, adopt the parallel mode of online and offline training. Online training videos are mainly recorded by training instructors and can also be downloaded through Internet resources. Whenever and wherever possible, we can release training knowledge on the company's official account platform and provide mobile learning terminals, so that employees can learn fragmentation anytime and anywhere.

### **5.4. Innovation of incentive management**

In the era of knowledge economy, the value of employees is becoming more and more important, and employees' desire for value return is also gradually increasing. While employees pay their own value, they not only want to be satisfied with low-level needs such as clothing, food, housing and transportation, but also meet their high-level needs such as social status and self-realization. According to the research of a professor at Harvard University, people can only give play to 20% to 30% of their personal potential without motivation, and can give play to 80% to 90% through appropriate motivation, and the degree of exertion depends on the degree of motivation. Through innovative incentive mechanism to mobilize the work enthusiasm of employees, make them feel the significance and fun of work, and promote them to give full play to their talents and create more economic benefits for the enterprise.

In the Internet era, the loyalty of enterprise employees is changing and the turnover rate is rising. Therefore, the incentive method of company X should pay more attention to the needs of employees' respect and self-realization, consider the needs of employees, carefully listen to their opinions, improve employees' loyalty and let them get a sense of belonging in the enterprise. The traditional incentive method of X company is to announce the staff meeting and post the notice board. The company can make full use of the Internet to commend outstanding employees through the network platform, and forward the official account numbers to enhance the popularity and status of employees in their friends' circles, enhance their sense of existence and sense of value, and stimulate their sense of responsibility and creativity in their posts. Secondly, company X needs to innovate in the

way of salary incentive, understand employees' ideas on the salary management system and listen to employees' suggestions. The salary level of managers or technicians in key positions should be higher than the market level, which is conducive to further attracting and retaining talents. Various incentive methods can also be set, such as paid vacation, collective tourism, equity, etc.

## CONCLUSION

Human resource management is the foundation of the sustainable development of enterprises. In reality, enterprises will face various challenges, which requires enterprises to establish their own human resource management mode according to the actual situation of enterprises, so as to make human resources a powerful weapon to promote the development of enterprises. It is believed that the company needs to change the current situation and seize the current market by innovating the human resource management mode. Due to time reasons and the lack of my theoretical knowledge, in the research, this paper only selects small enterprise X company as the research object, the research method is relatively single, and the analysis has limitations. This paper only improves in theory, and has not applied the suggestions to the practice of X company. Following the changes of the market and the changes of the situation, the existing conclusions may have some deviations, which need to be improved in practice. In the future study, I will continue to do in-depth research on other types of enterprises.

## REFERENCES

- Huang songqin, LV Peng, fan Xiaoguang How does the epidemic affect the development expectation of enterprises? Empirical research based on pressure transmission mechanism [J] Financial research, 2020 (4): 44-57, 65
- Bao Ligang Countermeasures for human resource management in enterprises from the perspective of public health emergencies: taking New Coronavirus pneumonia as an example [J]. Enterprise economy, 2020 (3): 21-26
- Li Mingqin Fundamentals of management [M] Dongying: China University of Petroleum Press, 2015
- Wang Mingjie, Zheng Yishan A review of western human capital theory [J] China Administration, 2006,08:92-95
- Song Peilin Strategic Human Resource Management: theoretical combing and viewpoint review [M] Beijing: China Economic Publishing House, 2011
- Dong Keyong Introduction to human resource management [M] Beijing: Renmin University of China Press, 1999
- Gary Dessler Human resource management (Sixth Edition) [M] Beijing: Renmin University of China Press, 1999
- (Canada) di Zushan, Huo Sian Human resource management case [M] Beijing: China Machine Press, 1999
- Edward razil Personnel management economics [M] Beijing: Peking University Press, 2000
- (US) Raymond A. noy et al Human resource management: winning competitive advantage [M] Beijing: China Renmin University Press, 2001
- Switser. Trends in human resources outsouting[J]. Management Accounting, 19 (79) :22-24

- Greet, C.R., Youngblood, S.A&Gray, D.A.Human resource management outsourcing:Thmake or decision[J]. Academy of Management Executive, 2009 (13) :85-96
- Zhao Shuming Research on human resource management [M] Renmin University of China Press, 2001
- Meng Li Problems needing attention in salary design [J] China human resources development, 2001,01:49-50
- Ji Shaoying, Liu Chenhui Enterprise human resource development should grasp five elements [J] China labor, 2002,09:31-32
- Xu Xiaodong Practice paradigm of strategic human resource management transformation [J] Science and technology management, 2004, (25)
- Xuelei Analysis of enterprise human resource management. 21st century: theoretical and practical exploration [J]. 2010 (6): 42-43
- Huang Jinfu Principles of modern enterprise management [M] Renmin University of China Press, 2011
- Zhang Jianguo Formulation of performance pay based on incentive purpose [J] China Economic and trade guide, 2011,16:68-69
- Zheng Zhijia Human resource innovation management and employment analysis of small and medium-sized enterprises [J] China business and trade, 2012,35:96-97
- Wang Xianzhong, Li kaixu Research on human resource management innovation of small and micro enterprises under the Internet environment [J] Shopping mall modernization, 2016,08:74-75

# INNOVATIVE MANAGEMENT OF ELDERLY IN URBAN COMMUNITY CARE UNIT OF HAINING CITY, CHINA

**LONGFEI SUN & MUHAMMAD SHAHID KHAN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: serena881024@126.com;shahid.kh@ssru.ac.th*

## ABSTRACT

According to China's seventh national census, there are 264,019 million people aged 60 and above, accounting for 18.70% of the total population. Among them, 190,635 million people aged 65 and above accounted for 13.50%. Compared with the sixth national census in 2010, the population has become increasingly aging, with the proportion of people aged 60 and above rising by 5.44 percentage points and that of people aged 65 and above rising by 4.63 percentage points. Between 2016 and 2020, the number of People aged 65 and above in China increased from 15.03 million to 190.64 million (China Business Industry, 2021).

So, community pension service is an important way to cope with the tide of aging population in China. This paper comprehensively summarizes the research status of community elderly care services in Haining, Zhejiang Province, China. It mainly includes the significance of developing community pension service, the status of community pension service in the pension service system, the nature of community pension service, the demand of the elderly for community pension service and the current situation of community pension service, existing problems and countermeasures, and analyzes the deficiencies and problems of existing research. As the combination of medical care effectively combines the modern medical service technology with the old-age security model, the innovation of the old-age security model of "treating illness and recuperating without disease" has become a major livelihood issue widely concerned by all sectors of society, especially in Haining, and is also a long-term measure to actively deal with the aging of population in Haining. At the same time, this paper will also describe some foreign community pension related research, as well as foreign community pension model for comparative analysis, according to the characteristics of Haining City to create a new community pension model under the practical application of the concept of smart community and combination of medical care. At present, haining medical and elderly care service is still in the initial exploration stage, how to speed up the development is a major issue in front of us.

**Keywords:** Combination of medical care and nursing, Community pension, Smart communities, Aging population.

## INTRODUCTION

### 1.1 Research background.

In recent years, the aging process of population in Haining has accelerated, with 189,800 people over the age of 60, accounting for 27% of the registered population, far higher than the average level of the whole country and Zhejiang Province. To this end,

Haining city actively respond to the comprehensive system planning, to create a county pension Haining model, enhance the elderly happy pension index as the goal. We will speed up the development of a system of elderly care services in which family and community institutions are coordinated and medical care, recreation and recuperation are combined, so that every elderly person will have access to care, shelter, happiness and security. Up to now, all 17 elderly care institutions in Haining have realized the combination of medical care and nursing care, 203 care centers have realized socialized operation, and assisted meal delivery service has covered all urban and rural communities, totaling more than 470,000 meals delivered. On October 22, Wang Jiexiu, director of the Policy Research Center of the Ministry of Civil Affairs of the People's Republic of China, gave full affirmation when he came to Haining to investigate the elderly service work (Haining released, 2021).

## **1.2 Research significance.**

### **1.2.1 Consolidate the policy system and strengthen the institutional guarantee of old-age services.**

#### **1.2.1.1 Intensified policy initiatives.**

In accordance with the principle of systematic planning, overall promotion and prominent focus, the implementation of the superior related pension service policies. Has launched more than 20 policy documents, including the "Haining endowment service industry of the people's government to accelerate the development of the implementation opinions", "Haining about improving old-age service quality of the implementation opinions", "Haining city and countryside social community home endowment service care center operating measures (2017-2020)", "Haining demonstration type that occupy the home endowment service center construction action plan for three years", and "Implementation Opinions on furthering the combination of medical and health services with elderly care services". The level of pension service policy guarantee is further improved, and institutional guarantee is provided to meet the multi-level and diversified needs of the elderly for pension service.

#### **1.2.1.2 Expand the supply of old-age services.**

We will carry out projects to upgrade elderly care institutions. With a total investment of more than 300 million yuan, 12 institutions for the elderly were built, renovated or expanded, and more than 2,000 beds were added, comprehensively improving facilities in urban and rural institutions for the elderly. Has implemented a house "one key" project, the elderly accident injury insurance, pension that occupy the home care service centers operate social project, long-term care insurance, disability and half a disability elderly home care program, demonstration type that occupy the home endowment service center construction project, difficult elderly family optimal aging renovation project seven government "projects. We will further expand the supply of old-age services and effectively improve the elder's sense of benefit.

#### **1.2.1.3 Explore diversified operation models.**

Innovative implementation of the overall entrusted operation, team outsourcing, purchase of special services and other public and private models. At present, six pension institutions are public and private, and two more will be added this year. The province took the lead in setting up community nursing stations to undertake home care projects and long-term care insurance projects. At present, there are nearly 2,000 severely disabled elderly people enjoying home care. At the same time, the business environment for elderly care services will be optimized, market access for elderly care services will be relaxed, a cooperative directory database will be established with elderly care service institutions in the Yangtze River Delta, and high-quality enterprises will be encouraged to participate in the development of elderly care undertakings.

## **1.2.2 Improve the service system and strengthen the guarantee of the elements of old-age care services.**

### **1.2.2.1 To accurately locate and improve the supply capacity of service agencies.**

Aiming at the needs of urban and rural differentiated old-age care services, we will innovate and implement the service mode of "common + personality" village /community care center. The basic old-age care service items, service hours and charging standards for social operation of the material center are quantified and refined. Improve care center service performance and elderly satisfaction. Based on the "4 + x" function positioning of life service, rehabilitation care, nursing care, family support service and other "4 + x" functions, built 9 home care service centers of towns/streets, and planned to achieve full coverage of towns/streets by 2020. We have gradually integrated into the "Haining service association for the elderly" and "Haining psychology society for the elderly dementia treatment and care special committee", and have more than 50 enterprises and social organizations to carry out pension services (Office, 2019).

### **1.2.2.2 Take targeted measures to improve the support for key groups.**

According to the principle of "go bottom line, protect the basic", take project as the entry point, ensure the disability, dementia, old age, empty nest and other elderly people "eat, live, visit, protect, accompany, save" and all six kinds of old-age services cover. The establishment of the "public welfare + market" and "preferential benefit + general benefit the elders" food aid mode, to provide door-to-door food distribution services for elderly people with difficulties in operation, such as old age, disability and intelligence, empty nest and other mobile services, the daily number of people who help meals reaches more than 2,500 people. We carried out the project of elderly people with difficulties and elderly aging and improved the living conditions of 205 elderly families. The red concentric and round empty nesters were carried out in pairs with 937 empty nesters, and the party members were led by social organizations and led by them. To implement the program of hospitalization and escort for the elderly in difficult families, for the elderly in marginal families with low care and low care, they shall provide free hospitalization and escort services for no more than 7 days throughout the year. The implementation of "121 love to go home" project, which issued 1 positioning bracelet for the elderly who lost their intelligence or had the precedent of losing their mind, identified two pairs of volunteers and established a set of emergency rescue mechanism, and successfully recovered more than 50 lost elderly people.

### **1.2.2.3 Carefully trained to improve the professional quality of service personnel.**

Implement the President of pension institution BBS, and carry out business theoretical knowledge training to the dean every season. We will take the lead in carrying out the three-year action plan for the training of leading talents for old-age care, and expand the target to the middle level backbone over 35 years old in pension institutions and social organizations. The Shanghai social workers' office is entrusted to organize regular visits and field supervision. At the same time, we should pay attention to normal training, set up education training base for nursing care staff in Haining health school, and carry out training of nursing knowledge for nursing institutions and home-based old-age care service personnel every year. This year, more than 300 nursing personnel have been trained.

## **1.2.3 Improve the supervision system and strengthen the organizational guarantee of elderly care services.**

### **1.2.3.1 Improve the standardization system.**

"Haining endowment institutions"4h"evaluation standards (2019 edition)" (4h refers to the hotel service, hospital nursing care and the warmth of home and garden environment), the four categories, "Haining home endowment service agencies rating

standards (2019 edition)" evaluation standard, such as to enhance the level of pension services standardization management services. The organization and compilation of the Code of Operation for Elderly Care has clarified the specific operation procedures of 29 items, such as assisted feeding and self-care ability training, among which 5 items with high utilization rate have been filmed. It is the first place in the province to issue the Local standard "Service and Management Standards for Assisted Meals for the Elderly", clarifying the specific regulations of assisted meals unit facilities, food processing and production services, centralized dining services and meal delivery services, so as to further improve the service quality of assisted meals for the elderly (Office, 2019).

#### **1.2.3.2 Carry out regular assessments.**

Introduce professional forces to carry out service quality evaluation and grade evaluation of home care service institutions. Professional institutions have been commissioned to carry out fire safety inspections of elderly care institutions, and medical institutions have been commissioned to carry out self-care evaluation of the elderly, and all the inspection and evaluation results (final) have been released to the public. In particular, the service quality evaluation project of pension institutions will be carried out quarterly, and the evaluation score and ranking will be notified to the town/street. At the same time, a list will be published in the hospital of pension institutions to create a good atmosphere for excellence.

#### **1.2.3.3 Explore intelligent management.**

In view of the problems that the government's purchase of home care services, especially door-to-door services provided by social organizations, is widespread, involves a large amount of capital and is difficult to supervise, the "Smart Supervision APP of Home care services in Haining City" was specially developed. The APP has the main functions of social organizations sending orders, service record query, staff positioning, service hours statistics, service abnormal reminder, etc., to strengthen three-dimensional supervision over the socialized operation of elderly care services. Since the APP was put into operation in July this year, the timely disposal of a case in which the on-site service time of a nursing assistant was not in place effectively improved the performance of home care service.

### **1.3 Research status and problem statement.**

The 14th Five-year Plan period is the first five years for Haining city to embark on a new journey of comprehensively building a modern socialist country, accelerate the construction of a modern medium-sized city and an international quality tide city, and the first five years for Haining city to fully implement the national strategy of actively responding to the aging of population. The development of elderly care services faces new situations and new requirements.

#### **1.3.1 A new background for building socialist modernization in an all-round way.**

The fifth Plenary Session of the 19th CPC Central Committee set out on a new journey to fully realize modern socialist China, in which joint contribution and shared benefits and improving people's well-being are important values and development directions. The development of elderly care service should stand at a new historical starting point, from Zhejiang striving for high-quality development and construction of common prosperity demonstration area, socialist modernization pilot province, and Haining Yong as "important window" the most wonderful plate demonstration example and common prosperity demonstration pilot area target height, find the new positioning of elderly care service work, To build the focus of the elderly service work in the new pattern and the new standard of high-quality development, actively respond to the elder's pursuit of quality life, promote the high-quality development of the elderly service, make happiness and well-being become an important content to show the "important window"

of common prosperity.

### **1.3.2 Economic and social development has brought new trends in demand.**

By the end of 2020, Haining's GDP reached ¥103.078 billion, and its general public budget revenue reached ¥10.093 billion, making its local financial resources among the top in the province. Its per capita GDP reached \$15,000, making it one of the high-income economies. It is expected that by 2025, the regional GDP of the city will reach more than ¥160 billion, and the per capita GDP will reach 22,000 US dollars. The good economic development foundation of the county provides a strong material guarantee for the development of old-age service. Social security has been improved. Pensions have been increased for 14 years in a row, long-term care insurance has been fully covered, and basic living and services have been improved. As the population born after the founding of the People's Republic of China gradually enters the old age, it will bring the iteration of the values, life and consumption of the elderly, put forward higher requirements and expectations for the elderly service, and usher in new opportunities for the pension and health industry (Office, 2019).

### **1.3.3 Entering a super-aged society presents new challenges.**

By the end of 2020, the registered elderly population of The city was 196,500, accounting for 27.75% of the total registered population. In 2022, the number of senior citizens will increase sharply as the second baby boom enters the elderly age. It is estimated that by 2025, the city's elderly population will reach 23900, aging 32.50%, stepping into a super-aged society. The average life expectancy has risen from 83.4 years to 83.8 years, and there is a marked trend of aging. The "14th Five-Year Plan" period is a period of rapid development of population aging, from a deeply aged society to a super-aged society, aging and aging are further superimposed, and the demand for elderly care services is further highlighted. As the permanent population continues to grow rapidly, exploring inclusive social welfare policies will become a new task.

### **1.3.4 New requirements for high-quality development of elderly care services.**

The 14th Five-year Plan is a new period in which the elderly service has changed from rapid development to high-quality development, from extensive development of facilities and quantity to conreserved development. Focus on "structure, quality, precision, efficiency and balance" in the new stage of development. We will further clarify the responsibilities of the government, clarify the boundaries between the responsibilities of the government, the market, society and families, improve the basic old-age service system, and develop inclusive old-age services. We will provide personalized and diversified supplies and improve the network of community home-based elderly care services. We will deepen reform of public institutions for the elderly, and further integrate medical and nursing services with those for the elderly. Promoting the coordinated development of pension services and the pension industry, and establishing a comprehensive regulatory system corresponding to the full opening of the market, have become a new important content of the development of pension services in the new era. Compared with the new historical position of China's comprehensive construction of a modern socialist country and people's expectation for a better life, there are still gaps and shortcomings in the elderly service in Haining. On the whole, the coordination governance mechanism of departments suitable for the aging society is not sound enough, and the policy integration and service links are weak. The basic old-age service system connected with long-term care insurance is not perfect, and community home medical care is still insufficient. The service guidance and transfer mechanism between home, community, institution and medical care and health care is not perfect, and the professional and comprehensive care ability of nursing staff needs to be further improved. Smart elderly care needs to be deepened iteratively, the linkage and coordinated development between

urban and rural areas needs to be further explored, there are not many powerful brand institutions, market vitality needs to be further stimulated, and the comprehensive regulatory system corresponding to the full opening of the market needs to be further strengthened.

#### **1.4 The existing difficulties of China's "combination of medical care" pension model.**

Since the state proposed to vigorously promote the combination of medical and elderly care to deal with the aging problem, all localities have actively carried out the exploration of the combination of medical and elderly care model and achieved corresponding results. However, nothing can be achieved overnight. At present, the development of the mode of combining medical care and elderly care in China is confronted with both exogenous and endogenous difficulties.

##### **1.4.1 Exogenous dilemma.**

###### **1.4.1.1 The legal system of "combining medical care with nursing care" is not perfect.**

At the present stage, the development of the mode of combining medical care with elderly care in China lacks the support of supporting laws and regulations. Most of them are local laws and regulations and departmental documents and regulations issued by various regions after practice and exploration, and there are some shortcomings. On the one hand, according to the current relevant policies, hospitals cannot set up supporting beds for the elderly, and nursing institutions are not qualified to provide medical services, which hinders the development of the combination of medical care and elderly care. On the other hand, the state has little support for the combination of medical care and nursing care. The cost of land used by nursing institutions for the elderly is high and it is difficult to get approval. There is no unified regulation on the charging standard of medical and nursing services for the elderly, and the charging standard of medical and nursing services for the elderly in some areas is 2-3 times of the average income of residents, which makes the elderly unable to afford it (Li Yang, 2017). At the same time, in terms of medical insurance, the expenses generated by the combination of medical and nursing services for the elderly are not included in the scope of medical insurance reimbursement, and the phenomenon of the elderly being forced to go to the hospital "bed" due to the high medical and nursing costs frequently occurs, which greatly reduces the enthusiasm of the development of the combination of medical and nursing services for the elderly.

###### **1.4.1.2 The management system of "combination of medical care and nursing care" is not coordinated.**

The original intention of the combination of medical care and elderly care model is to form a comprehensive pension model with "close integration of medical care and elderly care". However, in actual implementation, the medical and elderly care system is separated, and the combination of medical care and elderly care does not play a linkage effect. The first is the division of management. For a long time, China's pension institutions and medical institutions have been supervised by civil affairs departments at all levels and the Health Commission, and each has performed its own duties. As a result, the development of the pension model combining medical care and elderly care in China presents a segmented management pattern of administrative system, resulting in institutional obstacles to the effective integration of medical and elderly care resources (Yang Shaoqing, 2017). Secondly, the responsibilities of management departments are confused. Under the background of multi-department divided management, the responsibility positioning among departments is fuzzy. It is easy to cause the phenomenon of "three neglect" that multiple departments manage the same affair or pass the blame on each other when they have different opinions, which not only causes the waste of human resources or the malpractice of favoritism, but also easily breeds the phenomenon of laissez-faire to the problem and lazy administration, which is not conducive to the smooth

development of the combination of medical care and nursing. Finally, the function of the management department is divided. Under the conflict of interests between different departments, the medical and old-age care institutions are mixed in the middle of the conflict of interests and pay for the interest game between management departments. This will certainly make the combination of medical care for the elderly model and scientific, institutionalized, standardized direction gradually away.

#### **1.4.2 Endogenous dilemma.**

##### **1.4.2.1 The sustainability of the financing mechanism of "medical care integration".**

The healthy and stable development of medical and nursing institutions can not be separated from the continuous investment of capital chain. In China, no matter it is public or private, the funds of the combined medical and old-age care institutions are nothing more than the pension fees paid by the elderly themselves, medical insurance funds and subsidies from the state finance. In the face of huge demand groups for the elderly, the investment capacity of national and local finance is relatively limited. Except for a few areas where the long-term care insurance system is tried out, the medical care services provided by the medical care combined with nursing care institutions are not included in the scope of the medical insurance fund. The pension industry itself is characterized by large investment, little profit, long cycle and high risk, which makes it difficult for social forces to decide to invest in the pension industry. Therefore, when government input is relatively limited, social input is relatively weak, and only families or individuals bear the pension costs, it is easy to lead to the lack of sustainable funding sources and fall into development difficulties.

##### **1.4.2.2 The scarcity of "combination of medical and nursing" talent team.**

At present, the personnel structure of China's medical and nursing institutions for the elderly shows two characteristics: one is the small number, the other is not high professional quality. In terms of the number of talents, there are about 1 million employees in China's medical and nursing institutions (Shi Meihua, 2010), and the number of elderly people in need of special care has exceeded 40 million. Under normal circumstances, one nursing staff can take care of 4 elderly people at the same time, but the number of medical and nursing staff cannot meet the demand completely. Some nursing institutions even have only a few nursing staff, which is completely disproportionate to the demand distribution of the elderly (Zhang Weijia, 2015). From the professional perspective of the talent team in the medical and nursing institutions, most employees lack relevant professional nursing certificates, and regular medical and nursing knowledge lectures and assessment mechanisms after employment, resulting in poor overall professional skills and difficult to guarantee the quality of service. There is also a very practical problem. Due to the low social recognition of the elderly care industry, its salary level is generally about 2000 ~ 2500 yuan per month (Li Changyuan, 2017), which is obviously lower than the average level of social employment, making this profession less attractive. The scarcity of talent team may become one of the main difficulties restricting the development of sanatoria industry in China.

#### **1.5 Research objectives.**

##### **1.5.1 Improve the policy system for providing old-age services.**

It has optimized a package of policy documents from system layout to project implementation, from old-age care to combination of medical and nursing care, from daily operation to supervision and evaluation, and initially established a basic old-age service security system linked to long-term care insurance.

##### **1.5.2 Fill in the gaps in old-age service facilities.**

The construction of home care service centers with short - and medium-term care as the core has achieved full coverage of the town/street, and completed the municipal welfare center, Zhouwangmiao Town, Dingqiao Town and other old-age care institutions.

### **1.5.3 Raise the benchmark for improving the quality of elderly care services.**

With the 4-hour evaluation of old-age care institutions and the grade evaluation of home-based old-age care centers as the starting point, standards are updated regularly and indicators are improved to improve the quality of old-age care services on a regular and continuous basis.

### **1.5.4 Improve the quality of the elderly service team.**

Through programs such as training of leading personnel in elderly care services and training of elderly care workers, the "key minority" and the "vast majority" will be promoted simultaneously.

### **1.5.5 Implement a number of projects to improve people's livelihood.**

The quality of elderly care services has been continuously improved by implementing government projects aimed at improving people's livelihood, such as the socialized operation of care centers, the distribution of meals for the elderly, and the renovation of elderly families in need. By the end of 2020, there were 17 pension institutions of various types in the city, with 40 beds for every 100 elderly people. Fourteen home-based care centers with comprehensive services have been built. More than 1,500 people enjoy home care subsidies. Daily meal assistance service for the elderly reaches more than 3,200 people. A total of 274 households with elderly people in financial difficulties were renovated to accommodate them. A system of elderly care services that is based on home care, supported by communities, supplemented by institutions, and combines medical and elderly care has been basically established. All the targets and tasks set for the 13th Five-Year Plan period have been fulfilled, and the elderly are experiencing increasing happiness and satisfaction.

## **LITERATURE REVIEW**

### **2.1 Foreign literature review.**

In Europe and the United States and other developed countries, due to rapid economic development, high living standards, their social welfare security system is relatively perfect, so the combination of medical care for the elderly started earlier, operation, related research and practice is relatively mature. Although the social security system models of these countries are not the same, they can all integrate the institutional pension model with the social security system. The practical experience of this social welfare management system and mechanism is worth our study and reference.

#### **2.1.1 American business pension model.**

As early as the 1940s, the United States gradually began to enter an aging society. The United States pension industry began in 1975, and its pension supply side has formed a relatively mature planned pension model. According to the needs of the Elderly, the United States has three modes of integrated medical and old-age Care: the first is the PACE model, also known as the Program of All-inclusive Care for the Elderly. PACE primarily serves low-income seniors aged 55 or older who live in a program, usually a community, and have certain care needs. The services mainly include a series of social services such as daily living, dietary care and medical care. The second type is the CHSP model, the Congregate Housing Services Program, which is a decision made at the federal level. The target of this mode of service is generally the low-income elderly who are semi-disabled or completely disabled so that they cannot take care of themselves, and some food and other social support services are provided for them. The third type is

HCBS mode, that is, Home and community-based Services for the elderly, which mainly aims at the elderly who are physically and mentally healthy and relatively easy to move at Home to meet their basic pension or medical care needs (Luo Bojun, 2021).

To sum up, the three pension modes in the United States are respectively suitable for different types of elderly people, and medical care services run through them, which can meet the diverse needs of the elderly at different levels. At the same time, long-term care as an industry, under the guidance of social policies and strict management, attach importance to and cultivate professional nursing staff. As the United States pursues a free market economy, its pension industry is also based on the market-oriented development model, which mainly emphasizes the self-will and free choice of the elderly, which is a highly market-oriented care system for the elderly.

### **2.1.2 Australia is the family doctor responsibility system.**

The old woman's family doctor visited the institution once a week to assess his body. At the same time, the organization is equipped with a professional nutritionist to evaluate the nutritional status and swallowing function of the elderly, and then develop an eating plan. Professional physical therapists will evaluate the physical function, living ability and other aspects, and make rehabilitation plans according to the evaluation results, integrating the rehabilitation plan into each link of the elderly's life. Geriatric Care Standards and Assessment companies evaluate without advance notice at least once a year, which need to check various care documents of the institution, their nutrition status, diet, skin cleaning, hygiene status, family satisfaction, etc. Wisconsin in the United States, Wisconsin has designed a people-oriented quality supervision and evaluation system to ensure the quality of home care. The Care Management Organization (CMO), as county government agencies, manage all long-term care programs and support various community care facilities. Stakeholders regard participants' goals, needs and wishes as goals for family care, to guide services and as a basis for CMO assessment (The Dark Lord, 2020).

### **2.1.3 German social insurance model.**

Germany is one of the countries with a serious aging degree in the world. Through years of operation and practice, Germany has opened up the joint between medical rehabilitation resources, nursing resources and old-age care resources, and explored a unique mode of "integration of rehabilitation and old-age care" (Ye Zhe, 2020), forming a perfect nursing system and system. At present, Germany's medical pension model mainly follows the principle of "based on home-based old-age care, social service as the basis and institutional old-age care as the support".

The combination of German medical care and old-age care mode is divided into 3 categories: for the elderly with different health degrees, the home care system, the institution pension and the professional nursing institution pension. From the perspective of pension institutions, it forms a diversified pattern of coexistence of nursing and pension institutions, national pension institutions, private pension institutions and church charity pension institutions. From the perspective of practitioners who combine medical care, Germany attaches great importance to professional training of nursing personnel, and employees must receive unified professional training before they can be on post, so the quality of nursing talents is relatively high and stable. From the perspective of old-age care, Germany mainly implements a three-in-one old-age care mode, which is mainly based on home-based old-age care, with door-to-door service of institutions and professional nursing institutions. At the same time, Germany has risen to the height of legalization of old-age care services for the elderly, using the way of legislation to ensure the health of the elderly, according to the nursing insurance law, all insurance policy-holder should participate in nursing insurance, all citizens are included in the

national legal nursing insurance system (Shen Jingxia, 2018), the state issued corresponding subsidies and preferential policies for different health conditions of the elderly.

#### **2.1.4 Japan's mode of combination of transformation and medical care.**

As one of the typical aging countries, Japan has a successful exploration in the combination of medical care and treatment for old-age care. The combination of Japanese medical care and nursing care mode is mainly divided into the following categories: one is the day care center, mainly aimed at the elderly who need daily daily lighting or rehabilitation training. Second, the special care center, consisting of professional nursing personnel, is mainly responsible for the care of the semi-disabled or completely disabled elderly. Third, the elderly service center, mainly for the elderly in the community to do some daily physical examination and health care. Fourth, the elderly apartment, mainly for the health, life can take care of the elderly to provide basic medical care and life services. The development of the pension industry in Japan is due to the strong support of the state (Yu Jianming, 2018). On the one hand, the state has promulgated relevant laws and regulations to ensure the health, welfare and other aspects of the elderly. On the other hand, the medical and nursing expenses of the elderly mainly come from insurance and national public expenses. Individuals only need to bear 10% of the expenses, which greatly reduces the burden of the elderly. The pension institutions combining Japanese medical care and nursing basically adopt the benign competition mechanism which takes the government as the main body and the participation of multi-party social market forces, which is conducive to fully meeting the diversified needs of the elderly. The medical and nursing personnel in the old-age care institution are all employees who have passed the national unified "intermediary nurse" qualification examination certification, have professional nursing technology level, guarantee the elderly to daily service or medical care professional needs.

#### **2.2 Domestic literature review.**

Under the background of the basic state policy of "healthy China", China has actively promoted the healthy pension model combining medical care and elderly care. In recent years, through the mutual cooperation between the government, institutions and the society, the local government has actively explored the pension mode of the integration of medical care and old-age care to adapt to the social and economic development, and formed the pension mode of the combination of medical care and old-age care in Qingdao, Shanghai and other regions.

##### **2.2.1 Qingdao: implement long-term care insurance.**

In 2012, Qingdao issued the Opinions on the Establishment of long-term Medical care Insurance System, becoming the first city in China to implement a long-term care insurance system. The proposal is based on urban medical insurance, with medical insurance fund, financial subsidy and welfare lottery fund as financing models, and sets different nursing models (home care, tour care, hospital care and specialized care) in different designated nursing institutions (home care, community care, hospital care and nursing institutions) according to the needs of policy-holders. Nursing expenses, namely, nursing insurance has different subsidy standards for different types of policy-holders and their demand levels. At present, there are various forms of the combination of medical care and old-age care modes provided by Qingdao, which are mainly divided into the following 6 types: medical care with medical care, medical care with medical care, medical care contract, medical association combination, home visiting, and the integration of two medical institutions (Xu Jun, 2017), which basically meet the diversified needs of the elderly. By the end of 2015, Qingdao had 132 nursing institutions combined with medical care, accounting for 67% of the city's total. Among them, 70 have set up medical

institutions, and 62 have agreed to cooperate with medical institutions. There are a total of 58,200 beds for the elderly in The city, with 37 beds for 1,000 elderly people, ranking first in the sub-provincial cities (Yi Lianzhong Company, 2021). Through the implementation of the long-term care insurance system, Qingdao has integrated the limited medical and nursing resources, brought the old-age care and medical services into a unified system framework, and realized the old-age care service integrating "medical care".

### **2.2.2 Shanghai: Promoting the construction of community health service centers.**

In 2015, Shanghai issued several Opinions on Promoting the Integrated Development of Medical and Elderly Care in Shanghai to promote the construction of community health service centers and promote the comprehensive development of the integrated development of medical and elderly care. Community health service centers play a key role in the integration, promotion and turnover of medical and old-age resources in the development of the combination of medical and old-age care. On the one hand, Shanghai encourages community health service centers to cooperate with pension institutions to relieve the pressure on pension institutions. On the other hand, old-age care institutions are strongly supported to purchase medical services from community health service centers. Community health service centers help old-age care institutions provide medical services for the elderly through medical facilities and personnel, realizing the best combination of medical and old-age care resources. By the end of 2015, Shanghai's community health service centers had been combined with all community-wide elderly care institutions. Through community health service centers, Shanghai gradually radiates its medical services to elderly care institutions within the scope (Ai Xin, 2019), creating a new mode of combining medical care and elderly care.

### **2.2.3 Wuhan is trying to establish "Internet plus" community micro-medical and nursing service complex.**

In January 2018, Wuhan city issued the Implementation Plan of Wuhan City to Promote the New Model of "Internet + Home Care", which clearly requires that community and institutional endowment services be grafted and implanted into home care services starting from the supply-side reform of endowment services by using "Internet +" technology (Municipal, 2018). A new model of "Internet plus home care" has been formed, featuring community embedding, central-centered radiation, and integration of unity and division. At present, nearly 100 "Internet +" community micro-elderly service complexes have been gradually built in wuchang, Jiangnan and other central urban areas. We will build beds and facilities for the elderly in community care service centers at their doorsteps, allocate professional medical staff, connect with community clinics, outpatient departments and other medical institutions, and cooperate with them to provide institutional services such as day care, full care for the elderly, and temporary care for the elderly. To pay attention to the elderly spiritual needs the company of service, with professional support services, which are characterized by 15 minutes in place of the security services, the door for the elderly to help food, medicine, help bath, help, help "more help" services such as, standardize operations, diversified services, pension will be away from home, not, not, upgrade the quality of life of the elderly endowment, It is welcomed by grass-roots government organizations and the elderly and their relatives.

## **RESEARCH METHODOLOGY**

### **3.1 Building an integrated old-age service system at the county level.**

#### **3.1.1 Form a "1+12+X" county pension backbone system.**

To establish the city's pension service hub center, namely, Haining Intelligent pension Comprehensive Service Center. The four organizations jointly lead the guidance

and management of pension service affairs, industries, public welfare and industries, and rely on the five platforms to build it into an integration center, exhibition center and hub center of pension service management, resource integration and allocation, team training and industry cultivation in the city. With 12 town and street elderly care service centers as the main body, it realizes three-level linkage with town and street home care service centers and village community home care service centers to promote the coordinated development of institutions and communities at home. To encourage powerful pension service enterprises and social organizations to grow stronger and bigger, and become the city's pension service operation and management and service demonstration center, project incubation center and display window of quality pension happiness.

*Table 1 : "1+12+X" County pension service backbone system*

1 municipal intelligent elderly comprehensive service center	4 major organizations	Municipal Elderly Service Guidance Center. Municipal Geriatric Service Association. City Respect for the elderly & Love alliance. City old merchant association.
	5 platforms	Smart pension service information platform. For the old comprehensive service platform. Incubation platform for social organizations. Training platform for elderly service team. Exhibition and rental platform for rehabilitation AIDS.
12 regional elderly care centers	12 towns/streets elderly care service center.	
X elderly care service entities	Brand pension service enterprises, social organizations, etc.	

### 3.1.2 Improve the mechanism for jointly developing urban and rural elderly services.

To accelerate the overall planning and integrated development of urban and rural areas, and to promote the equalization of urban and rural public services for the elderly, we will continue to promote the integrated development of urban and rural facilities and policies for the elderly. Focusing on the integrated development mechanism of urban and rural areas, such as the "nursing alliance" and "nursing community", we will realize the coordinated operation and management of urban and rural elderly care facilities, service projects and personnel training.

*Table 2: Heterotrophic couplets and symsomes.*

<p>1. Heterotrophs. Relying on pension institutions with four stars and above, take over the operation of town/street pension service centers, and improve the standardization level of pension service centers through chain operation.</p> <p>2. Trophic conjoined forces. Through project purchase, pairing and setting up service positions, urban pension service institutions/companies provide special project incubation and pairing assistance for pension service centers.</p>
--

## 3.2 Creating a new pattern of elderly care services in large communities

### 3.2.1 Build a large-scale community old-age service system.

We will further promote the integration of facilities and services, and build a new pattern of "large community" elderly care services. According to the elderly population scale, elderly population density, aging level and space span, the main urban area and eligible towns/streets to build 2-3 large community elderly service circle. A three-level

service system has been established in large community care centers, village-community home-based care centers and in-home services, integrating community services and medical and health resources in the jurisdiction to realize continuous transfer and integrated comprehensive care for the elderly at home.

<i>Table 3 : Large-community integrated service system for the elderly</i>			
Objective: to realize the home-step pension.			
Levels	Installation	Function	Resources integration
Large community level.	Community Care Center	Home of care. Memory home. Family Carever Training Center. Rehabilitation Auxiliary Equipment Rental Center. Food assistance distribution center for the elderly.	There are internal pension institutions.  Internal nursing home, outpatient service, infirmary, etc.Or plan at the same site as the community health service center / station.  Integrated planning with future communities and neighborhood centers.
Village level.	Community home care centers and neighborly sites for the elderly.	Health cabin. day-care center. Meal aid center. active center.	The district health care consortium or community health service institutions are regularly provided with medical consultation, health education and consultation.
Old people's home.	In the house service.	safe guarding.Life care.rehabilitation nursing.Send meals to help meals.Help bath.Family barrier-free renovation.Care visit, etc.	Family Practice.  Family care beds.  Door-to-door tour.  Rehabilitation nursing guidance
Facilities and service combination requirements			
<p>1. Large community pension service circle, Based on the size of the elderly population and the development level of aging, 2-3 planning reservations with low aging level will be set in the main urban areas and towns (streets) where conditions permit.</p> <p>2. The community care centers / memory homes can be located at the same site as other facilities and set up relatively independently, which can meet the requirements of the spatial layout of the pension institutions.</p> <p>3. It can be improved on the basis of the existing town/street -level home elderly care service center and the village /community -level home elderly care service and care center.</p>			

### 3.2.2 Promote the layout of integrated community facilities.

We will promote the layout of community home care service facilities corresponding to the large community elderly care circle. From "the elderly follow the institutions" to "institutions follow the elderly", focus on communities and areas where the elderly gather, adhere to the balance of scattered points, promote the layout of embedded institutions in communities, and promote the integrated development of home-based community institutions. At least 300 beds shall be allocated for 10,000 permanent elderly residents as the planning unit. Within one planning unit, pension institutions shall be set in multiple places, with the density of the elderly >3000 / square kilometer and

1000-3000 / square kilometer, and one pension institution shall be built within 500 meters and 1,000 meters respectively for the elderly. To coordinate the layout of the central canteen for the elderly catering service, further improve the distribution mechanism, promote the digitalization and standardization of distribution services, and improve the efficiency of food distribution.

### **3.2.3 Strengthen the implementation of facilities allocation policies.**

The "Special Plan for the Layout of Elderly Care Facilities in Haining City" was compiled, focusing on the planning and construction of elderly care facilities in urban areas, old communities and some rural communities. New residential projects in urban areas should be equipped with home-based elderly care facilities in accordance with the standard that the built-up area is no less than 2‰ of the total built-up area of the project and no less than 100 square meters, and they should be planned, constructed, accepted and delivered for use at the same time with the residential buildings. Unused government property and public allocated housing in residential communities are preferentially used for elderly care services. Community public supporting houses lack of village, through replacement, leasing, purchase and other ways, matching full. By 2022, 100% of old-age service facilities will meet the standards.

### **3.2.4 Strengthen family old-age care support.**

We will vigorously promote in-home services and enhance the ability of family care. We will expand long-term care insurance services in an orderly manner and provide home rehabilitation care. We will continue to implement environmental renovation for family aging, and while giving priority to those guaranteed by the government, we will encourage ordinary elderly families in need to implement household renovation for family aging through appropriate subsidies. By 2022, all eligible households guaranteed by the government will have their homes renovated for aging. We will explore and implement the construction of home care beds supported by smart technologies and based on care in elderly care institutions, and build more than 300 home care beds. A mechanism has been established for connecting and integrating family care beds with family bed services to provide respite services for disabled and mentally disabled elderly family caregivers. A home-based community emergency assistance system for elderly care has been established, and the monthly visiting rate of the elderly in need has reached 100%, including those with empty nests, left-behind families, disabilities, severe disabilities, and families with special family planning conditions.

## **3.3 Increasing the effective supply of elderly care services**

### **3.3.1 Increase the construction of nursing institutions.**

We will realize structural adjustment and full development of institutions for the elderly, focus on building nursing institutions, increase effective supply, improve care capacity, and effectively raise effective beds and institutional occupancy rates. All public pension institutions, including public and private ones, should be transformed into nursing institutions. New public pension institutions, including community pension institutions, must be nursing institutions. Strengthen policy guidance and encourage social forces to set up nursing institutions. By 2025, nursing beds will account for more than 65% of the total beds in institutions, including more than 70% of the total beds in public nursing institutions.

### **3.3.2 Comprehensive promotion of cognitive impairment care.**

With a view to institutionalizing, systematizing and standardizing cognitive care, civil affairs, health and disabled Persons' Federation work together to build a continuous cognitive care chain from community prevention intervention, family support to

institutional care. Compile standards for screening and assessment of cognitive impairment, service evaluation, service provision and facility allocation, and carry out professional personnel training. Build domestic and foreign cooperation platforms, strengthen professional exchanges and guidance, carry out project cooperation, and improve the professionalism of cognitive care work. By 2025, a professional care center for cognitive impairment, called memory Home, will be established to take care of the elderly with dementia, and nursing homes with more than 150 beds will be encouraged to set up a special area for memory homes. A cognition-friendly community will be built in each city street, and the number of cognition-care beds for every 10,000 elderly will reach 20.

### **3.3.3 Improve the nursing capacity of elderly care service centers.**

With the focus on improving barrier-free environment, constructing sunshine kitchens, upgrading and expanding nursing beds, adding special areas for cognitive impairment and rehabilitation rooms, we will continue to improve facilities in nursing homes. We will deepen comprehensive reform of public institutions for the elderly, improve their operation and care capacity, and give full play to the role of township and sub-district elderly care service centers as regional service centers. By 2025, all town (sub-district) elderly care service centers will reach the level of three-level national elderly care institutions, and senior citizens with disabilities or mental disabilities in their districts who wish to move in should not be refused, and 100% of the elderly with extreme poverty who wish to provide centralized care will be provided with centralized care. By 2022, centralized support for elderly people in extreme poverty who are unable to take care of themselves will reach over 90%, and by 2025, 95%.

## **3.4 Strengthening professional development of service teams.**

### **3.4.1 Innovate the team training mode.**

Establish a training mechanism for all staff in the elderly care service industry, implement modular and thematic training for different objects, integrate rehabilitation and first aid knowledge and skills into nursing skills training, and improve the pertinence of training. With Haining Health School as the leader, we will promote cooperation between political schools and between schools and enterprises, and encourage the exploration of training models such as directed classes and entrusted classes. Build two major training platforms at home and abroad, and strengthen cooperation with Shanghai and Japan. Innovate and explore smart training scenarios to make training more convenient and personalized. We will continue to train leading personnel in elderly care services, with a focus on rural leading personnel, encourage leading personnel to set up personalized workshops, establish mobile training stations, and pair up rural elderly care service institutions. A community training platform has been set up to provide centralized and personalized training guidance for family caregivers, making the training more targeted and effective. Implement the professional skill level identification of old-age care staff in the city, and strengthen the evaluation and supervision of third-party institutions for skill identification. By 2025, the proportion of every 10,000 elderly people holding the certificate of nursing skills will reach 30, and the proportion of certified nursing staff holding the certificate of ambulance staff will reach 100%. Senior and technician level caregivers account for more than 20% of the total number of caregivers.

### **3.4.2 Build a multidisciplinary care team.**

To establish a multidisciplinary care team with nursing assistants as the basis, nurses as the core, social workers, rehabilitation therapists, psychologists, nutritionists and other professional support. Social workers will be fully provided in old-age care institutions and complexes, and full-time nurses will be provided in old-age care

institutions with 100 or more residents. Four-star nursing institutions are equipped with rehabilitation nurses, five-star nursing institutions are equipped with rehabilitation doctors or therapists, and carry out the training plan for the transformation and promotion of excellent nursing staff into rehabilitation nurses.

### 3.4.3 Strengthen talent incentive policies.

We will implement skills and post subsidies that are linked to vocational skill levels and years of work. We will improve the system for releasing guidance salaries for professional front-line care workers. We will expand the benefits of induction-reward and subsidy policies, lift restrictions on specialties, and introduce policies on induction-reward and subsidy policies for local talents. Carrying forward the culture of care, strengthen the social praise orderlies, will endowment caregivers in Haining project selection and all kinds of new era craftsmen skills contest, pension service agencies to hire endowment orderlies, technicians, rehabilitation technician with reference to the staff housekeeping service companies such as social security subsidies, excellent award-winning caregivers should be brought into the public housing waiting channel. We will encourage elderly service enterprises to develop into groups and chains, and provide opportunities for career advancement and development for young people to make their careers more attractive.

## 3.5 Promoting the development of new forms of elderly care services.

### 3.5.1 Expand the supply of inclusive elderly care services.

*Table 4 : Rehabilitation and auxiliary equipment service system*

1. Strengthen the standardization of rehabilitation AIDS. Compile guidelines for the construction of rehabilitation assistive devices exhibition center/station, catalogue of rehabilitation assistive devices products and technologies, and standards for rehabilitation assistive devices evaluation, configuration, recovery, removal and maintenance procedures.
2. Establish a rehabilitation accessory service system. We will improve the service supply system, operation and payment mechanism of municipal rehabilitation assistive devices and elderly products exhibition/rental center, township and street rehabilitation assistive devices adaptation service center and village rehabilitation assistive devices rental point.
3. Establish the qualification standards and training system for rehabilitation assistive device adapters.
4. We will promote elderly care services in Shanghai and Shanghai. To strengthen regional cooperation and advance endowment service "melts and Hangzhou to Shanghai", set up with Shanghai and Hangzhou pension industry resources docking, project cooperation and talent exchange service platform, promote cooperation between endowment service elements distribution, project cities and pension industrial linkage, the cognitive care, talent training, brand pension services and social work organization introduction, long-distance pension and other aspects of cooperation to achieve new breakthrough.

We will develop inclusive old-age services that are affordable and accessible to senior citizens and families. We will improve pricing guidelines for basic elderly care services, ensure public interest in community-based home care service facilities provided by public institutions, including public and private ones, and facilities /sites provided free of charge by the government, and provide inclusive elderly care services. Through the "market plus public welfare" initiative, we will continue to provide universal assisted meal services for the elderly. More efforts should be made to foster social organizations, focusing on social work, charity, third-party intermediary and hub organizations, to provide various public services for the elderly. Set up Haining City Elderly care · Love Alliance, meet the needs of the elderly, create public welfare projects for elderly care and assistance, raise social funds, link public service resources. Encourage social forces,

integrate regional projects and resources, realize collectivization and chain operation; We will encourage nongovernmental investment in old-age care institutions, and strive for the pilot project of the National Development and Reform Commission's joint and inclusive old-age care program for urban and enterprise residents.

### **3.5.2 Explore a new form of "property + pension".**

We will give full play to the advantages of property service enterprises resident in communities, being close to residents and responding quickly, encourage and support them to actively explore the "property service + elderly care" model, and increase the effective supply of community home-based elderly care services. Revitalize the community's public resources, create embedded small and micro institutions, convenient dining halls and activities for the elderly, and carry out old-age services and care for the elderly services. We will encourage property service enterprises to expand and strengthen their elderly care services, undertake and operate community home-based elderly care facilities, participate in the provision of home-based services, and cooperate with elderly people who live at home and live alone.

### **3.5.3 Vigorously develop the big health and elderly care industry.**

We will promote integrated development of elderly care services and regional economies. Encourage high-tech enterprises/research institutes to develop smart pension application software and smart terminals, and promote the application of artificial intelligence in the field of pension services. We will encourage home textile and furniture enterprises to develop products and supplies for the elderly. Relying on Hangzhou Bay Health care Town, we will develop rehabilitation accessory park and build an industrial chain of display, leasing, recycling and cleaning, technology and standard research and development of rehabilitation accessory. We will develop livable industries for the elderly, encourage the construction of whole-age communities, lifelong housing, multi-generation housing, and continuous care communities, and promote renovation of old communities for the elderly.

## **3.6 Improving comprehensive oversight of elderly care services**

### **3.6.1 Strengthen the comprehensive supervision mechanism for elderly care services.**

We will establish a diversified regulatory system that combines comprehensive oversight, professional oversight, credit oversight, and industry self-discipline. We will promote a collaborative oversight mechanism of joint supervision, joint law enforcement, and joint punishment. We will improve the working mechanism of "randomization, randomization, and public disclosure", establish a third-party certification mechanism for the quality of elderly care services, increase the application of "Internet plus" and "digital Plus" supervision, and give full play to the role of industry associations. We will improve the normal operation of epidemic prevention and control in elderly care institutions, and establish an emergency response mechanism for elderly care services at city, town and street levels. We will accelerate the establishment of a credit system for elderly care services, collect credit information of various elderly care service institutions and employees, implement "red blacklist" management, and implement joint punishment for trust-breaking. We will improve the exit mechanism for pension institutions to protect the legitimate rights and interests of the elderly.

### **3.6.2 Will continue to promote standardization of elderly care services.**

We will establish a long-term quality improvement mechanism based on elderly care service standards, and improve the standardization system for elderly care services. Combined with the new national standard, the "4H Evaluation Standard of Haining Old-age care Institutions" was further refreshed, and a new round of evaluation work of old-

age care institutions was carried out. Focus on the standardization construction of cognitive impairment facilities and services, smart elderly care scenarios, social work for the elderly and other fields, and strive for the approval of 1-2 local standards and achievements.

### 3.7 Implementing the Five Actions for High-quality Development.

#### 3.7.1 The "Universal Guarantee of Basic Old-age Services" initiative.

We will improve the basic old-age service security system linked to long-term care insurance. Take long-term care insurance as the core of basic old-age service security system. On the basis of the capacity assessment of the elderly, the disabled and mentally handicapped elderly who do not enjoy long-term care insurance and need care services will be classified into the scope of old-age services purchased by the government, and the coverage of basic old-age services will be expanded. We will introduce a user fee mechanism, determine the percentage of subsidies that can be enjoyed according to economic conditions and family care, and establish a sustainable welfare system for the elderly that reflects the welfare gradient. We will expand home care services for parents, provide medical care and rehabilitation services for the elderly with disabilities at home, and include the configuration and rental of rehabilitation AIDS in long-term care insurance. Support services such as family caregiver training and respite will be provided to the severely disabled elderly under long-term care insurance to ensure that everyone has access to basic old-age care services.

*Table 5 : Universal basic old-age care services are guaranteed*

Classification	Objects	Service items
Non-long-term care elderly.	Old age, living alone elderly	Care at home. Wisdom and security protection. Meal aid service.
	Home disabled elderly.	Subsidy for home care. Family suitable for aging renovation subsidies. Auxiliary equipment rental subsidy.
	Moderate and above disabled elderly people and family caregivers.	Breathing service. Subsidy for family care beds.
The elderly with long care.	Stay- at-home elderly.	Breathing service. Family suitable for aging renovation subsidies. Auxiliary equipment rental subsidy.
	Disabled and mentally disabled elderly people living in the institution.	Service subsidy for occupancy institutions.

We will optimize the resource allocation mechanism for basic elderly care services. Based on the existing long-term care risk disability rating evaluation system, cognitive impairment, rehabilitation and assistive device adaptation evaluation modules are added according to project needs. Establish "one opening" service evaluation and supply mechanism, implement one window acceptance, one table unified evaluation, hierarchical counseling services, one system supervision services. To integrate departmental projects and resources, with the elderly as the center, and explore the provision of a sub-service by one organization within a given region. Establish an orderly guidance mechanism for home, community and institutional services based on assessment levels, and clarify the

level of care in community care centers; We will comprehensively promote the waiting mechanism for hospital admission evaluation in public pension institutions. By 2025, a waiting system for hospital admission evaluation will be established for the basic nursing beds in Shiyihe Jiayuan, and the occupancy rate of the town/street nursing service center will reach 70%, that is, the waiting for hospital admission evaluation will be started. Set up the pension manager system, according to the ability and needs assessment, provide personalized service package suggestions, orderly guidance services. Town/street, village/community service window to provide elderly care consultant services.

*Table 6 : Pension management*

As a third party of government affairs services, it provides elderly care service ability assessment and demand assessment for the elderly, designs service package combinations, and provides professionals recommended by old-age care service institutions. Pension service management, the implementation of access with certification.

### **3.7.2 "Orderly, coordinated and integrated medical care, health care and health care".**

We will expand the supply of medical and health services. With functional maintenance and rehabilitation as the guidance, elderly care service institutions as the main body, rehabilitation and nursing service capacity as the focus, nurses, rehabilitation nurses and rehabilitation therapists as the guarantee, we will innovate and reform the mechanism for combining medical care, nursing care and rehabilitation, and promote the effective combination of medical care, nursing care and rehabilitation. We will increase the supply of geriatric rehabilitation and nursing services, and encourage secondary medical institutions to transform into geriatric rehabilitation hospitals or set up special areas for geriatric rehabilitation and nursing. Community-level medical and health institutions, where conditions permit, are encouraged to set up beds for rehabilitation, nursing and hospice care and elderly care. We will improve community-based rehabilitation and nursing services to better meet the needs of elderly people for health services at their doorstep. We will encourage nongovernmental sectors to establish rehabilitation institutions for the elderly and community medical care institutions, and participate in the provision of home-based care services. By 2025, all nursing homes with more than 100 beds will have rehabilitation rooms equipped with rehabilitation equipment. The ability of community nursing and rehabilitation has been significantly improved. We will build a close-knit recreation and nursing complex. With the support of digital connectivity of medical, nursing, and recreational services and the guarantee of standards and team building, we will promote the development of close-knit recreational and recreational organizations, increase the supply of rehabilitation and nursing care, and promote data integration, service integration and orderly transfer of medical, nursing, and recreational services. By 2025, we will build 10 close-knit rehabilitation complexes. The first aid training base and the first aid trainer's studio will be established in the Health and Welfare Union.

*Table 7 : Construction of a close health care consortium*

1. Build a collaboration platform. General hospitals, rehabilitation hospitals and geriatric hospitals will take the lead in establishing regional medical, nursing and health care alliances to provide technical guidance and strengthen business ties and collaboration.
2. Smart water bottle Relying on community home care service venues and various smart terminals, it collects daily vital signs and health information of the elderly, connects with contracted family doctors, promotes the linkage between old-age care beds and family beds, and explores the establishment of cooperative mechanisms for health management, intervention, diagnosis and treatment, and service suggestions for the elderly.
3. Increase the supply of home-based rehabilitation care. We will provide home bed services for disabled elderly people, and explore the "Internet plus care service". We will continue to promote the construction of community nursing stations and community nursing centers, and provide community and home-based medical care through cooperation with primary-level health service institutions.
4. Deepen the cooperation mechanism of "Elderly care Service Centers + Community health service centers/stations". We will strengthen services such as health management, visits for special patients and staff training, strengthen the capacity of rehabilitation and nursing services, and promote the establishment of home sickbeds.

### **3.7.3 "Digital And Intelligent Transformation of Elderly Care Services".**

We will work together to promote digital reform of elderly care services. Fully implement the spirit of deepening the digital reform of the Provincial Party Committee and provincial government, and carry out a new round of iteration and construction of the smart elderly service platform/system according to the requirements of the Provincial Civil Affairs Department of "Provincial unified construction, supplemented by cities and counties". Fully docking "Zhejiang-Li Care" platform and Jiaying Smart pension platform, actively creating local personalized application modules, and comprehensively promoting pension service system coordination, data coordination, business coordination and policy coordination. We will work with the Government Affairs Data Office to establish a digital connection and connectivity mechanism with departments of household registration, medical care, social insurance and social assistance, and actively implement the system connection between various types of facilities at all levels, old-age service institutions, smart terminals and old-age service projects. To create a full, accurate and real-time data warehouse for elderly care services, focus on digital empowerment, integrated application, and improve the level of intelligent elderly care services.

We will vigorously promote the digital application of elderly care services. Establish comprehensive pension applications for individuals, market subjects, pension practitioners and government officials. We will comprehensively promote digital government affairs, digital elderly care, and digital supervision of elderly care services, and develop a smart application picture of "one screen, one picture, one code, and one index". Guided by smart elderly care project and scene application, we will promote the implementation and transformation of achievements, actively strive for provincial and municipal smart elderly care scene application pilot project, create more than 3 local characteristic projects in smart dining, one opening service evaluation and transfer, public welfare care for the elderly and other advantages, and build 2 smart nursing homes.

<i>Table 8 : Digital and intelligent services for elderly care services</i>		
One screen, one picture, one code, one index		
"One screen", a screen of pension service data is a comprehensive, real-time display. "One picture", through the digital map of pension services, to achieve the realization of pension institutions query Baidu function. "One code", the beds of pension institutions realize the "one code" whole digital management, and the "one code" and overall service management for the elderly. "One index", the social effect of the elderly care service work to achieve the "happiness care index" evaluation.		
Smart pension application scenario	General items	Pension institutions open "one thing". "One bed, one yard, one man". Pension digital map. Welfare policy for the elderly is direct. Access and exit control of pension institutions. Family care beds. Happy pension index. Smart nursing homes and pension communities.
	Featured items	Wisdom to help meals. An opening was evaluated for transfer. Respect the elderly and help the elderly.

### **3.7.4 Reform and Innovation of Public pension Institutions.**

Explore new public construction of public Haining samples. We will carry out reform of public pension institutions in light of local conditions and in a variety of ways, and improve their professional service capacity and management service performance. Explore the implementation of the public construction mode of entrusting state-owned enterprises to operate public pension institutions, consolidate and upgrade the public construction mode of hiring professional management and nursing personnel by referring to the enterprise treatment, and form the Haining sample of new public construction "public" operation of pension institutions. We will advance the reform of public pension institutions to be built by the private sector in an orderly manner, and enrich the connotation of public pension institutions to be built by the public. Further summarize and refine the reform experience of public pension institutions, improve practices, strengthen policy support, and improve the effectiveness of reform.

<i>Table 9 : Pension institutions of the new public construction in public Haining sample</i>		
Type	Doing	Key points
Public construction "public" battalion 1	Entrusted state-owned enterprises to operate	<ul style="list-style-type: none"> <li>• Select appropriate projects and expand pilot projects for state-owned enterprises to operate public institutions. We will encourage them to grow stronger and bigger, and give full play to their exemplary leading and radiating role in regional elderly care services.</li> <li>• Encourage the integration of existing industrial resources of state-owned enterprises, and build the brand of state-owned health care industry.</li> </ul>
Public Construction "Public" Camp 2	Consolidate the mechanism of supplementary professional personnel, and cultivate the core professional team of the pension service center itself.	<ul style="list-style-type: none"> <li>• Deepen the reform of operation and management of for-profit public institutions to ensure their autonomy in operation.</li> <li>• Deepening reform of performance appraisal methods.</li> <li>• Explore guidelines for operating public institutions to participate in taking over the operation of government facilities and projects.</li> <li>• Further play its supporting and radiating role in pension services in the jurisdiction.</li> </ul>

Clear positioning and strengthening regulations. The functions and responsibilities of public pension institutions, including public and private ones, should be clearly defined, and public pension institutions, including public and private ones, should ensure that they are public welfare, and provide affordable and inclusive services for the elderly and their families while ensuring the livelihood of people in extreme poverty and the elderly with financial difficulties. Regulations will be strengthened, and measures for supervision and management of public, private and "public" old nutrition institutions will be introduced.

### **3.7.5 Social Work makes Elderly Care Better.**

We will promote the application of social work in the field of elderly care services, better identify and respond to needs, and promote the transformation of services and policies. To better pay attention to the psychological needs of the elderly and feel the meaning of life in their later years, provide personalized solutions, and guide the elderly to help themselves. Better integration of social resources, establish a social support system for the elderly.

We will comprehensively promote the allocation of social workers for the elderly. Promote social work into elderly care services, promote the organic combination of social work stations and elderly care services, and give full play to the existing social work team and social work advantages in Haining. Pay attention to the special elderly group at home, link resources, and actively explore the elderly social work projects. By 2025, there will be two to three special social work projects for the elderly in communities, one social worker for each home care center, and one social worker for every 60 beds in old-age care institutions.

Efforts will be made to improve elderly people's ability to work in social sectors. Introduce public venture capital and cultivate a number of localized social work institutions. We will deepen programs for resident social workers and mobile social workers, and promote social work related to elderly care services. Cooperate with brand professional social work organizations in and outside the province. Introduce a supervision system to improve the professional level of social workers.

A number of achievements in social work for the elderly have been formed. Build 2-3 brands of social work projects of old-age care services, and compile albums of typical cases of social work of old-age care services.

## **4. Analysis on the development path of "combining medical care" in Haining.**

### **4.1 Policy: Improve relevant laws and regulations, improve the social security system, and formulate strict industry standards.**

Laws and regulations are the institutional guarantee for the development of the mode of combining medical care with old-age care. To a certain extent, we can learn from foreign practices and enact relevant laws and regulations to ensure the health and welfare of the elderly. On the basis of relevant policy documents such as the guiding opinions on promoting the development of the mode of combining medical care and elderly care, the successful experience of pilot areas should be adopted in a timely manner. Relevant policies should be added or reduced appropriately, timeliness and comprehensiveness of laws and regulations should be emphasized, and laws and regulations applicable to the whole country should be gradually established to create a reasonable legal environment for the healthy development of the mode of combining medical care and elderly care.

Based on the successful examples of long-term care insurance in Qingdao, Shanghai and other places of China. China should gradually explore a long-term care system suitable for its national conditions and improve the social insurance system combining medical care and old-age care (Dai Weidong, 2016). So should Justine Henin.

First of all, we can start with commercial insurance and establish insurance business and avoid risks by state-owned commercial insurance companies with rich experience. Secondly, with the improvement of the public's understanding of the importance of long-term care insurance, long-term care insurance can be gradually transferred from commercial care insurance to social medical insurance. Finally, the national long-term care insurance system will be gradually implemented, and the nursing insurance reimbursement system will be strictly clarified, so that long-term care insurance will become the basic and feasible system to solve the problem of the elderly in China.

It is necessary to establish standardized admission and withdrawal standards of medical and nursing institutions for the elderly. To set a benchmark for the development of China's medical and old-age care industry (Yun Miao, 2016). At the same time, a strict evaluation benchmark is established to determine the charging standard and improvement measures of the combined medical and nursing institutions for the elderly to choose their own pension services. In particular, it is necessary to standardize the management behavior and market behavior of the combination of medical and nursing services for the elderly, solve disputes and contradictions according to law and regulations, so that the quality of the combination of medical and nursing services for the elderly will be widely praised, the service model can be promoted, and the road of service will be steady and long.

#### **4.2 Management system: Make clear division of rights and responsibilities of departments and pay attention to coordination between departments.**

The combination of medical and nursing care involves the responsibilities of multiple government departments, and the establishment of a unified and coordinated administrative power and responsibility system with clear rights and responsibilities is an important guarantee to realize the concept of combining medical and nursing care into practice (Yang Zhenzhen, 2014). At the national level, the Health Commission, the Ministry of Civil Affairs and other departments should clarify their own responsibilities and work together to formulate the overall planning scheme for the combination of medical care and elderly care industry, namely top-level design. Promulgation corresponding guidance document, establishment stage performance appraisal mechanism. At the level of governments at all levels, the development of the elderly care industry combined with medical care fundamentally belongs to the people's livelihood, and local governments should include it in the overall planning of local social development, give play to the leading role of local governments, and provide support from policies, funds, platforms and other aspects (Wang Zhen, 2016). While clarifying their role as the main body of the work, local governments should take the lead in breaking the pattern of fragmentation among departments, dividing the powers and responsibilities of each department, and putting the spirit of coordination and collaboration at the forefront, so as to ensure that the work of integrating medical care and elderly care is implemented in a proper manner.

#### **4.3 Financing mechanism: increase financial support, guide and attract diverse social forces to participate.**

As a new pension industry, the combination of medical care will inevitably encounter various obstacles in the process of development. For example, fund raising is the bottleneck of the development of the combination of medical care and old-age care industry. It is suggested to break this bottleneck from the following three aspects: First, the government appropriate increase financial investment and formulate the corresponding subsidy policy, such as construction operations involved in land examination and approval, loans, tax breaks and other aspects of preferential policies to encourage non-profit organizations or individuals to join the medical have combined with the development of

the industry, can draw lessons from Qingdao mode to collect part of the welfare lottery revenues into the medical have combined with funds to broaden the financing source (Fang Hongwei, 2015). Secondly, change the operating environment of pension institutions combining medical care and nursing care, learn from foreign methods of government-led investment and construction in the pension industry, and integrate social resources through public-private joint venture, private equity fund, public private, responsibility outsourcing and other ways to promote the development of the pension industry. Finally, with the use of multiple insurance funds, the standard medical and nursing expenses are included in the scope of medical insurance reimbursement, and gradually transition to the scope of long-term care insurance. At the same time, we will give full play to the diversified types of commercial insurance and the role of risk sharing to alleviate the difficulties in financing the combination of medical and old-age care.

#### **4.4 Talent team: Strengthen the training of professional talent team to improve the attraction of the industry.**

The development of the mode of combining medical care with old-age care cannot be separated from the construction of talent team. Throughout the operation of foreign cases, developed countries attach great importance to the professional construction of medical and elderly care professionals. From the national education system to the cultivation of professional talents, to the qualification entry threshold of the industry, the treatment level of elderly care institutions, all reflect the importance of the construction of medical and elderly care professionals. In view of this, China should start with school education, such as vocational and technical education, increase the strength of medical and nursing professional education, to attract more ambitious personnel to participate in the cause of the elderly; The medical care industry needs to improve the entry threshold of professional qualifications, strengthen the construction of supervision system, and gradually improve the social status of the industry, especially the remuneration, to enhance the attractiveness of the industry. At the same time, social volunteers should be actively recruited to build a diversified old-age service team with professionals as the backbone, volunteers as the supplement and social workers as the auxiliary, and vigorously promote the orderly development of "combination of medical care" (Du Shaoying, 2018).

#### **4.5 Power construction: Pay attention to information construction and provide diversified elderly care services.**

We will use the Internet and other scientific and technological means in modern society to strengthen it application of medical and nursing services. In 2015, The State Council issued the Guidance on Actively Promoting the "Internet plus" Action, which proposed to accelerate the development of the sanatoria industry with the combination of medical care and elderly care by using the information-based platform of "Internet plus" to integrate the fragmented social resources (Xia Tianhui, 2018). "Combination of medical care and elderly care" is a pension model that provides different services and grades for the elderly of different types and levels, involving a social public service system of multiple organizations and departments. Actively explore and establish the information platform for the combination of medical and nursing care at all levels, promote the mobile development of medical resources, help to meet the diversified needs of the elderly, and realize the construction of a positive aging and intelligent combination of medical and nursing care model at home.

## **CONCLUSION**

### **5.1 Strengthening overall planning and coordination.**

We will improve the mechanism for providing elderly care services under the leadership of the Party Committee, under the leadership of the government, under the responsibility of government departments and with public participation. We will establish

a joint meeting system of elderly care service departments, strengthen coordination and linkage among departments, and form a joint force to promote elderly care services. We will improve assessment and evaluation mechanisms, integrate elderly care services with evaluation mechanisms for health and haining and rural revitalization, and promote the implementation of key work and major projects.

### **5.2 Improving government input In line with economic and social development and the development level of the elderly population and aging population.**

We will increase fiscal input year by year and raise funds for the development of the elderly service industry through multiple channels. We will improve the mechanism for sharing financial resources at the city, town and street levels with clearly defined powers and responsibilities. In line with the government's responsibilities and the characteristics of the phased development of elderly care services, we will optimize financial input, shifting from subsidizing supply to directly subsidizing demand. We will focus on basic elderly care services, give priority to home-based services in communities, and increase funding for training personnel and oversight.

### **5.3 We will do a good job in oversight and evaluation.**

We will divide planning tasks and support policies and measures. We will follow up and monitor the implementation of binding targets and major projects. We will open up channels for oversight and improve the mechanisms for reporting to and communicating with people's congresses and CPPCC committees. Establish a supervision and evaluation mechanism for the implementation of the plan, and organize the mid-term and final evaluation of the plan.

## **REFERENCES**

- China Business Industry Research Institute, (2021). Results of the seventh National Census: Big Data analysis of Population Aging, China Business Industry Research Institute. Data source: database of China Business Industry Research Institute. [Online]. 2021-06-01 16:52. Available: <https://www.askci.com/news/data/hongguan/20210601/1652541468195.shtml>
- Haining released, (2021). It's about people over 60! Haining to create "Benchmark Area for Happiness and Well-being". [Online]. Zhejiang News. Zhejiang, B2-20080242-1 2021-03-03 17:32 Available: [https://zj.zjol.com.cn/red\\_boat.html?id=101161911](https://zj.zjol.com.cn/red_boat.html?id=101161911)
- Office, (2019). "Haining City builds multi-level pension Service System to create" Haining Model "for county pension". Source: Office. [Online]. Published date: 2019-11-27 11:14 Available: [https://mzt.zj.gov.cn/art/2019/11/27/art\\_1632804\\_40546698.html](https://mzt.zj.gov.cn/art/2019/11/27/art_1632804_40546698.html)
- Municipal Government Office, (2021). "Notice of Haining Municipal People's Government on printing and Distributing the 14th Five-year Plan of Haining Old-age Service Development". [Online]. Document No. : Hai Zhengfa (2021) No. 23, Index: 001008004003001/2021-61944, 2021-08-11 15:21. Available: [http://www.haining.gov.cn/art/2021/8/11/art\\_1229563422\\_2318811.html](http://www.haining.gov.cn/art/2021/8/11/art_1229563422_2318811.html)
- Luo Bojun and Song Yang, (2021). Foreign pension model to China's enlightenment, [Online]. China Policy Research Network. Date: 2021/10/9 11:05:19 Available: <http://www.zgzcinfo.cn/government/show-23502.html>

- The dark lord rises, (2020). Combination of medical care ~~ Foreign development research status, 2020-03-03-02 23:28:44 [Online]. Available: <https://m.inrrp.com.cn/html/df9a550853bacf15.html>
- Ye Zhe, (2020). Research on the development of Elderly care in China under the combination of medical care and nursing [J]. *Chinese Medical Ethics*,2020,(2).
- Shen Jingxia, Li Peng, (2018). Developing and Perfecting Nursing Insurance System in China -- The Enlightenment of German insurance System to the development of Social medical insurance in China [J]. *Tianjin Social Insurance*,2018, (5).
- Yu Jianming, (2018). Research on long-term care service system for the elderly in Japan [J]. *China Social Work*,2018, (32).
- Xu Jun, Wu Dongxia, (2017). *Journal of Nursing Management*, 2017, (3).
- Yi Lianzhong Company, (2021). China has 5,857 institutions for medical care, and more than 90 percent of institutions for elderly care can provide medical services [EB/OL]. [Online]. IE,Available: <https://www.cn-healthcare.com/articlewm/20210416/content-1210631.html>
- Ai Xin, Shi Jianyong, (2019). Medical service Demand status and countermeasures of combining medical care with community elderly care in Shanghai [J]. *Scientific Development*,2019, (8).
- Municipal, (2018). Notice on the issuance and issuance of the Implementation Plan of Wuhan to promote the New Model of "Internet + Home Care" in Wuhan (No.1,2018). [Online]. Article source: Wuhan Municipal People's Government. Release Date: 2018-01-22 20:56:38 Available: <https://www.yanglaocn.com/shtml/20180122/1516625798113820.html>
- Li Yang, (2017) . Research on the implementation of China's medical and nursing service model [D]. *Changchun: Jilin University of Finance and Economics*.
- Yang Shaoqing, (2017). *Dalian: Dongbei University of Finance and Economics*.
- Shi Meihua, Liu Baocheng, (2010). Analysis on the Necessity and Feasibility of social stratification's Intervention in urban home care [J]. *Academic Theory*,2010, (14).
- Zhang Weijia, (2015). Research on institutional Endowment Model of "Combination of medical care and Nursing" [D]. *Wuhan: Hubei University of Traditional Chinese Medicine*,2015.
- Li Changyuan, Zhang Juguo, (2017). Typical models and optimization strategies of the combination of medical care and elderly care services in China [J]. *Reality Seeking*,2017, (7).
- Dai Weidong, (2016). Long-term care insurance: A Rational Choice of China's endowment Security [J]. *Human Journal*,2016,(2).
- Yun Miao, (2016). Research on the implementation status and Countermeasures of the combination of medical care -- A case study of Wuhan city and Qingdao City [J]. *Enterprise Herald*,2016, (13).
- Yang Zhenzhen, (2014). *Hangzhou: Zhejiang University*, 2014. [1] Wang Zhen, (2016). Policy analysis of promoting the combination of medical care and nursing care [J]. *China Medical Insurance*,2016, (3).
- Fang Hongwei, (2015). Path selection of elderly care service industry to promote the integration of medical care [J]. *Chinese Party and Government Cadres Forum*, 2015, (9).
- Du Shaoying, (2018). Obstacles and Solutions of "Combination of medical and nursing" Pension Model [J]. *People's Forum*,2018, (33).
- Xia Tianhui, Fan Ling, (2018). *Nursing Research*,2018,(11).

# RESEARCH ON MARKETING MICRO INNOVATION STRATEGY OF SMALL AND MEDIUM-SIZED ENTERPRISES

XIAOJUAN LIU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 2312971193@qq.com*

## ABSTRACT

At present, after most enterprises accumulate certain wealth in the development process, they will be content with the status quo and stop, ignoring the importance of innovation for enterprise development. In today's increasingly competitive market environment, innovation is more important for the development of enterprises. For example, the proposal of enterprise micro innovation marketing has accelerated the competition among enterprises. So, how to do a good job in the innovative marketing of customers and let customers identify with the enterprise in the experience, so as to enhance the brand image of the enterprise and improve the competitiveness of the enterprise is very important for the development of the current enterprise. However, at present, the management and understanding of "micro innovation" mostly stay at the perceptual level, and there is little academic and theoretical analysis and interpretation of it.

Based on the above theories, this article discusses and studies the marketing micro innovation of small and medium-sized enterprises. Through the research and discussion of this paper, it will first help to understand the new concept of minimally invasive in a deeper level, and then help the auxiliary research work of micro innovation. Secondly, it will also help to promote the healthy development of enterprises. Specifically, the main idea of this paper is to put forward problems, analyze problems and solve problems, and use marketing theory to discuss the problem of enterprise marketing micro innovation. In the process of discussion, on the one hand, this paper expounds the relevant theories and concepts studied in this paper, on the other hand, it makes a deeper analysis on the problem of enterprise marketing innovation in China, Finally, according to the conclusion, this paper gives some suggestions and Countermeasures on how to carry out enterprise micro innovation methods and improve the development level of enterprises, so as to contribute to the development of Chinese enterprise marketing innovation.

Through the discussion and Research on enterprise marketing micro innovation, this paper not only enriches the relevant research literature of China's minimally invasive innovation, but also consolidates the marketing theoretical knowledge I have learned, but also plays a good role in the application of theory to work practice.

**Keywords:** marketing strategy, small and medium-sized enterprises, Micro innovation, internet

## INTRODUCTION

### 1.1 Research background and purpose

#### 1.1.1 research background

At present, all countries attach great importance to the development of small and medium-sized enterprises, and the development of small and medium-sized enterprises has become an important topic of international attention. Especially since the 21st century,

the world has paid more attention to the development speed of small and medium-sized enterprises. The development process of small and medium-sized enterprises can bring positive and beneficial effects, which have been proved by developed countries.

These positive effects help to accelerate the development of technology, create more employment opportunities, enhance the stability of economic progress and promote international trade. These favorable effects are difficult for many large enterprises to achieve. Therefore, countries pay more and more attention to the development of small and medium-sized enterprises. Driven by various government policies, China's small and medium-sized enterprises have a better development environment and achieved rapid development. The number of small and medium-sized enterprises in China's cities and rural areas has also increased rapidly and achieved better results. At the same time, China's small and medium-sized enterprises have emerged many deficiencies in the process of growth, waiting to be improved and solved. In view of these problems, in order to standardize the development of enterprises, the state has established a small and medium-sized enterprise department, which is to formulate relevant policies for the development of small and medium-sized enterprises and speed up the development process of small and medium-sized enterprises. It can be seen that China attaches great importance to the development of small and medium-sized enterprises.

The development of China's small and medium-sized enterprises in recent years is not optimistic, and the bankruptcy is increasing. As a very important part of marketing for enterprises, small and medium-sized enterprises are affected by the old concept of marketing. They narrowly think that marketing belongs to the marketing department, have no direct contact with other departments, and do not integrate the functions of R & D, marketing, finance, management and so on. Therefore, these functions are in a fragmented state, which makes the enterprise isolated in all links, resulting in the marketing trough of the enterprise. In addition, the capital turnover of the enterprise is not open, and the production and operation are difficult. It is difficult to maintain a foothold in the market competition and finally face elimination.

### **1.1.2 research purpose**

Strengthening the construction of market economy and promoting the economic reform of small and medium-sized enterprises in China will certainly promote the rapid development of enterprises. The gradual improvement of economic development speed and the obvious improvement of national comprehensive strength have created better conditions for the innovative marketing of Chinese small and medium-sized enterprises. From the perspective of improving the market economic system and improving the core competence of enterprises, the development of enterprises still faces many deficiencies. At present, there is fierce competition in all walks of life. Small and medium-sized enterprises should firmly grasp the opportunity to enter the market, push their products into the market, quickly occupy a part of the market share, form advantage differences in the competition and maintain the development speed, Strive to achieve sustainable development, so whether enterprises can achieve innovation is very important. The concept of "micro innovation" has appeared in recent years, which makes China have scientific innovative values and methodology in promoting the core competitiveness of enterprises.

## **1.2 research significance**

### **1.2.1 theoretical significance**

There are still great differences between minimally invasive new and simple plagiarism, innovation and imitation. Whether in terms of service, product or technology, innovative marketing is difficult to effectively integrate the essence of user experience. The significance of micro innovation lies in the good improvement of customers' use and

experience. Customers' sense of experience is the goal of micro innovation. It is an innovative activity to carry out subtle and gradual improvement of products, enhance customers' sense of value and better meet customers' psychological needs. Therefore, the discussion and Research on minimally invasive innovation can help deepen the theory of micro innovation, help the Chinese academic research in this field more content, and better guide the practical work.

### **1.2.2 practical significance**

The fierce competition among enterprises and the influence of developed products and additional services on whether enterprises can succeed in market competition are increasing. The greater the extension of the overall concept of products, the greater the difference. Enterprise leaders can ensure complete control over the comprehensive concept of products, which will avoid price competition to a great extent, avoid the homogenization of product functions, strive to create additional products, improve product differentiation, obtain competitive advantage, meet the needs of consumers, enhance consumers' trust and recognition of products, and expand more markets, Expand market share. Therefore, from the perspective of marketing micro innovation of small and medium-sized enterprises, this article has a far-reaching impact on the development of small and medium-sized enterprises. The details are as follows:

**First**, the overall comprehensive strength of small and medium-sized enterprises is weak. Compared with large enterprises, there is a big gap in technical capacity and capital, and their competitiveness is relatively weak. Therefore, small and medium-sized enterprises can only continue the concept of customer first in terms of business philosophy, and find suitable development opportunities from the perspective of customer needs. The essence of marketing micro innovation is to meet and understand the needs of users, focus on customers, make details, or change products in some subtle aspects to suit customers, which is likely to meet the inner needs of customers. In short, it is to invest all our energy in improving and innovating products and services that we will have greater competitiveness in the market.

**Second**, the marketing micro innovation of small and medium-sized enterprises needs to focus on customer needs and help customers deal with practical problems. Because of their comprehensive strength, small and medium-sized enterprises are not confident in technological innovation. If they can make full use of some new minimally invasive concepts in marketing, it will be easier to achieve low consumption cost, improve product quality and enhance enterprise competitiveness.

Analyzing some characteristics of small and medium-sized enterprises, it is not difficult to find that its customer group is small and there are few employees. In fact, it is also convenient to adjust itself to meet the market demand. Assuming that customers can be regarded as service objectives, we can highlight our own advantages and services. Solve the actual problems encountered by customers, starting from the details, so that customers have no worries. Obtain customer satisfaction through multiple channels and let customers trust the enterprise, so that the customer group will continue to expand. Constantly adjust yourself according to customer needs and timely understand the trend of customer groups. And to strengthen their own management, so as to enhance the competitiveness of enterprises.

### **1.3 research overview**

The concept of "micro innovation" comes from the innovation of grass-roots entrepreneurs, Internet, small and medium-sized enterprises and services within Chinese enterprises. Through practical investigation and action, according to the market development, meet the changes of user needs or small demand innovation. For example, Tencent, Baidu, Alibaba and other Internet companies with relatively positive

development are an example of innovation. There are also some semi innovative enterprises, such as Haidilao hot pot and Gree. Their actions also give "micro innovation" a broader development space, making the word "micro innovation" quietly popular in the country. (Huang Shixing, 2018)

### **1.3.1 research status abroad**

#### **(1) Minimally invasive new products**

Steve Jobs is a pioneer of micro innovation. He said that a small innovation can change the world. Through micro innovation, iPod gets the highest hearing effect. There is a small hard disk that can hold ten songs inside; And innovatively used a small screen on the product to make it have tactile feeling; On this basis, the call function is added to become an I-phone mobile phone, which is welcomed by the majority of users. As can be seen from the above example, apple uses micro innovation to continuously optimize the brand industry. On the one hand, it solves the consumer demand of customers and is also warmly welcomed by Apple fans. (Huang Shixing, 2018) at the same time, the company's competitiveness has also been improved. If you simply compare high-tech patents, Apple has no advantage, but it has made micro innovation again and again in product design. This simple way to beat well-known products such as Nokia also illustrates the benefits of micro innovation from another perspective. It can be seen that micro innovation mainly means that enterprises make continuous and subtle changes to products and gradually accumulate, so that products can be reborn, enterprises can obtain greater opportunities, and have a bargaining chip to seize the hearts of consumers.

#### **(2) Micro innovation in marketing**

The earliest systematic emergence of marketing theory originated from western developed countries. Especially since the western modern marketing theory began to enter China at the end of last century, it has provided a new method for the operation and management of Chinese enterprises. Scholars have different definitions of marketing. The most representative American Marketing Research Institute puts forward that marketing is to pass the value created by the company to the target customers through communication, and build a bridge between the company and customers, so that both the company and customers can get the required process; Philip Kotler, an American scholar, put forward another representative definition: marketing is the process in which individuals and business organizations obtain what they need, including creating products and value, and providing supply and exchange with the demander. The latter plays a more important role and significance in the development and evolution of marketing theory. Professional management masters believe that the functions of enterprises are inseparable from marketing and innovation. Compared with enterprises, micro innovation of products has become one of its important means. Especially in today's increasingly cruel market competition, the core commodities produced by many companies leave the impression of similar functions or benefits to consumers, so companies have added. The micro innovation of products and formal products has become very important to bring different feelings to customers. (Zhang Hao, 2021)

#### **(3) Minimally invasive new technology**

From the perspective of historical development, technology has developed intermittently and gradually in innovation. But it is changed by breaking through the radical status quo, and then returning to the state of gradual development, and so on. This phenomenon has been confirmed in camera, computer, aircraft, automobile and other industries. Relevant Korean scholars also pointed out that due to the lack of basic conditions in the early stage of enterprises, late developing countries can only introduce relatively mature technologies with the help of enterprises in developed countries; The introduced technology is first popularized locally, and the surrounding enterprises rely on

reference for research. The production of products is gradually developing and innovating. China is also one of these countries, so the same process is under way. However, due to the limitations of their own conditions, only a few companies have corresponding strength in high-precision technological innovation. But these technologies are not commodities and are sometimes unavailable. Therefore, most enterprises can only rely on borrowing money to develop. American scholars pointed out that the boundaries between world enterprises are not as clear as before, and the opening and innovation of enterprises is the necessity of development. Enterprises will also form communication and innovation systems in their respective fields. All enterprises must recognize the overall situation, adapt to the development of the times, actively change and form this model. For example, more than 80% of the innovations in the semiconductor industry and scientific instruments are completed by users. Therefore, with the rapid development of network and computer, innovation tends to democratize. Minimally invasive new can actively provide users with high-quality enjoyment, so that customers are closely connected with enterprise products, so as to obtain enterprise competitiveness. (Li Yanran, 2021)

#### **(4) In terms of service-oriented micro innovation**

The company can enable customers to enjoy unique services through characteristic high-quality services. For example, a Japanese clothing company launched a design and implementation trial in 2012. As long as consumers apply and get approval on the company's home page and post photos of their try on on Renren. COM, they may get gift certificates from the company. The company and Renren also jointly organize online queues. Customers can line up online and have the opportunity to get all kinds of gifts, which also enhances the interaction between enterprises and users, gives customers a good experience and increases their purchase desire.

#### **(5) In terms of functional micro innovation**

The main purpose of functional micro innovation is to realize customer needs, develop relevant products or service projects, and produce innovative methods that make customers feel special. This micro innovation can be roughly divided into two types: one is to add new additional functions to existing products on the basis of original products; The other is services or products with new functions. (Sunke, 2020)

#### **(6) In micro innovation based on positioning**

Enterprises can locate products or services suitable for customers in the market, and then plan and produce products according to this situation, so that customers can get a unique experience, which is also the root of positioning based micro innovation. The common methods of positioning based micro innovation are cross-border and dislocation. In addition, business model innovation is a new form, but its status has been equal to technological innovation. This micro innovation is to introduce a new business model, so that customers can obtain a new and unique experience, so as to gain an active position in the market. Micro innovation based on appearance: the basic function of the product will not change, but the appearance design will change to stimulate the desire of customers. (Zhou Qing, 2019)

### **1.3.2 research status in China**

#### **(1) At the level of theoretical research**

Enterprise micro innovation advocates giving priority to consumer experience, emphasizes technology application innovation, and makes rapid iteration and continuous improvement according to consumer needs. Micro innovation is the survival and development strategy of enterprises, especially small and medium-sized enterprises. (Wang Hongyan, Zhang Fuxing, 2017)

Micro innovation helps to promote enterprises to enhance their core competitiveness. Enterprises should carry out micro innovation, and the leadership should take the lead in

creating customer-oriented ideas to form a mechanism for micro innovation. In addition, the ideological culture of minimally invasive new enterprises is also very important. Empathy can be carried out to let employees understand customers' product needs, vigorously carry out micro innovation and build an innovation system. Only in this way can enterprises have the strength to obtain the ideal competitiveness. (Wu Yun, 2021)

Through the discussion of enterprise micro innovation, it can help enterprises improve their competitiveness and obtain differentiated advantages. Let the management of the enterprise have a professional level and increase the loyalty and satisfaction of users. Scholar Zhao Fuchun pointed out that with the emergence and popularization of the Internet, enterprise micro innovation is a common way of thinking, but it lacks theoretical support. Referring to the existing micro innovation examples and innovation theories, the definition of micro innovation has the characteristics of assistance, openness, grass-roots and increment. How should enterprises carry out micro innovation? If it is a large and medium-sized enterprise, the problems needing attention are: innovation support and balance, employment concept, property right protection and control intervention. Micro innovation should become a part of enterprise R & D. Some small enterprises pay attention to being imitated and development direction, so as to improve their micro innovation ability.

### **(2) In the practice of micro innovation**

Enterprise micro innovation should pay attention to the real needs of customers and actively help customers solve problems. Although enterprises lack technology, the micro innovation of marketing management can also reduce cost output and improve product quality. Due to the small number of employees, the company can quickly understand the market and formulate countermeasures. As long as they respect customers, they can innovate services, carry out comprehensive and thoughtful services, and seriously and comprehensively solve the marketing problems encountered by customers. Xiaomi mobile phone called on more than 100000 fans and car owners to jointly develop products, brainstorm and carry out "micro innovation" to meet the small needs of customers, and made today's achievements. Through this case, it can be found that the enterprise has built a virtual brand community as a customer participation platform, and built a material incentive and spiritual incentive system to encourage customers with different relationship advantages, and promote their creativity to penetrate into the company's product development through different customer participation behaviors. In the three stages of production, R & D testing and commercialization, enterprises continuously acquire customer knowledge in these three stages to realize the rapid creation of ideas, the rapid improvement of products and the rapid expansion of services, and finally realize the micro innovation of enterprises. (Huang Shixing, 2018)

### **(3) in terms of micro innovation data resources**

Enterprises need to carry out micro innovation. On the one hand, they should change their ideas, on the other hand, they should implement innovation. Some companies have raised the question: customer needs and user experience play a very important role, but what methods should be used to find such needs and improve the experience. Scientific practice shows that a large amount of data is inseparable from a large amount of data, so as to carry out reasonable analysis and discussion, make good improvement and accurate behavior change. Only with a large amount of data can we have the conditions for optimization. Therefore, the collection and accumulation of this aspect is very important. Only in this way can we create conditions for micro innovation.

Only a certain amount of data can ensure accurate and rapid micro innovation that constantly tries to change. Judging from the micro innovation carried out by almost all Internet companies, they must rely on a large amount of raw data in order to take the next

step. Almost all these companies have a large number of customer information data and relevant records. These databases are the basis of Internet companies. The adjustment and upgrading of products or the research and development of new products and services by Internet companies must be based on the analysis and discussion of database information. However, in the general traditional industries, their data is far less comprehensive and reliable than that of Internet companies, but they can also conduct specific data analysis through ERP in order to apply it to the micro innovation of enterprises.

In today's big data era, the evolution of enterprise micro innovation is a spiral and eternal development process. The constantly upgraded big data technology has brought a leap in dynamic capability to enterprises. (Zhou Yangtu, 2017)

#### **(4) Research on service marketing**

In the concept of service marketing, customer is a general term, including "potential customer", "customer", "long-term customer" and "supporter". If marketers want to achieve their goals, they must have good service quality, so as to obtain a good reputation, so as to attract more customers and strengthen the relationship with customers. Due to its unique nature, service marketing has a wider range of functions and applications than traditional marketing. In the specific marketing implementation, it is necessary to combine the three aspects of service operation management and marketing management. (Shi Xinyu, 2021)

Relationship marketing, customer satisfaction and value-added service are three service marketing concepts that must be adhered to in the marketing process.

First of all, relationship marketing is a kind of marketing behavior. Enterprises, customers and enterprises at all levels establish and maintain relationships with the same interests through common commitments, so as to achieve marketing objectives.

Second, customer satisfaction is an important condition for the smooth operation of enterprises. In order to meet the needs of customers, an enterprise must obtain more profits from the production and management of customers.

Third, value-added services, enterprises should continue to improve and develop, and provide services to customers with love, sincerity and patience to meet consumers. (Su Zhaohui, 2016)

In short, the task of micro innovation is to deal with the inconvenience of customers in the use of products, change their ideas, put themselves in a position, spy on the dissatisfaction of customers of large enterprises in the same industry, and improve or innovate existing products. This is also an opportunity for enterprise development. Therefore, many enterprises participate in it, look for paths and methods in the disappointment of users, and carry out reasonable "micro innovation" to meet the small needs of many customers.

## **RESEARCH CONCLUSIONS AND PROSPECTS**

From a worldwide perspective, enterprises in countries with high level of economic development generally show a better development trend. Small and medium-sized enterprises have become the mainstay of the national economy. At this stage, the poor marketing situation of China's small and medium-sized enterprises has also become the number one problem that hinders the development of enterprises. The marketing situation of small and medium-sized enterprises has a poor trend, which is mainly reflected in the decline of market share and the obstruction of product sales, resulting in the ineffective capital turnover of enterprises, which has seriously affected the normal operation or bankruptcy, and the social and economic benefits have decreased significantly. Therefore, helping small and medium-sized enterprises get out of the sales dilemma and reverse the

current adverse situation is the key to promote the development of small and medium-sized enterprises and maintain social stability.

## CONCLUSION

Specifically, the main conclusions of this paper are based on the following aspects:

Firstly, it discusses the current situation of traditional marketing of small and medium-sized enterprises, and understands the basic situation and existing problems of small and medium-sized enterprises in the current marketing development;

Secondly, based on the traditional business level of small and medium-sized enterprises, in the current increasingly competitive environment, this paper focuses on the micro innovation of small and medium-sized enterprises. In the discussion, combined with the success of Xiaomi and other enterprises in using micro innovation means, the purpose of this paper is deepened;

Third, in the case analysis, this paper also makes a comparative analysis on the application of the new concept of minimally invasive marketing by foreign enterprises, which provides a good reference for promoting the application of the new strategy of minimally invasive marketing and improving the marketing ability of China's small and medium-sized enterprises;

Fourth, the focus of this paper is how to use micro innovation means to improve the market competitiveness of small and medium-sized enterprises in the current development. This paper puts forward some suggestions and countermeasures from the four aspects of minimally invasive new concept, minimally invasive new use mode and culture, and does some research work to improve the theoretical guiding significance of this paper.

### **In summary**

Aiming at many problems existing in the marketing process of small and medium-sized enterprises, this paper discusses how small and medium-sized enterprises innovate marketing ideas, establish marketing awareness, face the new economic situation from multiple angles, and choose appropriate marketing strategies and means by constructing the theoretical framework of "marketing innovation". For small and medium-sized enterprises, marketing is the key node in the process of operation and production. At present, enterprises are in increasingly fierce market competition. Whether they can develop and survive in the fierce market competition depends on whether they can respond to market changes through their own system innovation and reform, adjust ideas according to specific market conditions and establish a reasonable operation mechanism. From another point of view, the marketing of small and medium-sized enterprises is not only related to the development of enterprises, but also reflects the business and market conditions of enterprises. This paper expounds the resource marketing theory, which aims to guide small and medium-sized enterprises to adjust their marketing concepts in time, make full use of their own resource advantages and occupy a place in the market competition.

### **Outlook**

Although this paper analyzes the marketing problems of small and medium-sized enterprises and puts forward innovative marketing strategies, there are still many deficiencies. Marketing is not only a very complex system, but also a dynamic system that has been changing and developing. In the empirical process, this paper only makes qualitative analysis, not from a quantitative perspective, and does not discuss the impact of enterprise marketing direction and market factors on marketing innovation. Moreover,

this paper does not involve the specific implementation of resource marketing of small and medium-sized enterprises. Here, I hope all professors, doctoral teachers, experts and scholars can put forward valuable opinions to help themselves improve.

## REFERENCES

- Su Zhaohui. Service Marketing Management [M]. Tsinghua University Press, 2016
- Tu Zhouyang. A case study on the evolution of enterprise micro-innovation in the era of big data [D]. Jiangxi University of Finance and Economics, 2017.
- Zhang Yun. A research on product micro-innovation management problems and improvement in e-commerce companies [D]. Shanghai Jiaotong University, 2017.
- Wang Hongyan, Zhang Fuxing. Product micro-innovation and its implementation countermeasures [J]. 2017(10):26-29.
- Huang Shixing. Research on the Marketing Strategy Optimization of Xiaomi Mobile Phones [D]. Xiamen University, 2018.
- Chen Jiayuan. Research on enterprise micro-innovation type selection based on knowledge base and network embeddedness level [D]. Hangzhou Dianzi University, 2019.
- Chen Yun, Xie Kefan, Wang Yaqi. Research on the principles and strategies of micro-innovation: Taking the mobile phone industry as an example [J]. Tsinghua Management Review, 2019(03): 46-52.
- Zhou Qing, Nie Libing, Mao Chongfeng, Fang Gang. Enterprise Micro-Innovation: Research Review and Prospect [J]. Science and Technology Progress and Countermeasures, 2019, 36(02): 153-160.
- Sun Ke. Research on Micro-innovation Design of Mini Program Products Based on User Experience [D]. East China University of Science and Technology, 2020.
- Ying Xiaofang. Research on the role of corporate culture in enhancing the core competitiveness of enterprises [D]. Jiangxi University of Finance and Economics, 2020.
- Wu Yun. On the cultivation and promotion of the core competitiveness of small and medium-sized enterprises [J]. Hebei Enterprise, 2021(04):66-67.
- Li Yanran. Analysis on the strategic management of the core competitiveness of small and medium-sized enterprises [J]. Marketing Industry, 2021(33):148-149.
- Wang Siqi. DD Company Marketing Strategy Optimization Research [D]. Taiyuan University of Technology, 2021.
- Sun Yu. Problems and countermeasures brought by innovative corporate culture to corporate growth [J]. Enterprise Reform and Management, 2021(22):203-204.
- Li Hui. Talking about the innovation management problems and solutions of small and medium-sized enterprises' marketing channels [J]. Small and Medium-sized Enterprises Management and Technology (Middle Edition), 2021(02): 21-22.
- You Maohong. Research on the evolution of Xiaomi's profit model and its financial effects [D]. Anhui University of Finance and Economics, 2021.
- Hu Wenbo. Research on Customer Relationship-Oriented Marketing Strategy of W Company [D]. Dalian University of Technology, 2021.
- Zhang Hao. A study on the marketing strategy of overseas study service companies [D]. Jiangxi University of Finance and Economics, 2021.
- Shi Xinyu. AJX company service marketing case study [D]. Dalian University of Technology, 2021.

- Ying M , Nan C , Transportation D O . Evaluation on Enterprise Microblog Marketing Competitiveness Based on Entropy Weight-TOPSIS Method——A Case Study of the Civil Aviation Industry[J]. Journal of Xi'an Aeronautical University, 2017,5(9):99-101.
- Tumphasuwan, Khanita. Studying of Thai SMES Businesses in Order to Define the Marketing Strategy and Enhance the Competitiveness the Case Study: Bua BhatFactory[J]. 2017,000(1):17-22.
- Peshkova I G , Shalimova V U , et al. Marketing and Managerial Competitiveness in Modern Organizations[J]. European Research Studies Journal, 2018, 5(9):9-11.
- Carbone F , Moroni S , Mattioli W , et al. Competitiveness and competitive advantages of chestnut timber laminated products[J]. Annals of Forest Science, 2020, 77(2),5-9.
- Amanda Claesson, Albin Jonsson The Confusion of Content Marketing: a study to clarify the key dimensions of content marketing[D]. School of Health and Society Kristianstad University, 2017.
- Kanch. LIQUOR SALE IN SACHETS BANNED IN GOA[J]. Kanch, 2017,5(4):90-92.
- Laverdure D E . Shakopee Mdewakanton Sioux Community--Liquor Ordinance To Allow for On-Sale Liquor Transactions[J]. Federal Register, 2018,5(9):90-98.
- Kruger J , Jama A , Lee J G L , et al. Point-of-sale cigarette purchase patterns among U.S. adult smokers—National Adult Tobacco Survey, 2012–2014[J]. Wine Sales, 2017, 101.
- Muhunthan J , Angell B , Hackett M L , et al. Global systematic review of Indigenous community-led legal interventions to control alcohol[J]. BMJ Open, 2017, 7(3):10-13.
- Greenfield T K , Williams E , Kerr W C , et al. Washington State spirits privatization: How satisfied were liquor purchasers before and after, and by type of retail store in 2018?[J]. other, 2018, 53(8):82-84.

# RESEARCH ON ENTERPRISE MARKETING STRATEGY INNOVATION UNDER "SHARING ECONOMY" ENVIRONMENT

**YEHUI LANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 2436058192@qq.com*

## ABSTRACT

The application of cloud computing, mobile Internet, Internet of Things and big data technology has given birth to a new economic form in the information technology era, namely the sharing economy model. In the sharing economy environment, people can distribute or transfer their accumulated idle goods through the sharing economy platform without resorting to traditional middlemen, thus improving the allocation efficiency of surplus resources. Sharing economy, as a subversive business idea, is the focus of academic research. At present, sharing economy has penetrated into many industries, such as catering industry, catering industry and tourism, etc. The booming development of sharing economy has also brought great challenges to the marketing activities of enterprises. The traditional marketing methods and means of enterprises can no longer adapt to the current market development, which seriously restricts the development of enterprises. In this paper, the era of sharing economy as the background, through the exploration of the problem to formulate the new situation of innovation, to provide reference for the enterprise marketing strategy innovation, realize the transformation of enterprise marketing, promote the sustainable development of enterprises.

**Keywords:** sharing economy, marketing strategy, innovation, Internet

## INTRODUCTION

### 1.1 background

The rapid development of Internet information and mobile application technology has accelerated the integration between technological capital and economic activities, giving birth to a new economic form -- sharing economy. Sharing economy refers to the sum total of economic activities that integrate and allocate dispersed idle resources and meet diversified needs of users by relying on Internet information and mobile application technology on the basis of the separation of right of use and ownership. The sharing economy, as a new form of business spawned by the new round of technological and industrial revolution, is accelerating the innovation of employment and consumption patterns. In recent years, China's sharing economy has developed rapidly and shown great vitality. It has become a new force for economic development. According to the Report on China's Sharing Economy Development (2021) released by the State Information Center, the transaction scale of China's sharing economy market in 2020 was about 3.377.3 trillion yuan, up 2.9% year on year. The number of participants reached 830 million, including 84 million suppliers, up 7.7 percent year on year. Sharing economy plays an important role

in fostering new drivers of economic development and fostering a new development pattern featuring a major domestic cycle.

## **1.2 Problem statement**

### **1.2.1 The traditional marketing model can not adapt to the rapid change of sharing economy market environment**

With the advent of the era of "sharing economy" and "Internet Plus", competition among enterprises is becoming increasingly fierce. The traditional marketing methods and means of enterprises no longer adapt to the current market development. Enterprises must adapt to the development and change of The Times, grasp the trend of marketing development, reform and innovate marketing strategies based on the network environment.

### **1.2.2 Outdated marketing concept**

Enterprise in the process of using the traditional marketing idea, because the enterprise marketing concept is conservative, the efficiency of enterprises in the receiving market feedback information, there are certain hysteresis, leading to the enterprise marketing mode in the rationality and feasibility, so, on the one hand, the enterprise is difficult to effectively understand and grasp the market changes, flexible adjustment of marketing structure, on the other hand, Seriously affected the enterprise to improve the core competitiveness of the market, to the healthy and sustainable development of the enterprise has brought the adverse effect, in addition, due to the traditional marketing idea in the process of use, prone to a drawback, is not according to the actual needs of consumers, blind to promote products, not only failed to stimulate consumer buying interest, On the contrary, consumers will be bored, which will have a serious impact on the improvement of economic benefits of enterprises.

### **1.2.3 Tradition of marketing model**

In the traditional marketing model, enterprises first conduct market research to determine the target market and marketing strategy, and then focus on available resources to better meet the needs of customers for the enterprise. But it neglects the influence of immaturity of customers and limitation of enterprise resources on marketing. Traditional marketing focuses on the selection of target market, trying to obtain as much sales revenue as possible with limited market network construction costs, but strongly requires in the actual marketing strategy, the traditional market is limited by geographical conditions and transportation, building a broad market network company needs a lot of costs; And the traditional marketing model to meet the market demand for a long time, slow speed.

### **1.2.4 Marketing networks are inefficient**

In the future Internet environment, the production and sales of enterprise marketing are directly affected by consumers. Therefore, in order to increase sales opportunities and expand sales scope, it is necessary for enterprises to establish efficient marketing network. But the current enterprise did not establish efficient marketing network, usually enterprise production, processing, storage, sales and services are independent, so production can't

meet the demand of market, extensive sales and service business can not meet the diversified needs of customers, the marketing each link disconnect, cause marketing is in a state of inefficient.

### **1.3 Research purpose**

The booming development of sharing economy also brings great challenges to the marketing activities of enterprises. The traditional marketing methods and means of enterprises can not adapt to the current market development, which seriously restricts the development of enterprises. The purpose of this study is to provide reference for enterprise marketing strategy innovation, realize the transformation of enterprise marketing, and promote the sustainable development of enterprises.

## **LITERATURE REVIEW**

Based on mobile Internet, third-party payment, big data, cloud computing and other technologies, as well as the surplus of idle resources, the economy has entered the new normal, leading to the emergence and development of sharing economy. Sharing economy, as a "new economy" and "new business" form under the Internet, uses third-party platforms such as the Internet to temporarily transfer the use right of idle resources from suppliers, and creates value for demanders by improving the use efficiency of stock assets, thus promoting the sustainable development of social economy.

### **2.1 Sharing economy**

The concept of "sharing economy" was first put forward by Felson and Spaeth in 1978 and has grown into an important component of the digital economy. Sharing economy is a new economic form that integrates and shares a large number of idle resources with the help of Internet information and mobile application technology. 8) The original intention of sharing economy is to reduce transaction costs and improve the social utilization and recycling efficiency of resources, while the separation of ownership and use right is the most important form of sharing economy.

### **2.2 marketing strategy**

Marketing strategy is the enterprise to customer needs as the starting point, according to experience to obtain customer demand and purchasing power information, business expectations, planned organization of various business activities. It is a series of measurable and controllable activities aimed at improving sales and manufacturer's reputation for a certain target market. It is a combination of various marketing methods, such as product, price, channel, promotion and public relations strategy.

### **2.3 Marketing innovation**

Marketing innovation refers to the adoption of new marketing concepts or strategies that have never been used before, mainly involving product (service) design or packaging, product (service) promotion, product (service) sales channels, product (service) pricing and other aspects. Seasonal, cyclical and other conventional marketing changes are not included.

## **RESEARCH METHODOLOGY**

This paper mainly adopts the method of combining literature method and interview method to obtain sufficient theoretical support by referring to a large number of theoretical literature, various books related to sharing economy, platform and business model, as well as the research works of experts and scholars on platform business model innovation under sharing economy. The purpose of information collection in these two ways is to obtain in-depth understanding and multiple evidences of research issues from multiple channels and dimensions, thus contributing to more authentic and credible research on research issues and getting closer to the essence and core of research issues.

## **RESEARCH RESULTS AND SUGGESTIONS**

### **4.1 The importance of marketing innovation**

Under the environment of modern market economy, enterprises have to pay attention to the vital role of marketing in the development of enterprises. Market is the battlefield of enterprise struggle, who first do a good job in marketing, attract enough traffic, occupy a larger market share, expand territory, stabilize the existing market segment. Then the enterprise can ensure not to be eliminated by the cruel market, to the effective survival and development.

#### **4.1.1 Solve basic problems in the development of enterprises**

Marketing allows enterprises to constantly adjust marketing concepts and strategic decisions, and guide enterprises to establish correct marketing decisions. At the same time, it also helps guide enterprises to create competitive advantages and provides a set of competitive strategies for enterprise growth. At the strategic and decision-making level, marketing attaches great importance to the study of enterprises to meet the needs as the center, the formation of their own operating characteristics, to ensure the market position of enterprises.

#### **4.1.2 Improve the production efficiency of enterprises**

To help enterprises establish modern management concepts, better optimize the allocation of enterprise resources and meet the needs of social development. The marketing concept emphasizes the role of the market and pays attention to the experience of consumers, which is conducive to promoting the optimization of enterprise resource allocation and better meeting the reality and potential needs of consumers.

#### **4.1.3 We will promote international operation of enterprises**

Market economy is an open economic system. It is the basic requirement of social and economic development to adhere to the development strategy of opening to the outside world and expand international trade and international economic and technological cooperation. The current international market situation is complex, changeable demand, fierce competition, only a complete grasp of marketing theory and skills, conscientiously

carry out market research, understand the target market, can formulate the corresponding international marketing strategy, more efficient and smooth development of the international market.

## **4.2 Suggestions on enterprise marketing strategy innovation under the background of sharing economy**

### **4.2.1 Marketing channel innovation**

Sharing in order to adapt to the development of economy, the enterprise to realize the traditional marketing idea to innovative marketing concept, first of all, to the Internet marketing thinking and thinking for effective integration, to achieve the Internet marketing channels, marketing brand common development has very important practical significance, and help enterprises to realize optimization and innovation of marketing channels. The following two methods can be used:

First, expand marketing channels through search engines. Usually, consumers can input some keywords or keywords to obtain relevant information, but these information is quite complex, and it takes a lot of time to find the information they need. The marketing model supported by search engines displays sorted information and adjusts the order of keywords according to the cost paid by the enterprise. Users can quickly find and pay attention to the product information of relevant enterprises, greatly improving the attention of enterprises in the network market.

Second, expand marketing channels through weibo platform. In the network environment, more and more people like to communicate through micro-blog, and enterprises can use micro-blog for marketing activities. The effect of micro-blog marketing channel is particularly obvious, because it is closely related to the daily life of the majority of consumers. Enterprise marketing staff can use the microblog platform to pull in the distance between customers and strengthen the benign interaction between the two sides. It can not only share and feedback all kinds of product information with customers, but also help enterprises further optimize and improve the related performance of products. In addition, companies can also on the microblogging platform to release product information anytime and anywhere, by positive slogan extensive propaganda and popularization, to be more weibo users browse and attention, maximum limit to enhance product visibility and influence, thus improve the reputation of the enterprise in the industry, for enterprise to bring greater economic benefits.

### **4.2.2 Marketing concept innovation**

In the Internet era, the scale of social media such as Douyin, wechat, Weibo and QQ is getting bigger and bigger. The development of smart phones has greatly changed people's way of life. People's fragmented time can be utilized. The content characteristics of social media are also very significant, especially in user participation in consumption, user creation and user sharing. It is precisely because of the vigorous development of social media that the speed of network communication far exceeds the imagination of traditional promoters. If enterprises want to stand out in the fierce competition, innovative marketing concepts will become the only way to go.

Global marketing concept: In order to adapt to the development and changes of the world economic environment and strengthen their competitiveness in the international market, large groups gradually move their industries closer to the global economic market, and the concept of global marketing is also slowly born. Global marketing refers to the global marketing strategy layout for obtaining global competitive advantage. Global marketing mainly from the target, positioning, strategy and means. When evaluating the global economic market and formulating the global marketing strategy, the enterprises engaged in global marketing should take a broader view and focus on the whole world instead of national boundaries.

Concept of emotional marketing: The enterprise brand marketing emphasis on meet the emotional needs of the consumers, by using emotion packing, emotion promotion, emotional advertising, word of mouth and emotional design to achieve emotional marketing strategy slightly and purpose, arouse the consumer's emotional needs and spiritual resonance, let the consumer get the psychological satisfaction, will help companies marketing to the emotion, Stand out from the fierce competition. With the development of market economy, people's living standard is getting higher and higher, enterprise marketing has been raised from the traditional rational level to the emotional level, emotional marketing is playing a more and more important role in enterprise marketing, emotional marketing is getting more and more attention from consumers.

#### **4.2.3 Marketing model innovation**

Maker model: Sharing economy brings new opportunities for individual innovation. Makers have become a new personal identity label and gradually become the main driving force of economic development. The concept of maker originates from the experimental project of MIT. It takes innovation as the concept and personal design and personal manufacturing as the core content. In China, makers are associated with "mass entrepreneurship and innovation". With the development of the sharing economy, the ability of individuals to use shared resources can even rival that of enterprises, making it easier for individuals to innovate and start businesses. Sharing knowledge leads to a source of innovation, while crowdsourcing and sharing skills lead to efficient collaboration. Crowdfunding brings low-cost capital to innovation and development, sharing physical resources such as office space; The power of computing and other innovations will lead to new businesses, new business plans and, ultimately, the era of the maker. Sharing economy provides a basic guarantee for the coming of the maker era, which will bring a wave of innovation and promote the progress of the era.

#### **4.2.4 Network marketing strategy innovation**

Under the background of Internet, enterprises should start from consumer demand to implement network marketing strategy. First of all, we should study the needs of consumers, formulate product strategies according to their personalized needs, and tailor products to meet their needs for consumers. In order to meet consumer demand, the cost that consumers are willing to pay is studied, and the corresponding production cost and commercial cost are determined based on the cost that consumers pay, so as to reduce the risk of product development and price setting in the market. Finally, strengthen the

interaction and communication with consumers, through winning the trust of consumers, for the enterprise to cultivate loyal customers.

## CONCLUSION

With the development of Internet technology, more and more sharing economy platforms have emerged to participate in People's Daily life. The development of sharing economy can not only meet the increasing social and cultural needs of the people, but also fully mobilize all kinds of social resources, promote the optimal allocation of resources, save production costs and facilitate the life of residents. Faced with the development of sharing economy, marketing innovation is increasingly the only way for enterprises to cope with market competition, and also the basis of their survival and development. Smes should make innovation strategies according to their own advantages and disadvantages, constantly improve innovation ability, achieve innovation goals, so as to seek development in the fierce competition.

## REFERENCES

- Haijian Li, Yan Li. Understanding of the new economic form: Microeconomic perspective[J]. China's industrial economy, 2020(12): 159-177.
- Sharing Economy Research Center, State Information Center. China's Sharing Economy Development Report(2021) [EB/OL] (2021-02-19) [2021-08-16]  
<http://www.sic.gov.cn/archiver/SIC/UpFile/Files/Default/20210219091740015763.pdf>.
- Felson M, Spaeth J L. Community structure and collaborative consumption: A routine activity approach[J]. American Behavioral Scientist , 1978,21(4):612-624.
- Barta K, Neff G. Technologies for sharing: Lessons from quantified self about the political economy of platforms[J]. Information Communication & Society, 2016, 19(4):518-531.
- Martin C J. The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism[J]. Ecological Economics, 2016, 121(1):149-159.
- Chonggao Zhong, Yong Zhang. Sharing economy: Logic, patterns, and boundaries[D]. Scientific and technological progress and countermeasures, 2017, 34(23): 42-47.
- Amould E J, Rose A S. Mutuality: Critique and substitute for Belk' s "sharing " [J]. Marketing Theory , 2016, 16(1): 75-99.
- Schlagwein D, Schoder D, Spindeldreher K. Consolidated, systemic conceptualization and definition of the sharing economy" [J]. Journal of the Association for Information Science and Technology , 2019,71(1): 1-22.
- Jin Hua. Innovation of enterprise marketing under the Background of Internet[J]. Chinese and foreign entrepreneurs, 2017(24).
- Hui Li. Research on marketing Innovation Strategy under the Background of "Internet +"[D]. Beijing: Beijing University of Posts and Telecommunications, 2018:16.
- Zhilai Zheng. Study on the cause, connotation and business model of sharing economy[J]. Modern economic discussion, 2016(3): 32-36.
- Yanshi Jin. Play maker in "New Capital Markets"[J]. Chinese and foreign management, 2015, (1).
- Pei Hu, Tiantian Tang. Research on innovation of enterprise marketing under mobile Internet background[J]. Theoretical discussion, 2018(4): 99-105.

# RESEARCH ON MARKETING INNOVATION IN THE MOBILE PHONE INDUSTRY:A CASE OF XIAOMI SMARTPHONE IN CHINA

**HUITING ZHANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: b1605704464@163.com*

## ABSTRACT

In the development of an enterprise, marketing is an indispensable and important link. From product design and manufacturing to delivery to consumers, the existence of marketing is required. A good marketing strategy can not only improve the competitiveness of enterprises, but also gain a lot of benefits by income. With the rapid economic development, people's living standards have gradually improved, and consumption habits have also changed. There are many innovative companies in China that have grown up relying on the Internet, and Xiaomi's success is one of them. In this context, it is particularly meaningful to study Xiaomi's marketing innovation and the reasons for its success. In the market, leading enterprises have advanced technology and advantages, but still face pressure from competitors. The competition between enterprises requires not only core technologies, but also effective new marketing methods. Therefore, it is of great importance for enterprises to improve their own marketing innovation ability to improve their competitiveness. Taking Xiaomi mobile phone as an example, this paper puts forward the difficulties faced by enterprises in the mobile phone industry to improve their marketing innovation capabilities, and proposes ways to improve their marketing innovation capabilities. Research shows that as a high-tech industry, mobile phones need to improve the level of marketing innovation to improve the competitiveness of enterprises. The innovation of enterprises needs to be market-oriented, obtain external information, and carry out continuous innovation to maintain and enhance their status. Through product strategy, channel strategy, promotion strategy and other aspects of innovation, comprehensively help enterprises to effectively improve.

**Keywords:** marketing strategy, marketing innovation, smart phone

## INTRODUCTION

### 1.1 Background of the study

At present, enterprises pay attention to the progress of innovation in how to improve their core competitiveness. In the highly competitive Chinese market, several additional retail companies have fully demonstrated their pragmatic value. By adopting marketing innovation, Pinduoduo won the parity market, and Daily fresh, which is freshly harvested, has developed a "crazy" smart phone market.

Marketing innovations help companies successfully overcome fierce competition, and although the barriers to adopting such innovations are relatively low, they can help companies capitalize on market opportunities, position themselves correctly, and establish differentiated competitive strategies. Especially in the following cases of technical bottlenecks, it is critical to use marketing innovation to improve company performance. Adopting marketing innovation can promote the sustainable development of the company, and enterprises can use marketing innovation to achieve business sustainability, thereby enhancing the competitiveness of enterprises. (Peng, 2021)

Innovation, while difficult, can bring benefits to business. Innovation can improve products according to the needs of users, thereby enhancing customer satisfaction, thereby enhancing the image of the company in the minds of customers. The success of Xiaomi is inseparable from innovation in all aspects of marketing.

Officially created in April 2010, Xiaomi is an Internet company with mobile phones, smart hardware and IoT platforms as its core. At this point, smart phones have matured. At the beginning of its establishment, Xiaomi's slogan "Born for Fever" perfectly combines the two characteristics of "low price" and "high cost performance", and is deeply imprinted in the hearts of consumers; at the same time, it proposes "Let everyone enjoy the fun of technology". Duty of. From 2010 to 2013, Xiaomi developed in the domestic market; since 2014, Xiaomi began to enter the international market and develop overseas markets. After 2014, with the rapid progress of Xiaomi in overseas markets, the overseas revenue market has increased year by year. By 2018, overseas revenue had reached 40% of total revenue. Its mission has been revised to "enable everyone in the world to enjoy technology for a better life". (Wei R, 2021)

The change of Xiaomi's slogan also shows that Xiaomi's breakthroughs and innovations in technology and marketing have changed the positioning of Xiaomi. Xiaomi mobile phones have also started to move from low-end mobile phones to high-end mobile phones. Regardless of the fact that Xiaomi is successful, it cannot be replicated, because Xiaomi has caught up with the beginning of the Internet era, but now, many companies have flooded into the wave of the Internet. The attention of clients wants to occupy the market. However, the traditional marketing concept is not difficult to hinder the development of enterprises. This concept is very narrow and believes that marketing is purely a matter of the marketing department, and there is no direct connection with other departments, and there is no unified management, marketing, finance, R&D and other functions. The functions are in a state of fragmentation, which makes the various links of the enterprise very isolated, resulting in a trough in the marketing of numerous enterprises, and it is difficult to gain a firm foothold in the market competition and eventually be eliminated. (Huang, 2018).

Xiaomi has made innovations in the acquisition of external information in its marketing innovation. By establishing a community, based on users, and accepting users' opinions and feedback, Xiaomi has continuously improved its products, provided customers with better products and services, and increased consumption. Satisfaction of users, thereby improving the core competitiveness of enterprises. Just like Xiaomi's annual meeting, the first features to improve are those that consumers propose and request for improvements. This penetration model is a useful reference for other companies. (Ramirez F J, 2018)

## **1.2 Problem Statement**

With the advent of the digital age, the competition in the mobile phone market has become ever more intense, and companies have also changed their marketing strategies. Traditional marketing methods or online sales of products have been impossible to cope with the fierce market competition. Enterprises need to make innovative changes, not only from technological innovation, but also of marketing innovation. (Medrano N, 2019)

Today's mobile phone industry market has gradually matured, and major mobile phone brands have their own marketing strategies to establish differentiated marketing strategies. However, as companies continue to invest in technology research and development, the cost of mobile phones will become ever more expensive, and they will gradually move towards the high-end market. For example, Xiaomi, which adopted a cost-effective mobile phone strategy at the beginning, boosted the market, and has been able to enter the high-end mobile phone market through continuous technological innovation. Nonetheless, consumers may not be able to accept this change in cognition. Moreover, in the face of new market competitors, the same or similar marketing strategies may not be able to achieve satisfactory results. Therefore, marketing innovation is needed to develop market opportunities and gain a competitive advantage. (Gupta S, 2016)

## **1.3 Research questions**

Competition in China's mobile phone industry is fierce, and improving the level of technological innovation and marketing innovation can bring positive performance to enterprises. However, in the process of implementation, the resulting problems will arise: First, as a high-tech enterprise of mobile phones, enterprises will pay more attention to technological innovation, while ignoring marketing innovation. Second, enterprises attach importance to product strategy innovation in marketing innovation, but often adopt passive innovation methods to improve products by acquiring consumer demand. Research Objective

With the development of Internet technology, the relevant theories of outdated human beings can no longer meet the needs of development, and it is necessary to adjust and improve the marketing strategy of enterprises and carry out marketing innovation. Studies by some scholars have shown that the influence of different marketing innovation levels on the innovation performance of enterprises exists. Marketing innovation and enterprise innovation performance have interactive effects; marketing innovation has a greater incentive effect on innovation performance of private enterprises than state-owned enterprises, and market competition and marketing innovation have greater impact on innovation performance of high-tech enterprises than traditional enterprises. (Xu, 2019)

In response to the above problems, this paper will start from the factors that affect the enterprise's marketing innovation and how to improve the marketing innovation, and discuss how the industry can carry out the marketing innovation strategy to improve the competitiveness of the enterprise.

## **1.4 Significance of Research**

China's current mobile phone industry is quite competitive. In the domestic market, Huawei, Xiaomi and OV occupy most of the market. In the past, many old domestic

mobile phones have been eliminated one after another. One of the causes is the lack of technology and technological innovation capabilities. Therefore, whether it is Huawei or Xiaomi. OPPO has invested a lot of money in the research and development of mobile phones. However, in addition to relying on technological innovation to improve the competitiveness of enterprises, it is also a need to enhance the marketing innovation capabilities of enterprises. Some scholars have shown that when consumers choose products from different companies, they will look for "value companies", not only from the technical aspects of knowledge, so enterprises also need to consider market-oriented marketing innovation. (Medrano N ,2019)

At present, from the research data of CNKI, we can know that there is very little related literature research. Therefore, this paper summarizes the factors that promote marketing innovation, in order to further improve the competitiveness of enterprises, and provide reference to enterprises undergoing marketing innovation reform.

## **LITERATURE REVIEW**

### **2.1 Marketing strategy**

The earliest systematic appearance of marketing theory originated in western developed countries, especially since the western contemporary marketing theory began to enter our country at the end of last century, it has provided a new method for the management of Chinese enterprises. Market strategy refers to "a firm's decisions regarding service markets, market entry modes, and market entry sequences" (Varadarajan, 2015). Markets to serve includes company decisions regarding geographic markets to serve (e.g., national markets and specific geographic areas within selected national markets), types of markets to serve (e.g., business-to-business and/or business-to-consumer markets), and in particular Segments served in geographic markets and specific types of markets. Alternative modes of market entry include acquisitions, internal development and joint ventures/strategic alliances. The sequence of substitutes related to market entry includes first movers, early followers, and late entrants (Varadarajan, 2015).

### **2.2 Marketing innovation**

Scholars have traditionally had a research interest in marketing innovation. Since 2005, the Oslo Manual, drafted by the Organisation for Economic Co-operation and Development, has expanded the definition of innovation to include marketing innovation as a form of innovation. Marketing innovation mainly involves product (service) design or packaging, product (service) promotion, product (service) sales channels, and product (service) pricing. (Peng, 2021) Therefore, marketing innovation represents the use of different activities and marketing procedures, including changes in the nature of products, marketing communication tools, the introduction of new brands, new technologies and methods of pricing market research.

Regarding the current research on marketing innovation, some scholars believe that the current market-driven marketing innovation mainly focuses on products, which are a relatively passive form of marketing innovation, which responds to the current market by

meeting the needs of consumers. However, if companies actively invest in the development of new product concepts, tap potential demand to expand the market, and change from listening to consumer demand to lead consumer demand, they can gain greater market opportunities. (Jaworski,2020)

## **2.3 Improve the level of enterprise marketing innovation**

### **2.3.1 Innovation in product strategy**

Product innovation strategy refers to the introduction of a completely new product to replace an older product in order to meet demand, as well as to provide a new method to meet existing or potential demand. In product innovation, it is not only necessary to understand consumer needs, but also to study existing products and possible alternative products in the industry, and adopt targeted innovation strategies.

Product innovation strategies include:(1)differentiated product innovation strategies.(2)combination product innovation strategy. Innovative products are formed by combining existing technologies.(3)Technology-based product innovation strategy. Apply innovative technologies and new principles to solve problems existing in existing products or relatively mature markets to increase market share. (4) composite product innovation strategy. To innovate both in technology and market at the same time, users and developers need to be closely connected in advance.

By establishing a community, based on users, accepting users' opinions and feedback. Xiaomi continuously improves products, provides consumers with better products and services, and improves consumer satisfaction, thereby enhancing the core competitiveness of the company. This is a composite product innovation. While developing technology, we give attention to the market, understand consumer needs, and finally achieve product innovation. (Feng, 2018)

The mediating effect of product innovation on the relationship between external information and marketing innovation. (Ramirez FJ, 2018) in a tightly competitive market environment, over-emphasis on existing products and services is unlikely to bring superior economic benefits and corporate performance, but a conservative marketing orientation that exposes companies to profit margins decreasing. By contrast, exploring new products and new markets can be an effective way to increase company performance, as aggressive marketing efforts can help companies develop new avenues for growth, break stagnation and avoid malicious competition. Therefore, in the context of fierce competition, it is recommended that enterprises should take vigorous marketing innovation. (Peng,2021)

### **2.3.2 Innovation in channel strategy**

Channel innovation mainly refers to innovation in short channels, eliminating too many intermediate links in commodity circulation, shortening the intermediate way to reach consumers, and even directly facing consumers to obtain high profits. Xiaomi was one of the first companies in China to propose the establishment of new retail, which was a brand-new model at the time. And this model went directly to consumers. The shortest path is established between brands and users, and all the profits in the middle are transferred to users, which are one of the reasons why Xiaomi phones are cost-effective. Of course, Xiaomi also encountered difficulties in channel innovation, that is, there were

numerous obstacles to channel opening, but the new model brought huge benefits to Xiaomi. (Li,2021)

According to the analysis of consulting firm McKinsey, emerging distribution channels often bring new customer expectations, and will affect costs, and even save 10% to 15% of costs, thereby creating cost benefits. Further channels will bring unexpected value to manufacturers, such as providing convenience for customers to purchase and saving distribution costs for manufacturers.

Xiaomi's original retail has also developed abroad and achieved great success. In 2017, Xiaomi mobile phones became the market sales champion in India. (Wei,2021)

### **2.3.3 Innovation in promotion strategy**

Diffusion of Innovations, published in 1962 by Everett M. Rogers, the pioneer of American development communication research, is a sign of the initial formation of the theoretical framework of innovation promotion recognized by the communication field. Rogers defines innovation promotion as a process by which an innovation spreads through a certain channel and a certain period of time in a certain social system.

With the advent of the digital age, there are more and more channels and ways that companies can utilize to promote. Xiaomi attaches great importance to new media marketing, and uses the Internet to use various promotion methods. Xiaomi has established a fan maintenance system on the online media of "Weibo, forums, and WeChat customer service", and the earliest imitated Apple's conference, and held Xiaomi product launches every year to enhance Xiaomi and fans. Connect. Xiaomi obtains the need of fans through interaction with fans, and transmits product information to fans, so as to realize the realization of brand value on the Internet. This innovative model of promotion has also made Xiaomi's brand more and more famous. (Feng,2018)

## **RESEARCH METHODOLOGY**

The research in this chapter mainly adopts three research methods:

3.1 Literature analysis methods: by searching literature, sorting and summarizing, put forward the problems currently faced by marketing innovation, and put forward relatively feasible methods to improve the level of marketing innovation of enterprises.

3.2 Case analysis method: By studying the successful cases of Xiaomi mobile phone marketing innovation, scientifically analyze the theory and viewpoints of the marketing concept, explain the importance of marketing innovation to enterprises, especially in the context of the digital age, and enhance the article's persuasion force.

3.3 Empirical analysis methods: This paper mainly analyzes the problems existing in the marketing innovation of enterprises in the mobile phone industry, and studies how to proceed based on the successful cases of Xiaomi mobile phones.

## **CONCLUSION**

Innovation is the core activity of entrepreneurship and the source of competitive advantage, so organizations should effectively promote innovation in order to survive in

the long term. (Lestari E R, 2020) in recent years, many enterprises have been striving to improve the level of marketing innovation, especially in high-tech industries. When the technology is the same or cannot be broken through in a short period of time, performance brought by marketing innovation to the enterprise is greater. Through literature research, it is found that to improve the level of marketing innovation, it has to be based on market orientation. The innovation of links in the marketing process, such as product strategy innovation, channel innovation, organizational innovation, etc., will have a positive impact on the innovation performance of enterprises. Influence. When enterprises carry out marketing innovation, they should take a proactive approach to tapping the potential needs of consumers, obtain market opportunities, and help to provide unique, different from competitors, and valuable products to customers, so as to improve corporate competition. Force.

#### **4.1 Limitations**

Through literature research, this paper takes Xiaomi mobile phone as an example to carry out research on communal marketing innovation strategies in the mobile phone industry. Due to the limited research time and ability of the author, despite the fact that the author puts forward some opinions of his own, there are still some shortcomings. The research makes some recommendations.

(1) This article talks about the positive effect of marketing innovation enterprises. Marketing innovation measures whether a company is involved in design, communication, distribution, or price innovation, but cannot distinguish the degree of innovation or whether the implemented innovation is ecological or non-ecological.

(2) This research introduces the theme of marketing innovation through Xiaomi Corporation, but Xiaomi does not represent the entire mobile phone industry. Xiaomi is a company with abundant resources. For companies with fewer resources to adopt marketing innovation, the possible positive effects will be altered, which requires further understanding and testing.

#### **REFERENCES**

- Varadarajan R. Strategic marketing, marketing strategy and market strategy, 2015, AMS Review, 5(34), 7890.
- Medrano, N. and Olarte-Pascual, C. (2016) 'The effects of the crisis on marketing innovation: an application for Spain', Journal of Business & Industrial Marketing, 31(3), pp. 404–417.
- Gupta S , Malhotra N K , Czinkota M , et al. Marketing innovation: A consequence of competitiveness[J]. Journal of Business Research, 2016, 69( 12):5671-5681.
- Varadarajan R. Innovating for sustainability: a framework for sustainable innovations and a model of sustainable innovations orientation[J]. Journal of the Academy of Marketing Science, 2017.
- Varadarajan R. Innovation, Innovation Strategy, and Strategic Innovation[M]. 2018.
- Ramirez F J , Parra-Requena G , Ruiz-Ortega M J , et al. From external information to marketing innovation: the mediating role of product and organizational innovation[J]. Journal of Business & Industrial Marketing, 2018, 33(1):00-00.

- Huang Shixing. Research on the Marketing Strategy Optimization of Xiaomi Mobile Phones [D]. Xiamen University, 2018.
- Feng Weiran. Analysis of Xiaomi's Marketing Model [J]. China Collective Economy, 2018(09):63-64.
- Zhou Qing, Nie Libing, Mao Chongfeng, Fang Gang. Enterprise Micro-Innovation: Research Review and Prospect [J]. Science and Technology Progress and Countermeasures, 2019, 36(02): 153-160.
- Yan Y L , Falahat M . The Impact of Digitalization and Resources on Gaining Competitive Advantage in International Markets: Mediating Role of Marketing, Innovation and Learning Capabilities[J]. Technology Innovation Management Review, 2019, 9(11):26-38.
- Medrano N , Cornejo-Caameres M , Olarte-Pascual C . The impact of marketing innovation on companies' environmental orientation[J]. Journal of Business & Industrial Marketing, 2019, ahead-of-print(ahead-of-print).
- J Sánchez-Gutiérrez, Cabanelas P , JF Lampón, et al. The impact on competitiveness of customer value creation through relationship capabilities and marketing innovation[J]. The Journal of Business and Industrial Marketing, 2019.
- Xu Q . Dynamic Interaction Mechanism Model Between Market Competition, Marketing Innovation and Enterprise Innovation[C] 2019.
- Li Qingwei. Research on Xiaomi's Marketing Strategy Innovation under the Background of "Internet +" [D]. North China University of Water Conservancy and Hydropower, 2019.
- Lestari E R , Rodhiyah D , Najah E S . Drivers of innovation and its impact on business performance[J]. IOP Conference Series Earth and Environmental Science, 2020, 475:012045.
- Wei R,Long Q.Research on Xiaomi's Internationalized Business Model[J]. Open Journal of Business and Management, 2021, 09(3):1050-1063.
- Li Yanran. Analysis on the strategic management of the core competitiveness of small and medium-sized enterprises [J]. Marketing Industry, 2021(33):148-149.
- E R Lestari, DSN Rodhiyah and E S Najah, Drivers of innovation and its impact on business performance,: Earth and Environmental Science 475 (2020) 012045
- Wang Siqi.DD Company Marketing Strategy Optimization Research [D]. Taiyuan University of Technology, 2021.
- Peng J , Qin Q , Tang T Y . The Influence of Marketing Innovations on Firm Performance under Different Market Environments: Evidence from China[J]. Sustainability, 2021, 13.
- J Arias-Pérez, Velez-Ocampo J , Cepeda-Cardona J . Strategic orientation toward digitalization to improve innovation capability: why knowledge acquisition and exploitation through external embeddedness matter[J]. Journal of Knowledge Management, 2021, ahead-of-print(ahead-of-print).
- Li Meiyin.Analysis of Xiaomi mobile phone consumer behavior and its marketing strategy[J].Investment and Entrepreneurship,2021,32(14):39-41.

# **BUILDING CONSTRUCTION INNOVATION MANAGEMENT AND GREEN CONSTRUCTION MANAGEMENT MODE**

**FUDONG TIAN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 39026241@qq.com*

## **ABSTRACT**

Under the background of accelerating China's economic development and urbanization development process, China's construction industry has obtained unprecedented development opportunities, and civil engineering has become an important part of the development of modern society. With the increasing scale of construction projects and the increasing number of projects, the complexity of construction has become more and more obvious, and the management and requirements of construction projects have become higher and higher. Construction project management is a very complex and multi-level management task, which is inconsistent with my country's current imperfect construction project management mode. This paper explores the strategy of building construction innovation management under the green management construction mode, analyzes the necessity of the construction management innovation mode, and analyzes how to innovate the management mode in the construction project management from the construction project management.

**Keywords:** Building Operations, Engineering Management, Green Construction, Innovative Management

## **INTRODUCTION**

In order to innovate the construction project management in the construction company, it is necessary to build a set of effective construction project management mode to get the approval and support of the upper management. At present, China's economic development is changing with each passing day, and cooperation with other countries is becoming more and more frequent. More and more advanced management models are continuously introduced, and the competition in the construction industry is becoming more and more fierce. If a construction company wants to make achievements in the field of construction and obtain efficient returns, it must use engineering to speak. The buildings under the company's name must be safe and high-quality, so as to have an advantage among many competitors. Construction safety, quality assurance and efficiency cannot be separated from construction project management. The importance of construction project management is self-evident, and the leadership must pay more attention to construction project management. The development of the industry is getting faster and faster, and the update of knowledge is getting faster and faster. If a construction company wants to be evergreen in the field of construction, company managers must keep up with the pace of the times. Project management concept, real-time update of construction project management concept, in line with the times. Construction enterprises must learn and introduce new construction engineering management concepts in real time, improve their management level, and analyze specific problems in specific

management. According to their own conditions, they will combine with management concepts to innovate and create a set of construction engineering management that suits them model.

## **LITERATURE REVIEW**

### **1 Construction and construction management mode**

#### **1.1 Characteristics of modern civil engineering**

First, in terms of building materials, high strength, light direction, such as glass fiber reinforced plastic, magnesium alloy and aluminum alloy, are being widely used. However, there are many disadvantages to use these materials, such as too high price, low elastic modulus, which results in the limited use scope of materials, but also need many investigation and research. Although research results have been made in improving the durability and strength of concrete and steel, there is still great room for development. Secondly, in terms of engineering geology and foundation, the design and construction of the foundation in the construction area will not only be affected by the foundation structure and engineering geological conditions, but also be closely related to the mechanical properties and stress. In addition, the choice of construction materials, structural system and engineering facilities will be affected by the engineering foundation and geological conditions, especially on the underground engineering construction. The foundation and geological exploration technology currently used has great limitations. According to indoor analysis experiments, on-site drilling and sampling are mainly used. Therefore, it is necessary to innovate the survey plan in time and actively adopt contemporary science and technology to improve the requirements of modernization. Secondly, in terms of engineering planning, the selection of excellent cases from the engineering planning scheme formulated according to engineering experience is an important form adopted in the past planning of civil engineering. However, according to the scale expansion of civil engineering buildings, the level of planning and construction should be improved in time, and the theory and methods of systems engineering should be used to improve the planning. Now this idea has been realized. If the scale of civil engineering is too large, it will definitely cause sudden changes in the natural environment. Although these changes are beneficial, they will also cause harm. For example, agricultural production and ecological balance will lead to unnecessary troubles. The impact of these factors must be taken into account during planning. Finally, in terms of engineering design, engineering design mainly pursues economic, practical, safe, beautiful and other conditions. Through human efforts and innovation, the design will be more in line with actual standards. Now, for the research and analysis of the light value and load value of the material, the focus is on the scheme of using probability and statistics. For the analysis of structural dynamics, large structural deformation and material inelasticity, it is necessary to study the dispersion and statistical laws of ocean waves, seismic waves, wind power and other uses, to express in both time and space dimensions. Structural optimization and structural reliability limit state design method are both important contents of research and analysis, in which high-efficiency design and calculation methods of computer are also widely used.

#### **1.2 Problems existing in construction engineering management**

##### **1.2.1 The construction project management system is not perfect enough, and the degree of specialization is low**

At present, there are major problems in the construction industry that the construction engineering management system is not perfect and the degree of specialization is low. A complete set of construction engineering management system requires not only standardized and feasible institutional documents, but also a management person with

certain professional knowledge, and more importantly, a special management department. The combination of the three can form a basic set of Construction Engineering Management System.(Cai, 2015) But after investigation we found that a lot of construction enterprises due to the lack of related construction engineering management consciousness, in order to save manpower, material costs, to compress the number of enterprise construction management department and management personnel, not only affect the perfect construction engineering management system, but also will make the construction engineering quality cannot be reliable guarantee.The construction engineering management system needs management personnel with relevant professional knowledge to operate and control, but now there is a general lack of high-quality and high-professional compound management talents in construction enterprises, which makes the construction engineering management system not complete and difficult to implement and operate scientifically.(Yao, 2021)From the perspective of the whole construction industry, the construction industry model there are many loopholes and defects, because the current conventional industry model is responsible for the contracting work, construction enterprises is responsible for the interim construction command work, labor team is responsible for the late construction work, this mode makes the whole construction process is not perfect, lack of communication.(Yu, 2015) In addition, most of the basic construction tasks are implemented by the labor operation team. The labor operation team has problems such as large mobility, low professional degree and limited construction machinery, which will pull down the operation level of the whole construction industry model.

### **1.2.2 Project management is not standard**

In terms of construction project management, if the standardization is not achieved, the efficiency of the project will be slowed down. In order to improve various systems, it is necessary to continuously improve the operation of various projects. According to the current various operating entities, continue to improve project financing, construction management, loan repayment and other projects. The improvement of the system, at the same time, in accordance with the current rapid development of state-owned enterprises, in the current investment, continuous management of various projects, improvement of project efficiency, and promotion of various civil engineering construction projects to the greatest extent.

### **1.2.3 Construction engineering quality management is not in place**

The quality of the building construction project is an important indicator of whether the entire building is completed safely. It not only affects the safety, stability, and length of use of the entire building, but also affects whether people can use it normally in the future and whether it has a good sense of use. It is also an important indicator of the comprehensive benefit of the enterprise, which is related to the survival and development of the construction enterprise. As far as the current construction industry is concerned, such problems generally exist. The management of construction enterprise managers is lax, the change of enterprise management mechanism, and the decentralization of personnel, finance and other powers have greatly weakened the management of construction enterprises on their subcontracted projects. It is impossible to fundamentally and globally control the quality of the entire project.

### **1.3 Innovation mode of construction construction management**

With the continuous development of social economy, the construction industry is also constantly developing. In order to adapt to the development of the construction industry, construction enterprises are also constantly innovating new models of construction management, and applying this new mode of construction in the construction process, and through experiments, it has achieved good results. In order to carry out better

construction management work, construction enterprises can formulate a scientific and reasonable project management system according to the problems encountered by the construction industry in engineering construction, so as to better solve the problems in actual construction projects. When managing a project under construction, it is necessary to hire professional project management personnel with experience in project construction management to effectively manage the project. By formulating a professional, reasonable and effective new mode of project construction management, the construction project of project quality, project progress, project safety guarantee, project construction cost problems of reasonable and effective management. Through the application of the new engineering construction management mode in the engineering construction process, it plays an effective management role in improving the engineering work efficiency and saving the engineering construction cost. In the development of the society, the competition in the construction industry is very fierce. In order to develop, the construction enterprises constantly expand their own construction scale, but while expanding the scale of construction, there is no innovation in the construction management mode. The traditional construction management mode is no longer suitable for the sustainable development of the construction industry, and the traditional management mode can no longer meet the normal needs of the construction market. disuse. In order to adapt to the development of the times, improve the competitiveness of construction enterprises, absorb more professional construction talents and management talents, and enhance the strength of construction enterprises, it is necessary to carry out reasonable innovation in construction management. The new mode of construction management will greatly improve the competitiveness of construction enterprises through reasonable management of construction, so construction management will greatly promote the development of the construction industry.

#### **1.4 Necessity of innovation mode of construction management**

##### **1.4.1 Meet the inevitable requirements of scientific management**

Modern management emphasizes the efficiency and scientific management, especially for the construction industry, with the improvement of people's living standards, the requirements for construction quality are also getting higher and higher. In order to ensure the realization of the project objectives, construction enterprises need to actively innovate the project construction management mode and apply advanced management technology, which is in line with the requirements of scientific management.

##### **1.4.2 Meet the needs of domestic production development**

Construction industry is the pillar industry of China's national economy. The development of construction industry is of great significance to promoting the growth of national economy. At present, the competition in the construction market is becoming increasingly fierce. If the construction enterprises want to maximize the economic and social benefits, they need to actively innovate the management mode. The introduction of advanced management concepts and technical methods in the project construction management, in order to expand the strength of the construction enterprises, which has a positive significance for promoting the healthy development of the whole construction industry in China.

##### **1.4.3 An important way to optimize resource allocation**

Most construction management of traditional construction projects is extensive management, with a low level of resource allocation, serious waste of resources, human resources, material resources and financial resources have not been effectively allocated, and the efficiency of resource utilization is low. Therefore, construction enterprises need to actively cite innovative models to improve the fine level of project construction

management, optimize the resource allocation, and improve the utilization rate of resources, so as to improve the economic benefits.

## 2 Green construction management mode

In the process of current construction, the implementation of the green management concept is based on the construction, combined with effective management strategy for scientific control, to build the impact of the surrounding environment control to the minimum range, and effectively reduce the construction of resources, energy and materials, etc. The proposal and implementation of the green concept requires relevant construction personnel to take the interests of the public as the main core, and must not give up public interests due to the gain or loss of personal interests, and adhere to the principle of sustainable development to carry out effective management of traditional housing construction. Innovation and optimization, and then provide strong support for the realization of my country's strategic goals of energy saving, water saving and land saving. (Ye, 2016)

### 2.1 Green construction innovation management

Green building innovation management is a tactical support to promote the high-quality development of the future construction industry. The continuous development of advanced technologies and management models such as ultra-low energy consumption technology, prefabricated technology, intelligent integration technology, and "intelligence +" is an inevitable trend in the transformation and upgrading of the construction industry. Only through innovation and upgrading in technology and management can the quality of buildings be truly improved. , so as to promote the high-quality development of the future construction industry. Ultra-low energy technology. Through five key technical systems, such as non-transparent maintenance structure with high thermal insulation, high-efficiency energy-saving doors and windows, design and construction without thermal bridges, high air-tight building as a whole, and ultra-low energy consumption cold and heat exchange fresh air heat recovery system, to minimize the cost Building heating and cooling needs, and make full use of renewable energy, so that the building has the advantages of energy saving, comfort, environmental protection, etc., and create a higher quality building quality. Using industrial production mode, building structural components, parts and parts through factory standardization, assembly line production and transportation to the site through reliable connection; Compared with traditional cast-in-place operation, it has five advantages of resource saving, excellent quality, diverse styles, accelerated construction period and controllable cost. Intelligent integration technology. Will ultra-low energy consumption technology and prefabricated building depth integration, through factory production ultra low energy consumption building parts, in the field assembly way, make the building to meet the requirements of prefabricated and ultra low energy consumption, the technology the combination of modernization and high quality building quality, is a breakthrough attempt of innovation management. "Intelligent +" change leads. "Intelligent +" is supported by cutting-edge information technologies such as the Industrial Internet and 5G to create an era of "high bandwidth, low latency, and large connectivity", and comprehensively empower and upgrade traditional industries to improve technical equipment, improve production efficiency, The goal of optimizing the manufacturing mode and reconstructing the whole process of research, production and sales.

### 2.2 The necessity for green construction management

#### 2.2.1 To ensure national energy security

Under the background of the rapid development of science and technology, my country has transformed from the traditional industrial age to the information age.

However, in the process of this transformation, due to the large-scale construction and development of the industrial age, my country's energy consumption is relatively large, and my country's ecological environment is also affected to a certain extent. Up to now, the ills left over from the industrial age have gradually emerged.(Wei, 2019) Non-renewable resources such as coal and oil have been consumed in large quantities. The rampant construction of industrial factories has aggravated the smog problem in my country, which has a serious impact on the personal safety of the people. As a popular construction business, housing construction has caused a lot of waste of resources in the process of continuous development. In addition, the energy utilization rate has been unsatisfactory. It is necessary to ensure the safe use of national energy.(Tian, 2016)

### **2.2.2 Enhance the competitiveness of enterprises**

As an innovation of the traditional housing construction management mode, the green construction management mode has made great progress both in terms of technology, concept and system.Under the background of economic globalization development, the housing construction project has been gradually carried out in line with the world.Therefore, the green management mode replaces the traditional extensive management mode, which can effectively improve the competitiveness of the housing construction enterprises themselves, help the housing construction enterprises to stand firm in the fierce competitive market, enhance their own core competitiveness, and lay a good foundation for the sustainable development of the enterprises themselves.

## **RESEARCH METHODOLOGY**

### **Innovative management strategy of construction engineering under the green construction management mode**

#### **3.1 Introduce management talents and improve the talent reserve**

Construction engineering management major has the dual attributes of management and engineering. Construction engineering management talents are compound talents. Due to the complexity of construction engineering management, good construction engineering management talents are hard to find. If construction companies want to build innovative and efficient buildings Project management system, construction project management personnel is one of the essential key factors. Construction enterprises should introduce construction engineering management talents and improve the enterprise's talent pool. In actual work, it is very difficult to introduce excellent management talents who are suitable for the enterprise. Therefore, construction enterprises must have a long-term strategic vision, establish contacts with universities across the country and even the world, and establish exchanges with construction engineering management majors platform. (Xu, 2016) Construction enterprises should pay attention to the talent training of major universities at any time, and select and introduce talents suitable for their own enterprises. At the same time, enterprises should establish a talent reserve mechanism to lay a solid talent foundation for the further development of enterprises. For the cultivation of talents, the company should not only introduce from the outside, but also cultivate and select from the inside.

#### **3.2 Improve the construction quality system**

If you want to improve the overall construction quality of civil engineering, it is necessary to optimize the construction quality system construction during the construction period.According to the construction and improvement period, all links of civil engineering need to be strictly controlled, mainly for the construction key points and difficult problems of civil engineering.The construction quality system of civil engineering should be optimized to guide the overall construction work of civil

engineering. At the same time, the quality of civil engineering construction can also be evaluated. Therefore, the formulation of a perfect civil engineering construction project management system is an important measure to maintain the effective method of civil engineering construction project management work.

### **3.3 Application of Information Management Technology in Construction Project Management**

Construction project management is complex and changeable, and the vertical and horizontal flow of talents is also a common thing. In order to improve construction project management, operate the management model efficiently, and carry out the rapid dissemination of information, the use of information technology in management is a must in the current information age. One less management tool. The use of information technology in construction project management should keep up with the pace of the times, establish a cooperation mechanism with software research and development enterprises, and design and develop a set of information management systems suitable for the enterprise. In specific work, construction enterprises should improve the construction engineering information management software, maintain and upgrade the company's information management system from time to time, and carry out their own enterprise cloud construction. In the research and development and establishment of information systems, construction enterprises must cooperate with software research and development companies, communicate with software research and development companies, and simulate the use of new information systems to ensure that the application of software is in line with enterprise management. (Zou, 2020)

### **3.4 Standardize the implementation of safety management work and strengthen the technical control and supervision of the construction site**

If you want to improve the quality of the overall construction of civil engineering, it is necessary to improve and implement safety management. Civil engineering construction will use a lot of mechanical equipment, which will affect the safety of life and property of construction workers during the heating period. Therefore, it is necessary to improve the safety management work to discover and deal with the hidden safety hazards during construction in time. Strengthen the technical control and supervision of civil engineering construction sites. During the construction of civil engineering, the construction quality of the construction site has a great influence on the overall construction quality of the civil engineering. Therefore, the construction technology used on the construction site should be strictly controlled. For example, supervise construction technicians and quality inspectors, discover and solve problems in technical aspects in a timely manner, and reduce their impact on the overall quality of civil engineering.

### **3.5 Establish the awareness of green construction management**

As an important part of construction engineering, the quality of housing construction is related to the safety of people and property, and also has a certain impact on the ecological environment. In the current process of housing construction management, restricted by a variety of factors, the green management concept has not been comprehensively and widely promoted and implemented. Some of the construction management personnel and construction personnel in the housing construction enterprises still focus on their own interests, and do not realize the importance of green management mode. On the basis of the impact of interests, the construction is only carried out according to the construction drawings and the contract. It does not realize the seriousness of the problem and has a certain impact on the sustainable development of the enterprise itself. It is completely impossible to clearly realize that the green management mode can enhance the competitiveness of the enterprise itself. Therefore, in the construction process, energy saving, new technology, new technology and environmental protection are not actively

implemented. And want to change the current situation, first need to let the relevant management personnel and construction personnel realize the importance of green management, establish the consciousness of green construction, management, need to understand about green construction for a short time without any economic benefits, cannot be limited to now, can not own interests as the center, need to give priority to with social public interests, firm, continuous investment.

## CONCLUSION

Construction project management is the top priority of construction enterprises. If construction enterprises want to occupy a place in the fierce competition, they must keep pace with the times and innovate the construction project management mode. To innovate the construction project management model, first of all, enterprise leaders should attach importance to construction project management, realize the importance of construction project management, update and learn new management concepts in real time, introduce new management talents, and establish a talent reserve mechanism for the long-term development of the company. Develop a solid talent base. At the same time, the implementation of green management mode in housing construction has an important influence and effect on reducing energy consumption and promoting the sustainable development of the country. Therefore, enterprises need to pay attention to the implementation of the green management model, combine effective methods to improve the effectiveness of the implementation of the green management model, adjust the management organization according to the development of the actual situation, let the engineering project and the management organization match, so that the project construction can be carried out smoothly, Construction enterprises should also use information management methods to establish their own cloud construction to make the construction project management mode more efficient.

## REFERENCES

- Ma Xuan, Zhang Yifan. Based on provincial and municipal research [J]. *Planner*, 2016,32 (3): 34-41.
- Xu Minqiang. Research on Construction Project Management Based on Intelligent Building [J]. *Building Materials and Decoration*, 2016 (19).
- Wu Zhigang. Main Factors and Countermeasures Discussion on Construction Engineering Management [J]. *Building Materials and Decoration*, 2018 (49): 209-210.
- Wu Xiaohang, Qian Hangwei. Analysis of the existing problems in Civil Engineering Construction Management [J]. *Chinese dwellings (journal)*, 2013 (07): 222-223.
- Yu Jun. Exploration Analysis Based on Civil Engineering Construction Management Problems [J]. *Enterprise Guide*, 2011 (10): 62-63.
- Wei Ximei. Analysis of the Existing Problems in Civil Engineering Construction Management [J]. *Modern Property (Shanghai Ten)*, 2011 (09): 124-125.
- Ye Qiwen. Thinking on Engineering Construction Management Innovation under the Concept of Green Construction Management [J]. *Building Materials and Decoration*, 2016 (14).
- Tian Lei. Discuss how to innovate construction construction management based on the concept of green construction management [J]. *The World of Labor Security*, 2016 (15).

- Li Hongli. The Application and Development of Innovative Mode in Construction Engineering Management [J]. Jiangxi Building materials, 2016,14:280~281.
- Long Jianghe. The Application and Development of Innovative Mode in Construction Engineering Management [J]. Door and Windows, 2015,04:78 + 80.
- Chen Shujie. Analysis and control strategy of construction Engineering management status quo [J]. Engineering technology: Digest edition, 2016 (10):176.
- Cai Xiaoping. On strengthening the construction cost management and improving the economic benefit of the project [J]. Shang, 2015 (41):7~8.
- Yu Wenhui. Explore the dynamic management and control measures of construction engineering cost [J]. Construction Engineering Technology and Design, 2015 (33):107.
- Li Bomeng. Analysis of the key points of technical management of large public construction [J]. Engineering technology: Abstract version, 2016 (2):238.
- Wang Fang. Construction engineering cost management and effective control analysis under the new situation [J]. Theoretical Research on Urban Construction: Electronic Edition, 2015 (20):241.
- Du Peng, Zhang Yue. Problems existing in construction project cost management and strengthening measures [J]. Gas and Heat, 2016 (7):23~24.
- Yan Fei. Research on Green Construction Technology in Building Decoration Engineering [J]. Building materials and decoration, 2020 (15): 44-44.
- Wang Yuxiu. Research on Green Construction Technology in Building Decoration Engineering [J]. Engineering Technology Research, 2020,5 (18): 57-58.
- Gao Jun. Research on Green Construction Management of Building Decoration Engineering [J]. China Building Decoration, 2020 (7): 114-115.
- Yao Jianxin. Risk Analysis and Management Exploration of Construction Engineering Design [J]. Real Estate World, 2021 (01): 13-15.
- Zou Qianyi. Research on the Characteristics and Management of Building Fine Decoration Engineering [J]. Real Estate World, 2021 (01): 120-122.
- Huang Weiyuan. Problems in architectural design management and solutions [J]. Jiangxi Building materials, 2020 (12): 74 + 76.
- Zou construction. Analysis on the Application of BIM technology in Construction Engineering Design Management [J]. China informatization, 2020 (12): 82-83.
- Zhang Tingting. Research on the Application of Green Building Materials in Civil Engineering Construction [J]. Building Materials and Decoration, 2018 (33): 55-56.
- Shi Wang Fang. The Application of Green Building Materials in Civil Engineering [J]. Jiangxi Building Materials, 2018 (6): 39,41.
- Wei Rongxiang. Application Analysis of energy saving green Building Materials in Engineering [J]. Standardization in China, 2019 (8): 29-30.
- Xu Junfa. A Brief Discussion on the Application of Green Construction Technology in Building Decoration Engineering [J]. Engineering Technology Research (Encyclopedia), 2020,2 (2): 3-3.
- Wei Rongxiang. Application Analysis of energy saving green Building Materials in Engineering [J]. Standardization in China, 2019 (8): 29-30.
- Tong Shun. Research on the Application of Green Building Materials in Civil Engineering Construction [J]. Construction Engineering Technology and Design, 2019 (36): 4161.

# THE DEVELOPMENT OVERVIEW OF CROSS-BORDER E-COMMERCE IN CHINA

JIE LI<sup>1\*</sup>, LILI ZHANG<sup>2</sup>

<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

<sup>2</sup>*Chulalongkorn University, Thailand*

*Email: 1427631215@qq.com*

## ABSTRACT

With the development of information technology, international trade is showing a trend of diversification, simplification, and flattening, and products such as cross-border E-commerce are typical representatives. As an emerging industry, it has developed rapidly and energetic, which has brought convenience to the export of many small and medium-sized enterprises, and also provides an important channel for the promotion of overseas brands of "products made in China". After the global economic downturn caused by the COVID19, the cross-border e-commerce model has become a new driving force for the development of domestic enterprise trade and plays an important role in the development of China's import and export trade. This article analyzes the current development of China's cross-border e-commerce, its development history and the implementation of relevant national policies, so as to analyze the future development trend of China's cross-border e-commerce and make a summary.

**Keywords:** cross border e-commerce, import and export trade, made in China, development trend.

## INTRODUCTION

### 1. Development statuses of Cross Border E-commerce in China

Cross-border e-commerce, as the technological basis for promoting economic integration and trade globalization, has very important strategic significance. Not only has it broken through the barriers between countries and brought international trade to borderless trade, it is also causing a huge change in the world economy and trade. For enterprises, the open, multi-dimensional, and three-dimensional multilateral economic and trade cooperation model constructed by cross-border e-commerce has greatly broadened the path to enter the international market, greatly promoted the optimal allocation of multilateral resources and the mutual benefit and win-win situation among enterprises; for consumption For consumers, cross-border e-commerce makes it very easy for them to obtain information from other countries and buy cheap and good quality goods.

Cross-border e-commerce is another form of online trade derived from e-commerce. It refers to transaction entities belonging to different countries or regions, through the e-commerce platform to complete transactions, perform payment and settlement, and deliver goods through cross-border logistics. An international business

activity of transaction(鲁丹萍, 2015). The biggest difference between cross-border e-commerce and traditional international trade is that it can rely on the Internet to break through the limitations of space and geography, and achieve zero-distance communication and transactions between buyers and sellers (Kim et al.,2017). It is the product of economic globalization and informatization to a certain stage. Cross-border e-commerce is sweeping the world, rewriting the traditional international trade pattern. On the one hand, the emerging middle class, as consumers, has a rising demand for foreign high-quality goods, providing a steady stream of power to the supply side. On the other hand, with the continuous improvement of cross-border e-commerce infrastructure and the support of national policies, more and more small and medium-sized enterprises are involved in cross-border e-commerce, becoming an important force on the supply side and the demand side.

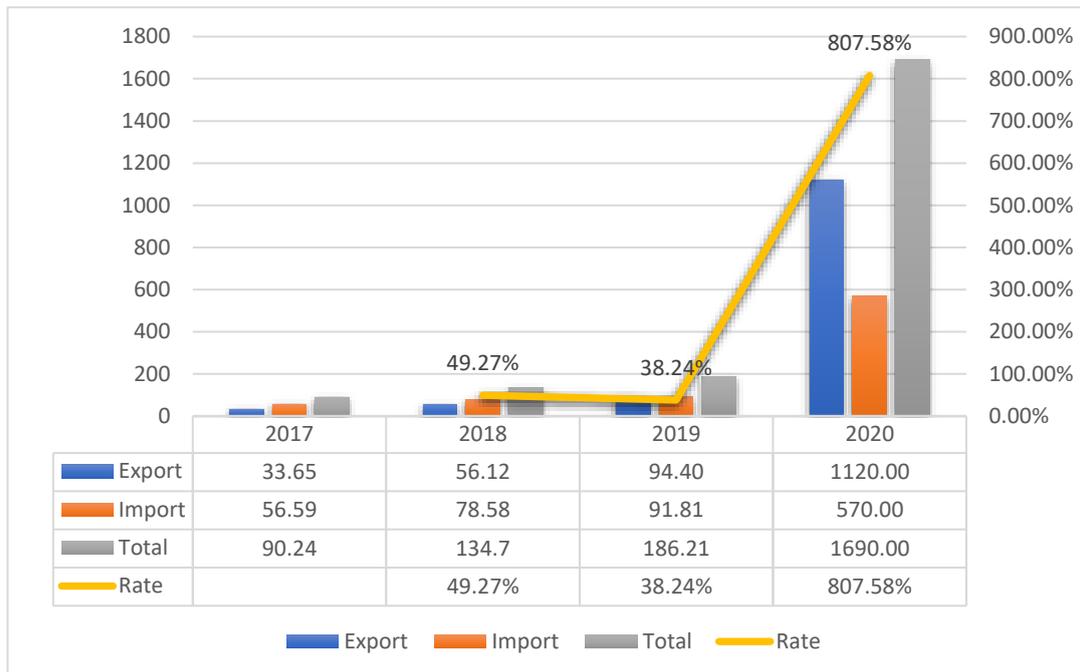
The scale of cross-border e-commerce transactions has been expanding year by year. In the past ten years, China's import and export transactions and cross-border e-commerce transactions have shown a good momentum of development (魏利平等, 2019). 曲维玺 et al. (2021) research shows that from 2016 to 2019, China's cross-border e-commerce retail import and export scale continued to grow rapidly, with a compound annual growth rate of about 55%. Among them, the annual growth rate of imports was in line with the annual growth rate of about 52%, and the compound annual growth rate of exports was about 52%. At 58%, cross-border e-commerce has become increasingly prominent as an engine of foreign trade growth.

Since the outbreak of the COVID19 at the end of 2019, there have been confirmed cases in 216 countries and regions around the world. As of December 15, 2020, there have been 271,601,005 confirmed cases of the new crown pneumonia worldwide. With the spread and variation of the epidemic on a global scale, there are other uncertain factors. Many foreign companies have cancelled the original planned orders, or delayed the originally signed contracts or even cancelled the orders. This has a great impact on many foreign trade exports. On December 14, 2021, WHO will hold a routine press conference for new coronary pneumonia. WHO Director-General Tedros Adhanom Ghebreyesus said that Omi Kiron strain has appeared in 77 countries and regions around the world. In the face of a new round of the epidemic, some countries have once again announced their state closures. Many countries require home isolation, etc., which has led to a decline in consumer demand and overall economic development has shown a downward trend.

Although the foreign trade situation is grim, there are also "turning opportunities" in the "crisis". Only by seeing the situation clearly and finding a breakthrough can the crisis turn into an opportunity (张芳 et al., 2020). Cross-border e-commerce has become an important means for Chinese enterprises to carry out international trade, and has become a driving force for the steady growth and structural adjustment of my country's foreign trade (杨坚争 et al.,2014). Statistics from the Ministry of Commerce show that in 2020, China's total import and export value of goods trade is 32.16 trillion yuan, an increase of 1.9% over 2019. Among them, exports were 17.93 trillion yuan, an increase of 4%; imports were 14.23 trillion yuan, a decrease of 0.7%; the trade surplus was 3.7 trillion yuan, an increase of 27.4%. Cross-border e-commerce imports and exports reached 1.69 trillion yuan, accounting for 5.25% of total international trade, of which exports were 1.12 trillion yuan and imports were 0.57 trillion yuan. In figure 1, shows that cross border e-commerce has maintained rapid growth and has become a new driving force for China's economic development and international trade growth.

Figure 1: 2017-2020 the total export and import of cross border E-commerce

Units: billion yuan



Source: China customs statistics

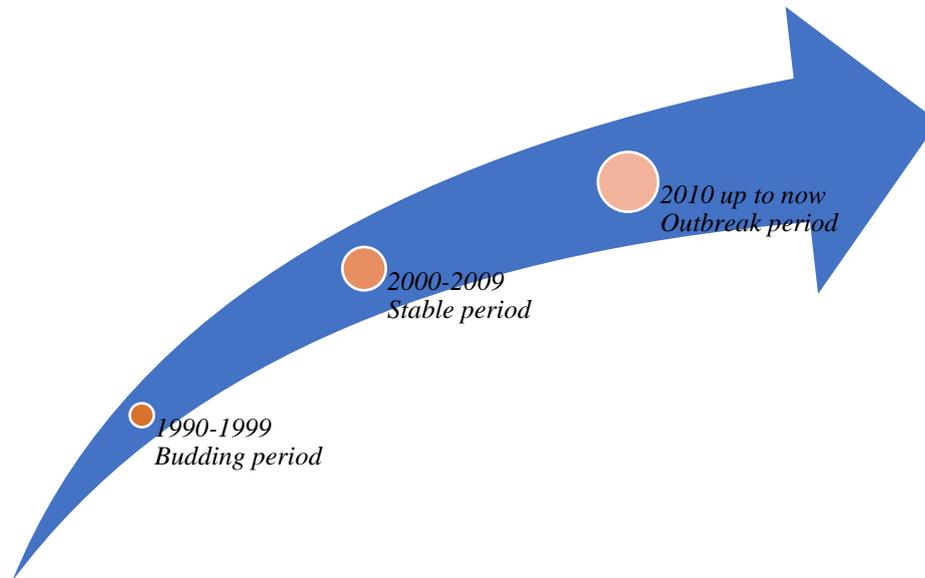
Since 2016, China has signed e-commerce cooperation memorandums with 22 countries, cooperating in policy coordination, personnel training, local cooperation, and public-private dialogues to create a good international environment for cross-border e-commerce. Establish domestic and foreign enterprises to jointly build a cross-border e-commerce B2B trading platform and a B2C trading platform dominated by regional specialty products, and jointly build a multi-language cross-border e-commerce trading platform.

Domestic cross-border e-commerce platforms such as Alibaba International Station, Alibaba AliExpress, Tmall Global, Dunhuang.com and JD are well-known globally, with business covering more than 200 countries and regions, in Europe, Southeast Asia, Russia and other countries. And the region occupies an important market position. It is worth mentioning that as of the third quarter of 2021, as the first business of Alibaba Group, the number of daily active buyers of Ali International Station, which is mainly B2B business, is about 2,600 ten thousand. Chinese cross-border e-commerce companies continue to expand the scale of overseas investment and mergers and acquisitions. Overseas investment and mergers in developed countries and regions are mainly concentrated in the cooperation and introduction of innovative technologies, and are distributed in cutting-edge technology fields such as big data analysis, artificial intelligence, cloud computing, and information security. ; In developing countries and regions, it is mainly concentrated in fields such as trading platforms, logistics payments and local life. While improving local logistics and payment levels, it also enhances the localized operating capabilities and market perception capabilities of Chinese companies, and promotes the integration of business models and local culture.

## 2. The development history of cross border E-commerce

From the different steps of e-commerce's influence on China's international trade development, the course of China's cross border E-commerce is divided into three main stages, in figure 2.

Figure 2: Three main stages of Cross border E-commerce in China



The first stage is the budding period from 1990 to 1999. Among them, from 1993 to 1998, through the reform and upgrading of customs and taxation, a solid foundation was laid for the development of e-commerce (林菡密 et al., 2019). Since 2000, cross-border e-commerce has started in China, and some companies have tried to use e-commerce marketing methods to carry out export trade activities. The model of displaying products on online platforms and then conducting offline transactions. The most typical online business platform is the Alibaba International Station established by Alibaba Group. Enterprises expand the visibility and influence of enterprises and products through their displays on the Internet and cross-border e-commerce platforms, thereby increasing customer stickiness and promoting the sales scale of enterprises. However, during this period, due to the underdeveloped and imperfect technology of online transaction and settlement, the cross-border e-commerce platform at that time basically did not involve any direct transaction links. In the whole process, it only acts as a place to provide buyers and sellers with supply and demand information, and the profit model is relatively simple, mainly based on the membership club paid by the enterprise.

During this period, the more prominent e-commerce platform. In addition to the Alibaba International Station established in 1999, the world's largest B2B cross-border e-commerce platform, there are also China's first vertical B2B website established in December 1997, China Chemical Network, and the Made in China established in 1996 Net and so on.

The second stage is the stable period from 2000-2009. Cross-border e-commerce originated from a form of "small trade" international trade (阿里巴巴(中国)网络科技有限公司., 2019). Around 2000, a small number of Chinese people began to try cross-border e-commerce transaction models on foreign platforms such as eBay and Amazon, but they did not form a scale.

With the continuous development and popularization of the Internet, the gradual improvement of the logistics system and online transaction settlement technology, and the influence of domestic e-commerce platforms such as Taobao, more and more entrepreneurs have seen the development of online transaction models prospect. Cross-border e-commerce brings together multiple products of multiple merchants on an Internet platform, provides differentiated products for buyers to choose, greatly reduces search costs (Lendle et al., 2016), effectively helps companies integrate resources and reduce product sales. The links required in the process, providing customers with high-quality and low-cost products, personalized customized services, convenient and fast communication and other new features quickly attracted a large number of users. At the same time, due to the expansion of the platform's business scope, the platform's profit model is no longer limited to membership fees paid by members. The platform's new revenue channels include a certain percentage of transaction commissions based on the company's transaction volume; the second is the introduction of more value-added services for sales promotion and payment logistics. Only high-level members on the platform or paid special service fees. Enterprises can enjoy the corresponding services. Initially, related search and multi-ranking functions such as keyword clicks and through trains were added to the promotion and marketing to benefit.

Dhgate group was established in Beijing in 2004, aiming to use Internet technology to serve traditional foreign trade companies and foreign trade entrepreneurs, hoping to open up an online "Silk Road" in this way (马述忠 et al., 2017). It is different from the positioning of Alibaba's Chinese supplier online yellow pages. Dunhuang.com focuses on online transactions between buyers and sellers. Most of the transactions that occur on Dunhuang.com are small B2B trades. In 2007, eBay (China) went online and the B2C model began to develop. In the same year, Lanting Jishi was established. Lanting Jishi is a B2C platform that integrates domestic supply chains and sells abroad under the name of Lanting Jishi. The global financial crisis in 2008 caused a sharp decline in large-scale cross-border market procurement (钊阳 et al., 2019). More and more importers began to try small-amount, multi-frequency forms to avoid risks. To a certain extent, this also stimulated and achieved success. The B2C industry of China's foreign trade. During this period, a number of well-known Chinese cross-border e-commerce platforms appeared in China, such as Lanting Jishi, Dalong net, Milan net, and DX.

AliExpress was established in 2009. AliExpress uses B2C and C2C as the main cross-border trade models. With the development of AliExpress, domestic cross-border e-commerce has begun to rise, and many small and medium-sized sellers have begun to join this team; In the past few years, AliExpress has quickly surpassed other platforms to become the most concentrated cross-border e-commerce platform for domestic sellers.

The third stage is the outbreak period from 2010 up to now. With the continuous expansion of the scale of transactions, cross-border e-commerce has attracted great attention from the party and the state. A number of documents issued by the State Council have repeatedly emphasized encouragement and support for cross-border e-commerce. With development, the central and local governments have issued a series of supporting policies, and more and more laws and regulations on cross-border e-commerce have been promulgated and implemented.

In recent years, the cross-border e-commerce industry has developed rapidly in China, and more and more companies are aware of the business opportunities in this industry and the promising future development prospects (易传识网络科技有限公司 etc., 2017). As the number of sellers engaged in cross-border e-commerce in China

continues to increase, sellers are also constantly trying new platforms and expanding new channels, from Chinese cross-border e-commerce platforms to foreign e-commerce platforms such as Amazon and eBay, which were added in 2013 Wish platform. The cross-border e-commerce industry is booming, and capital is constantly pouring in. As a result, channels and platforms continue to increase. Intensified competition has also promoted the innovation of products and business models. For example: due to different regional languages, cultures and other factors, it is difficult for buyers and sellers to communicate in traditional international trade, and transaction costs are high (Melitz, 2008). The multi-language service function of the cross-border e-commerce platform reduces communication costs and effectively improves transaction efficiency. Due to factors such as trust and transaction contracts, lack of a sense of transaction security and other issues, in traditional trade, due to the long distance between the transaction parties, the buyer cannot effectively supervise the seller, and information asymmetry is more common. And many mechanism designs in cross-border e-commerce, such as store credit scoring mechanism, product photos and related information disclosure mechanism, user rating and comment mechanism, etc. provide buyers with sufficient transaction information, reduce the risk of adverse selection in transactions, and thereby Greatly reduced contract costs (Lewis, 2011). With the rapid development of the industry and the gradual maturity of capital operations, more and more cross-border e-commerce platforms have been used free of charge until now they are required to pay a certain platform usage fee. In 2016, Alibaba AliExpress began to collect annual fees from merchants. In 2017, the wish platform charged merchants with deposits ranging from US\$2,000. In 2019, Dunhuang.com platform charged all merchants with a certain standard annual fee, half-year fee or quarterly fee.

While the B2C model is developing rapidly, the cross-border e-commerce C2C model that evolved from the original overseas purchasing agent has rapidly prevailed and has gradually become the mainstream cross-border e-commerce model. In the following years, due to factors such as uneven product quality and insufficient after-sales service guarantee, the traditional C2C platform gradually failed to meet the needs of consumers. Some large-scale B2C platforms gradually acquired small C2C platforms and became the most important model. After 2015, with the innovative application of "Internet +", the cross-border e-commerce B2B2C model began to be established, and the goods were transported in batches to domestic bonded warehouses, and postal taxes were paid. This mode reduces transportation costs and saves delivery time. Another new model of cross-border e-commerce, O2O, is to build physical experience stores offline to combine online shopping and offline experience to improve customer user experience. The combination of cross-border e-commerce and social platforms has developed into a "social network + cross-border e-commerce" model. Shanghai Xiaohongshu operates online virtual community forums, cultivates customer groups, uses big data technology to discover hot commodities discussed in the community, and precisely locates imported commodity varieties. In 2018, new e-commerce models and business formats, such as social e-commerce, mini programs, and short videos, achieved rapid development. Statistics from relevant research institutions show that China's social e-commerce monthly active users have reached 170 million people, effectively meeting the multi-level and diversified needs of consumers, and playing an important role in stimulating consumption potential in small and medium cities and rural areas.

Three obvious development characteristics are reflected in this stage. The first is the rapid development of China's cross-border retail import business, which is also the mainstream business of cross-border e-commerce. China's well-known platforms such as

Tmall Global, JD Global Shopping, NetEase Koala, Jumei Youpin, Yang Dock, No. 8 Platforms such as stores have entered people's daily lives, and consumers can easily purchase products from different countries and regions. The second is that some large companies are not satisfied with displaying products on third-party platforms, but use self-built sites or vertical sales platforms to further promote their companies and products. More and more large enterprises have joined the business of cross-border e-commerce, making online large-scale orders continue to increase, and therefore the scale of cross-border B2B and M2B transactions is also expanding year by year. Third, the production plans of foreign trade companies have changed to respond to the ever-increasing source of customers and the increasingly complex individual needs of customers.

### **3. Overview of cross-border e-commerce policy development**

For a long period of time, China's cross-border e-commerce has shown a state of barbaric growth. During this period, some companies have also carried out violations of laws and regulations, such as infringement and manufacturing of counterfeit goods, for profit. This not only harms The interests of enterprises also harm the interests of the country. After foreign buyers receive such fake and counterfeit products, they will inevitably have a certain ambiguity about Chinese manufacturing. In December 2012, the General Administration of Customs and the Development and Reform Commission held a deployment meeting for the pilot work of China's cross-border trade e-commerce service (李鹏博,2016). The National Development and Reform Commission issued the "Notice on Organizing and Launching Special E-commerce Projects in National E-commerce Demonstration Cities", which means that China's cross-border e-commerce pilot program has entered the agenda, and 2012 is also known as the first year of China's cross-border e-commerce pilot program. Since then, China has successively introduced many cross-border e-commerce policies to encourage the orderly development of cross-border e-commerce compliance. With the development of cross-border e-commerce, policies have been followed up, from the initial cross-border e-commerce pilot policy, to retail import and export, bonded import policies, to various facilitation measures, and then to cross-border e-commerce. The development of new trade platforms, policy promulgation and the development of cross-border e-commerce actually promote and promote each other.

In 2013, under the promotion of the Shanghai government and the Hangzhou government, a cross-border e-commerce pilot area was established. The State Administration of Foreign Exchange has determined the cross-border e-commerce foreign exchange business pilot (Document 5), and the General Office of the State Council, the Ministry of Finance, and the Ministry of Commerce also proposed The relevant policies for cross-border e-commerce retail import and export have been introduced to enable localities to actively promote the innovative development of cross-border e-commerce, and provide necessary policy and financial support for production enterprises and foreign trade enterprises, especially small and medium-sized enterprises to use cross-border e-commerce to carry out foreign trade. Encourage e-commerce companies to actively expand abroad.

In 2014, the scale of cross-border e-commerce became larger and larger. The General Office of the State Council and the General Administration of Customs successively promulgated the "Opinions on Supporting the Stable Growth of Foreign Trade" and "Measures on Supporting the Stable Growth of Foreign Trade" to promote cross-border e-commerce trade. Facilitation, and began to support the development of new cross-border e-commerce platforms. In 2014, the General Administration of Customs

began a policy attempt on the supervision methods and procedures of cross-border e-commerce. Its Circular 56 "Announcement on the Supervision of Cross-border E-commerce Import and Export Goods and Articles" clarified that cross-border e-commerce The supervision process of commercial inbound and outbound goods. With the advent of the "Internet +" era in 2015, cross-border e-commerce has already stood on the cusp of the capital market. With the support of national policies, the development of cross-border e-commerce will usher in an unprecedented financing environment. The number of cross-border e-commerce companies nationwide has increased to more than 5,000. "Opinions", replacing the previous No.5 document to expand the foreign exchange business pilot to the whole country, facilitating the cross-border business of cross-border e-commerce enterprises across the country. It is worth mentioning that the theme of cross-border e-commerce is sought after by the capital market. After a long period of exploration, 2015 finally ushered in an explosion. For example, Ocean Terminal received US\$100 million in Series B financing, Street Mi, Xiaohongshu, etc. have successively completed millions and tens of millions of US dollars in financing, and Baidu led the US\$150 million in Series D financing of MiYA.

At the same time, my country continues to support the development of new trade formats and platforms, and actively cooperates to make it a modern logistics system. The State Council's "Several Opinions on Improving Port Work and Supporting Foreign Trade Development" mentioned that it supports the construction of comprehensive cross-border e-commerce pilot zones. After gaining experience, gradually expand the scope of comprehensive pilots, and rely on the advantages of ports to build special customs supervision areas and border economic cooperation. Promote logistics cooperation and linkage development between inland and coastal border ports, develop international logistics, and build a modern logistics system integrating warehousing, transportation and processing. In addition, China has begun to pay attention to cross-border e-commerce services such as logistics services. The State Council's "Several Opinions on Promoting the Development of the Express Industry" (Circular 61) mentions that express companies are encouraged to develop cross-border e-commerce express delivery services, to increase services for express companies to "go global", and to build international express delivery in key port cities Center, exploring the establishment of "overseas warehouses." Encourage the traditional postal industry to further accelerate its transformation and development, support postal companies and express delivery companies to innovate cooperation models, make full use of the advantages of existing postal outlets, and improve the efficiency of postal infrastructure utilization.

At the beginning of 2016, the State Council's "Approval on Approving the Establishment of Comprehensive Cross-border E-commerce Pilot Zones in 12 Cities including Tianjin" stated that it agreed to establish 12 comprehensive cross-border e-commerce pilot zones. 1+12 comprehensive pilot zones mean that China wants to On the basis of the previous success of Hangzhou, we must build a complete industrial chain and ecological chain of cross-border e-commerce, gradually form a set of management systems and rules that adapt to and lead the development of cross-border e-commerce across the country, and promote the acceleration of cross-border e-commerce in China developing.

In contrast to the further promotion of cross-border e-commerce, various regulatory policies have been introduced. Previously, due to policy loopholes, such as the most famous "cargo unpacking and transportation" incident, it was extremely detrimental to the orderly and normal development of cross-border e-commerce. Especially in April

2016, the three ministries jointly issued the "Notice on Cross-border E-commerce Retail Import Tax Policy", and after that, 11 ministries jointly issued the "Announcement on the Announcement of the List of Cross-border E-commerce Retail Import Commodities." The new tax policy and the release of the positive list have had a great impact on cross-border e-commerce, especially related companies. Taking Zhengzhou Comprehensive Pilot Zone as an example, the number of front-line employees of e-commerce companies in the zone has dropped sharply from the highest number of 6,000 before the New Deal to about 700, and the packaging lines of large companies have been reduced from 4 to 1, and small companies have basically stopped working. , Warehousing, and transportation workers are in a semi-closed state, and the entire comprehensive test area has become extremely depressed. Based on the strong response brought about by the policy, the General Administration of Customs announced in May 2016 in the "Notice of the General Administration of Customs on Issues Concerning the Implementation of the New Supervisory Requirements for Cross-border E-commerce Retail Imports" that the new cross-border policy has been suspended for one year Implementation, the deadline is May 11, 2017, giving cross-border e-commerce companies and subsequent policy releases an opportunity to adjust.

Since November 2018, relevant national ministries and commissions have fully taken into account the actual development characteristics and trends of cross-border e-commerce, and have issued a series of cross-border e-commerce related policies to gradually improve the regulatory system. In terms of supervision methods, cross-border e-commerce retail imported goods are supervised as personal items, and the positive list has been adjusted and expanded, and the annual limit (adjusted from RMB 20,000 to RMB 26,000) and single limit (single transaction) No more than RMB 2,000 per order). In terms of taxation, policies such as non-voucher exemption for cross-border e-commerce retail export value-added tax, and income tax verification and collection, which are generally applicable to all comprehensive test zones, have been introduced, which further simplifies the elements of declaration. In terms of payment and settlement, the restrictions on the scope of foreign exchange business of payment institutions have been relaxed. In terms of improving supporting services, an international mail exchange bureau was added and a mail tracking and query system was established.

All cross-border e-commerce comprehensive pilot zones have actively innovated in customs clearance, taxation, foreign exchange, credit construction, risk prevention and control, etc., the level of trade facilitation has been continuously improved, and the development environment of cross-border e-commerce has been improving day by day. Information sharing is the basis of cross-border e-commerce collaborative supervision. The "single window" of international trade has realized the docking of information systems among more than 20 departments including customs, taxation, foreign exchange, industry and commerce, and public security. The integration of the cross-border e-commerce integrated service platform and the "single window" of international trade has promoted the integration and intelligentization of cross-border e-commerce customs clearance.

The policy adjustment is to better bring a better atmosphere to the development of cross-border e-commerce in China. The relevant documents mentioned above are mainly for customs clearance, supervision, and supervision due to the differences between cross-border e-commerce and traditional trade. Issues such as taxation are trying to remove obstacles to the development of cross-border e-commerce. Optimizing and improving

cross-border e-commerce customs clearance and taxation policies has always been the focus of various documents.

#### **4. The development trend of China's cross-border e-commerce**

After years of rapid development, China's cross-border e-commerce has entered a new stage of development in terms of scale and efficiency. Capital, brand, technology, data, new business formats, new models, and regional e-commerce have become popular keywords. Cross-border e-commerce thinking will change from selling thinking to marketing thinking, and the competition of cross-border e-commerce will become more intense. According to the current enterprise survey and research, cross-border e-commerce companies will compete in areas such as brand strategy, social e-commerce, refined management, data operations, operation models, and overseas warehouse layout in the future.

##### **(1) Cross-border brand creation has become a new profit model**

As cross-border e-commerce enters the Red Sea market, e-commerce companies are facing a reshuffle. As consumption upgrades and marketing strategies such as price and online promotion are becoming popular, companies will pay more attention to research on consumer loyalty(李琦,2018). Cross-border e-commerce companies benefit most from well-known brands, and what cross-border e-commerce companies finally compete for is brand resources and brand value. In the future, only with a good brand, can e-commerce companies become bigger and stronger, and will not be eliminated in the fierce competition. Alibaba CEO Zhang Yong announced at the second cross-border e-commerce summit that in the future, it will help 100 Chinese brands to enter the overseas market, from "Made in China" to "Created in China", and finally to "Chinese brands". However, the creation of a cross-border brand is not an easy task. Practices in many countries have proved that a successful cross-border e-commerce brand must be integrated with mainstream local sales channels and mainstream media to have vitality. Only by making full use of the advantages of traditional economy and brand resources can China's cross-border e-commerce continue to exert its strength.

##### **(2) Emerging markets have become blue ocean markets for cross-border e-commerce**

With the gradual increase in network penetration in emerging markets, the gradual liberalization of cross-border e-commerce policies, and the increase in consumer purchasing power, these are expected to become potential growth points for China's export cross-border e-commerce orders. The mainstream markets in Europe and the United States are still the main force in the development of the industry, but the development speed of emerging markets is much higher than that in Europe and the United States. Although the Indian market is relatively closed for the time being, given that India has a population of more than one billion people, the future market capacity will be huge. The Russian market is relatively mature, and Alibaba has begun to deploy. Driven by the national "One Belt One Road" initiative, online commerce between China and other countries in the world has developed rapidly. Through cross-border e-commerce, Chinese products are sold to more than 100 countries and regions that have signed cooperation documents on the "Belt and Road" cooperation, including Russia, Israel, South Korea, and Vietnam. The scope of online business has expanded from Europe and Asia to Europe, Asia, and Africa. Multinational. At the same time, the open and rising Chinese market provides new economic growth points for the "Belt and Road" cooperative countries.

##### **(3) Integrated development of cross-border e-commerce B2B and B2C**

B2C development has problems such as excessive reliance on the platform, large product inventory, and serious slow sales. B2B has a relatively long billing period, fewer customers, and greater pressure on funds and customer maintenance. Companies not only need large orders, but also some retail orders to digest inventory, Speed up capital turnover. The integrated development of B2C and B2C and learning from each other will be the future development trend. Cross-border B2B builds its own brand through the integration of B2C, quickly clears inventory, and taps customer resources. Cross-border B2C companies use cross-border B2B to make high-quality purchases and save purchase costs. The combination of cross-border B2B and B2C will be more in line with future market needs, not only can narrow the distance between enterprises and customers, realize production directly to consumers, accelerate the speed of supply and demand information exchange, ensure the accuracy of supply and demand information, and increase production The efficiency of the entire industry chain, including distribution, distribution, sales, and service, effectively reduces corporate costs and provides customers with more satisfactory services.

#### (4) Overseas warehouse development based on cross-border e-commerce B2B2C model

Statistics from the Ministry of Commerce show that in 2020, the number of overseas warehouses nationwide has risen to more than 1,800. As the core of the cross-border e-commerce overseas integrated service system, overseas warehouses can effectively shorten order response time, reduce overall logistics costs, enrich cross-border e-commerce product categories, and enhance the international competitive advantage of high-quality products.

The B2B2C (Business to Business to Customer) model of cross-border e-commerce based on overseas warehouses has become the focus of current cross-border e-commerce development. Compared with traditional overseas warehousing, the functions of cross-border e-commerce overseas warehouses are more diversified and comprehensive, providing integrated services such as overseas customs clearance, storage, transshipment, sorting, packaging, labeling, distribution and after-sales services for cross-border e-commerce goods . More and more cross-border e-commerce platform companies and logistics companies are accelerating the expansion of third-party overseas warehouses, and more and more small and medium-sized export companies rely on third-party overseas warehouses to successfully carry out cross-border e-commerce business.

In recent years, the sharp increase in exports of products such as smart home appliances, smart homes, smart electronic equipment, home decorations and gardening supplies has largely benefited from the application and development of overseas warehouses.

#### (5) Social and live broadcast cross-border e-commerce model to expand the influence of high-quality products

The different needs of different groups of people promote the development of different social media platforms (陆明et al.,2016). The universal application of social networks has promoted the emergence and development of social cross-border e-commerce models. Companies operate online virtual community forums to cultivate customer groups, and apply big data technology to mine hot commodities that consumers pay attention to, accurately target imported commodity categories, and cultivate Export commodity brand. More and more cross-border e-commerce platforms use mobile Internet and business intelligence technology to make intelligent targeted recommendations of

products based on consumers' consumption habits. The live broadcast cross-border e-commerce adopts technologies such as video, AR and VR, which effectively reduces the information asymmetry between buyers and sellers, improves consumers' awareness of products, strengthens consumer trust, and reduces spatial distance and cultural differences. The estrangement brought by waiting.

## CONCLUSION

Currently, China's cross-border e-commerce is in an explosive period, and cross-border retail and import businesses are developing rapidly. Many state-owned enterprises, large enterprises and factories have set online business as an important strategic direction, and it is precisely because of the increasing diversification of exported products. And personalization. Under the influence of cross-border e-commerce, a series of changes have taken place in traditional trade participants, transaction methods, transaction links, and transaction content. From the perspective of the participants, small and medium-sized private enterprises are the main force of cross-border e-commerce. From the trade structure, the cross-border B2B model is dominant. According to the statistics of the Ministry of Commerce of China, as of 2020, the cross-border B2B model accounts for the total cross-border business. In terms of market share, consumers in developed countries and China's neighboring countries accounted for the vast majority. In terms of transaction, in addition to normal contact with foreign traditional import companies, companies also contact foreign small and medium importers and foreign companies. Individual consumers have become more closely connected; from the product promotion level, more and more foreign consumers are truly aware of products made in China. The development of cross-border e-commerce has attracted great attention from the country, more and more supportive and normative policies have been implemented, and the number of selected cities in the comprehensive cross-border e-commerce pilot zone has been increasing. In the future, the positioning of Made in China in the international market will definitely remove the two labels of "low-end and cheap". At the same time, more and more companies will take the route of branding and internationalization. Therefore, the development of cross-border e-commerce is not only as a product An important mode of export is an important window for displaying Chinese products to more foreign consumers at this stage.

## REFERENCES

- 鲁丹萍, 2015. *跨境电子商务*, 中国商务出版社, 中国: 北京.
- Kim, T.Y., Dekker, R., & Heij, C., 2017. Cross-border Electronic Commerce: Distance Effects and Express Delivery in European Union Markets. *International Journal of Electronic Commerce*, Vol. 21, No. 2, pp: 184—218.
- 魏利平, 邢文祥, 2019. 跨境电商出口对我国品牌国际化的影响研究. *国际贸易*, 第12期: 19-26.
- 曲维玺, 王惠敏, 2021. 中国跨境电子商务发展态势及创新发展策略研究. *国际贸易*, 第3期: 4-10.
- 张芳, 汤吉军, 2020. “危机”与“转机”:全球疫情蔓延背景下我国外贸企业的纾困策略. *当代经济管理*, 第42卷第7期: 27-31.
- 杨坚争, 郑碧霞, 杨立钊, 2014. 基于因子分析的跨境电子商务评价指标体系研究. *外贸经济*, 第9期: 94-102.

- 林茵密, 陈永强, 2019. *跨境电商eBay立体化实战教程*. 浙江大学出版社, 中国: 浙江.
- 阿里巴巴(中国)网络技术有限公司, 浙江商业职业技术学院, 2019. *跨境电商B2B立体化实战教程*, 电子工业出版社, 中国: 北京.
- Lendle, A., Olarreaga, M., Schropp, S., & Vézina, P. L., 2016. There Goes Gravity: eBay and the Death of Distance. *The Economic Journal*, Vol. 126, No.591, pp: 406-441.
- 马述忠, 柴宇曦, 濮方清, 朱成, 2017. *跨境电子商务案例*, 浙江大学出版社, 中国: 浙江.
- 钊阳, 戴明锋, 2019. 中国跨境电商发展现状与趋势研判. *国际经济合作*, 第6期: 24-33.
- Melitz, J., 2008. Language and Foreign Trade. *European Economic Review*, Vol. 52, No.4, pp: 667-699.
- Lewis, G., 2011. Asymmetric Information, Adverse Selection and Online Disclosure: The Case of eBay Motors. *American Economic Review*, Vol. 101, No.4, pp. 1535-1546.
- 易传识网络科技, 丁晖, 2017. *跨境电商多平台运营实战基础*, 电子工业出版社, 中国: 北京.
- 李鹏博, 2016. *进口跨境电商启示录*. 电子工业出版社, 中国: 北京.
- 李琦, 李义群, 刘野, 温开明, 商玮, 2018. *跨境网络营销*, 人民邮电出版社, 中国: 北京.
- 陆明, 陈庆渺, 刘静丹, 2016. *海外社交媒体营销*, 人民邮电出版社, 中国: 北京.

# INNOVATIVE MANAGEMENT OF CHINA'S FORESTRY ECONOMIC DEVELOPMENT

**BIAN WEI**

*Yunnan University of Finance and Economics, China*

*Email: 21256480@qq.com*

## ABSTRACT

As one of the basic industries in China, forestry not only has ecological value such as climate regulation and air purification, but also can provide raw materials for civil, paper and other industries and create high economic value. With the rapid development of China's economy and society and the concept of national "green development", the current forestry development has also undergone great changes and gradually presented a new trend. At the current stage, to promote the forestry economy to a healthier and long-term direction, we must pay attention to the innovative management of forestry economy, establish a new management system, and promote the forestry economy to adapt to the society. This paper discusses some problems facing forestry economic management, analyzes the innovation management and development trend of forestry economy, and puts some suggestions on how to realize the innovation management of forestry economy, aiming to improve the quality of forestry economic development and realize the unification of economic, environmental and ecological benefits.

**Keywords:** Forestry, Forestry industry, Economy of forestry, Management system, Innovative management

## INTRODUCTION

Forestry economic management is one of the indispensable contents of the modern forestry development. In the process of forestry economic management, attention should be paid to improving the forestry environment, optimize the allocation of forestry resources, and promote the integrated development of environmental protection and forestry economy. Forestry economic management can not only alleviate the contradiction between forestry economic development and environmental protection, but also be conducive to adjusting the economic structure and making it more scientific and reasonable. Under the new economic development situation, the management mode and management mode of forestry economy are also constantly innovating and improving.

## LITERATURE REVIEW

### 1.1 Development Trend of Forestry Economy

In order to achieve stable and healthy development of forestry economy, we must recognize the trend of future forestry development. The development of my country's forestry economy must first be in a state of balance and consistency with the world's

forestry industry. At the current stage, my country's forestry economy has gradually shifted to a strategic direction, the number of plantations is increasing, and the ecological environment has gradually been paid attention to, and has become the focus of attention from all walks of life. Secondly, in the future, my country's forestry economy needs to develop in a comprehensive and scientific direction. Only when the management is truly comprehensive can the forestry economy play an important role in our country's economy. Forestry economy is an important part in the development of our national economy, and it is of great significance to social stability and economic stability. At present, there are some problems in the development of forestry economy in our country, which restrict the development of economy. Faced with these problems, forestry enterprises and the government should actively link up, formulate comprehensive management measures, and innovate management models, so as to promote the sustainable and stable development of forestry economy. This will play an important role in guaranteeing the future social development of our country.

### **1.1.1 The highly informatized development of forestry economy**

Due to the relatively large area of forest land, large human, material and financial resources need to be invested in the management of forestry economy, which requires the application of information technology to forestry economic management to improve work efficiency and quality. In recent years, the forestry department has gradually introduced the information network into the management of the forestry economy, and gradually realized the importance of realizing the information management of the forestry economy. Therefore, in the future development, the forestry economy will further develop towards the direction of informationization. Realize a high degree of information management. (Xia,2017)

The grass-roots forestry economic management is under great pressure. By introducing an information management system, it can help improve work efficiency and reduce work pressure. In recent years, the maturity of information technology and the popularization of the Internet have also provided necessary support for the innovation of forestry economic management. Therefore, the forestry department must pay attention to the construction of the level of industrial informatization regardless of the convenience of work or the economic benefits of the industry. In addition, the construction of forestry industry information system can also realize the integration of forestry industry resources, and also provide positive help to the improvement of forestry management efficiency. At this stage, some grass-roots forestry departments have a low level of informatization management due to the influence of economic conditions, geographical location and other factors. With the continuous development of information technology, it will inevitably promote the forestry economic management to achieve new achievements.

### **1.1.2 Forestry economic structure was further improved and optimized**

At present, my country still has the problem of a relatively single economic structure in the development of the forestry industry. Therefore, in the future development, it is necessary to continuously enter the forestry products with higher benefits, continuously strengthen the degree of deep processing, form an industrial chain, and comprehensively adjust the forestry economic structure. In addition, it is also necessary to establish the concept of sustainable development, promote the healthy development of the forestry economy, develop the eco-tourism industry, support forestry enterprises with strong economic strength, and implement assistance and merger policies for small enterprises with poor economic benefits to help the forestry economy. steady development. In the process of forestry economic development, forestry products can choose forestry products with strong support, high efficiency and strong driving ability, carry out deep development and deep processing, and comprehensively adjust the forestry

economic structure. In addition, to comply with the market development and demand, follow the concept of sustainable development, and develop the forestry economy in various aspects, the strategy of selecting the best and supporting the strong can be implemented. In the current forestry economic development enterprises, choose the ones with higher management level and better economic benefits for key support, such as promoting green eco-tourism. For enterprises with poor economic benefit and small enterprise scale, the policy of merger or help development can be implemented to make the stable development of forestry economy.

## **1.2 Problems existing in forestry economic management**

### **1.2.1 Forestry industrialization is too low**

Forestry economy is mature mainly see the degree of its industrialization, forestry industrialization in our country mainly manifested as regional development imbalance, scattered management model is more common, has not formed a scale development mode, not established perfect forestry industrialization chain, many local forestry association failed to play a due role, which largely hindered the docking with external forest market, forestry economy is difficult to deepen in the direction. At present, due to the influence of local natural conditions, traffic and other factors, the development of regional forestry economy is different, resulting in the phenomenon of unbalanced forestry economy. In addition, economic individuals in forest areas are scattered and small in scale, which are the main factors hindering the economic management of forest areas. These factors hinder the large-scale and intensive production of forest areas, resulting in an incomplete industrial chain and the inability to quickly open up the market.

### **1.2.2 Forestry property rights.**

The development of forestry economy is mainly realized by the operation and management of enterprises. Therefore, the management of forestry enterprises occupies an important position in the development of forestry economy. However, there are always problems in the property rights of forestry enterprises in our country. As we all know, forestry resources are national resources, and forestry enterprises do not have corresponding ownership. At the same time, the taxes generated during the operation of forestry enterprises need to be regarded as part of the state-owned property. Secondly, there are usually problems of the separation of government and enterprises within forestry enterprises, which seriously affect the healthy development of forestry economy. It is a very obvious problem at present, which needs to be solved in time.

### **1.2.3 Forestry Industry Developer Issues**

For a long time, the work of grass-roots forestry departments has focused on forest area construction and forest protection. However, in the long-term work, the forestry department has not paid enough attention to human resources management, and the training content is mainly management skills. Therefore, human resources management It also tends to train and educate the management skills of forestry personnel. In this way, the staffing of forestry industry development is relatively small, and only the most basic forest resources can be exported to the outside world, and the added value of forest trees cannot be increased through deep processing of products, so the economic benefits of forestry cannot be improved. One of the important reasons for low efficiency. (Kong,2013)

### **1.2.4 The law enforcement of forestry is not enough**

At present, my country already has a complete forestry inspection system, which is based on forestry grass-roots law enforcement checkpoints and supervises and manages the development and utilization of forest resources in accordance with relevant laws and regulations. However, as far as the current situation is concerned, my country's forestry law enforcement is insufficient, the law enforcement environment needs to be improved,

and the comprehensive quality and work ability of law enforcement personnel need to be improved. The economic management of forestry must comply with relevant systems and regulations, and strengthen law enforcement. Lax enforcement will reduce the deterrent effect of laws and regulations and breed corruption in the forestry economy. In order to improve the utilization rate of forestry resources and make the utilization efficient, relevant departments should strengthen the supervision and management of the use of forestry resources and forest land. (Luo,2018)

#### **1.2.5 Less investment in forestry projects**

The construction of forestry industry needs a long-term process, so a lot of funds needs to be invested. However, in the actual work, the lack of funds is very common, leading to the backward forest maintenance and management in the late stage, prone to a variety of natural disasters, resulting in losses.(Ma,2015) The construction of forestry industry is a long-term work, whether in the early construction or the later management and maintenance, certain funds need to be invested as a guarantee.However, in the actual work, some forestry units lack a long-term development vision, and only completed the preliminary construction work, while the later forest area maintenance and management work did not follow up simultaneously.At the same time, due to the single source of funds, it will also lead to the subsequent shortage of operating funds, and the forestry economy is difficult to get sustainable development.

#### **1.2.6 The level of technology is backward**

Compared with other developed areas, the technical level of forestry in Qinling area is not outstanding. For example, in terms of afforestation, the survival rate of forest trees in the Qinling Mountains is relatively low. At the same time, some forestry areas neglect the development of mixed forest land, and there are many pure-bred forests, resulting in unreasonable tree species structure. Because the tree species is too single, the tree species is not suitable, the soil quality is damaged, and it cannot resist the invasion of natural hazards. In the afforestation work, the afforestation methods are unscientific, the amount of fertilizer and watering cannot be well controlled, and the survival rate of forest trees is reduced. The level of forestry science and technology is not high, the in-depth development of forestry products is neglected, the processing methods are extensive, the level of productivity is low, and the level of forestry development is relatively backward.

## **RESEARCH METHODOLOGY**

### **2.1 Innovate the forestry human resource management mode and improve the comprehensive quality of forestry industry developers**

The innovation of forestry economic management mode cannot be separated from the work support of professional forestry personnel. Therefore, human resource management must be put in the first place of forestry economic development.In order to promote the continuous innovation of forestry industry economic management mode, professional forestry personnel are necessary, so we need to innovate forestry human resources management, specifically starting from the following aspects:First of all, the forestry department needs to raise awareness, establish the correct concept of human resources management, appropriately improve the standard of talent selection, use higher benefits to attract high-quality talents to participate in the forestry economic management, the relevant departments in the recruitment of forestry industrialization research talents, to investigate the professional knowledge and professional quality, make it can promote the development of forestry economic innovation management.Secondly, it is also necessary to regularly organize these staff to participate in the training, improve the professional quality and professional moral quality of forestry staff, and do a good job of

assessment, to lay a good talent foundation for the development of forestry economy.(Mao,2017)

## **2.2 Innovate the operation and management mode**

Nowadays, with the rapid development trend of forestry getting faster and faster, the original forestry management system can no longer meet the development requirements of the modern economic system. Therefore, in order to better adapt to the needs of social development, the Chinese government departments must increase the innovation and strengthening of the forestry management mode, strengthen the establishment of a perfect management system, quote more excellent and advanced new technologies and new knowledge, completely break the traditional natural afforestation mode, and attach great importance to the construction of artificial forest. In addition, relevant and effective management methods are adopted according to the actual development situation, and the investment channels are continuously expanded, so that more individuals or enterprises with economic strength can invest in forestry management. Secondly, it is necessary to take adequate measures to protect forestry resources, change the public ownership forestry system, and focus on developing forestry under non-public ownership conditions. Institutional innovation is the guarantee of innovative management of forestry economy. Only with perfect institutional guarantee can the innovation of other functions of forestry economy be realized.

## **2.3 Raise the level of science and technology of forestry economy**

Science and technology development is the best way to balance economic benefits and ecological benefits, should completely change the traditional at the cost of destroying the environment and natural resources to achieve the way of development, increase the support of professional colleges and local research team, further study the nature of self-destruction and self-repair limit, so as to set the scale of scientific development, through scientific guidance, to achieve the harmonious development of man and nature, man and the environment. Under the background of fast-paced economic development, the traditional forestry management model has not adapt to the needs of The Times. Forestry economic development should conform to the trend of The Times, keep pace with The Times, in order not to be eliminated by the society and The Times. Forestry economic development can not only pay attention to economic benefits, but also pay attention to social benefits, which requires the forestry economy of each region to take the road of sustainable development. Sustainable development cannot be separated from the support of innovation and science and technology. Only by constantly improving the scientific and technological level of forestry economy can we occupy a place in the economic market. At the same time, the state should introduce a series of protection measures to ensure the sustainable development of forestry economy. We should support forestry personnel to constantly learn advanced knowledge and skills and improve forestry technology.(Mao,2017) At the same time, we should continue to increase the wages and welfare benefits of forestry technicians, and encourage them to better invest in the construction of forestry economy.(Xia,2017) Only by constantly strengthening the innovative management of China's forestry economy, can we promote the stable and sustainable development of China's forestry economy.

## **2.4 Forestry Industry Informatization**

With the development of the Internet, information technology plays a very important role in the development of the industry. Computer technology has been widely used in many fields. Forestry departments should introduce computer technology into forestry economic management, to provide technical guarantee for forestry economic management, and then improve the level of forestry economic management. Relevant departments can build an industrial information system to supervise and control the

forestry industry, which can not only reduce the generation of problems, but also further bring the forestry economic management in line with times.(Xia,2017) Only when the construction of forestry informatization has achieved results can the decision-making level, service level and office level of forestry be better improved.

### **2.5 Continuously improve and innovate the system management mode of forestry industry**

In order to promote the smooth development of forestry economic innovation management, in addition to professional talents, a sound management system is also required. Therefore, it is necessary to continuously innovate and improve the management system. First, innovate the logging system. According to the actual situation of the region, reasonable logging, severe punishment of indiscriminate logging, to avoid waste of forest resources. In view of the indiscriminate deforestation in grass-roots forest areas, forestry departments should strengthen forest management and safeguard their own economic interests. Secondly, strengthen forest quarantine management. Forest diseases and insect pests will not only cause a large number of tree deaths, but also dead branches and fallen leaves in the forest area will cause fire hazards. By implementing a strict forest area quarantine system, such problems can be effectively avoided. At the same time, it is also necessary to pay attention to forest fires, eliminate all sources of ignition, and prevent fires from occurring. Finally, innovate forest processing management. Forest wood processing can increase the added value of forest trees, but it is prone to serious waste in the processing process. By strengthening management, optimal utilization of forest resources can be achieved. (Shen,2015)

### **2.6 Establish scientific staged forestry development goals**

Compared with the general industry, the forestry industry has certain particularities, and its economic value and ecological value need to go through a long-term process. waste. This requires the forestry department to raise awareness, establish a scientific development concept, and formulate phased goals according to the actual situation of local forestry resources. Under normal circumstances, goals can be divided into two types, one is short-term goals, and the other is long-term goals. For example, after setting short-term goals, the forestry sector needs to establish and improve the infrastructure for forestry development to provide basic conditions for the development of the forestry industry. In addition, it is also necessary to cultivate leading enterprises in the local area, establish and improve the industrial chain, deepen the processing level, make a brand, and realize the improvement of brand efficiency. (Jin,2015)

### **2.7 Government support should be increased**

The healthy and harmonious development of forestry economy is inseparable from the joint efforts of all sectors of society, especially the government's support. For a long time, the government has played a leading role in the development of the forestry economy. To achieve faster development of the forestry economy, it is inseparable from a sound legal foundation and the support and help of the government. The government can set up special support funds, and reward some high-efficiency development projects, introduce advanced technology and strengthen the training of forestry personnel, and actively promote the technology to the grassroots. At the same time, it can also take advantage of the policy to introduce new varieties, establish high-tech forestry demonstration parks, promote the improvement of the local forestry economy, and guide the forestry economy to become public welfare.

## CONCLUSION

With the rapid development and change of my country's economy and society, the economic development direction of my country's forestry has also changed to a certain extent. At the same time, this change plays an important role in the economic development of my country's forestry. These changes are mainly in the following aspects. Changes: First, from traditional forest production to current environmental protection, ecological and healthy construction; second, from original natural forest protection to current artificial forest protection; From the original free use to the current paid use, the fifth is the change from the forestry management of individual departments to the current social forestry management. In a word, there are still some deficiencies in the development of regional forestry economy in my country. Therefore, according to the development status of regional forestry economy, we should continuously improve and innovate the management of forestry economy, adopt some innovative measures, and combine the trend and direction of forestry economy development. Only in this way In order to promote the healthy and stable development of my country's forestry economy. By innovating the forestry economic management model, on the one hand, the economic value of forestry can be maximized, and the economic value created can feed back the construction of local forestry infrastructure, thereby realizing the sustainable development of the forestry industry. On the other hand, the development of forestry economy also plays a certain role in further improving the ecological value of forests. Therefore, the forestry department must combine the actual situation of the forest area, take into account the ecological value and economic value of the forest, so as to realize the sustainable development of the forestry industry.

## REFERENCES

- Ma Shengyang. Analysis of the Innovation Management and Development Trend of Forestry Economy[J]. Green Science and Technology, 2015(1):283-284.
- Kong Fanrong. Analysis of the innovation management and development trend of forestry economy[J]. Guide to Economic Research, 2013(35):81-82.
- Yu Yi. Analysis of Innovative Management and Development Trend of Forestry Economy under New Economy[J]. Science and Technology Outlook, 2014(5):38.
- Yan Hong, Miao Weigen, Jin Jiuhong. Construction Concept of Modern Ecological Forestry Economic Demonstration Zone in Xiaoshan District, Hangzhou City[J]. East China Forest Manager, 2015(04).
- Shen Henghai. Analysis of the Innovation Management and Development Trend of Forestry Economy[J]. Science and Technology Information, 2015(23).
- Ma Ting. Explore the Innovation Management and Development Trend of Forestry Economy[J]. Urban Geography, 2015(24).
- Huang Jianqiang. A Brief Analysis on the Current Situation and Countermeasures of Forestry Economic Development in China[J]. Southern Agriculture, 2014(21).
- Xiao Lirong, Wang Bin. Analysis of Forestry Fixed Assets Investment and Industrial Structure Change on Forestry Economic Growth[J]. Economy of Forestry, 2012(8):101-104.

- Liao Bin, Liao Wenmei, Jin Zhinong. An Empirical Analysis of the Effect of Forestry Industry Structure Changes on Forestry Economic Growth[J]. Xinjiang Agricultural Reclamation Economy, 2014(4):51-55.
- Xiao Minjing, Zhao Jing. An Empirical Analysis of Jiangxi Forestry Industry Structure and Forestry Economy Growth under the View of Low-carbon Economy[J]. China's forestry economy, 2010(5):32-35.
- Mao Xiping, Cai Gengping, Wu Chuanbo. On the Innovation Management and Development Trend of Forestry economy[J]. Agriculture and technology, 2017,37(22):163.
- Sheng Henghai. Analysis of the innovation management and development trend of forestry economy[J]. Science and technology information, 2015(23):101-102.
- Jin Shengnan, Zhuang Aining. On the Innovative Management and Future Development of Forestry Economy under the New Economic Situation [J]. Forestry economy of China, 2015 (4): 26-28.
- Xia Weigen. Research on Innovative Management of Forestry Economy under New Economy [J]. Agricultural Technology Services, 2017,34 (3): 97-98.
- Luo Wuhua. On the Innovative Management and Future Development of Forestry Economy under the New Economic Situation [J]. Market Weekly (Theory Edition), 2018 (13): 96.

# REFORM AND INNOVATION OF URBAN MANAGEMENT IN THE INTERNET + ERA

DU WANQIU

*Yunnan University of Finance and Economics, China*

*Email: 175886766@qq.com*

## ABSTRACT

Urbanization management is to manage the city in an effective way, strengthen overall work efficiency, reduce costs, optimize system management, and promote economic growth. City management is a complicated and arduous task. How to effectively arrange and manage the flow of urban population, life and work, transportation, leisure and entertainment, etc., is a major test faced by city managers. With the acceleration of urbanization, strengthening the innovation and development of urban management models has become the primary goal of urban development. The concept of "Internet +" has made the application of Internet technology more and more widespread. In the management of cities, it is a major trend today to use the Internet and the Internet of Things technology developed immediately afterwards to build a new type of smart city development path. This article discusses the reform and innovation of city management and the new model of smart city management under the background of the Internet.

**Keywords:** City Management, Smart City, Internet + Era

## INTRODUCTION

The integration of new technologies is the current general trend of the development of smart cities. The use of the current information and communication technology can innovate the new ideas of urban governance and promote the process of innovation and democracy. All innovative governance today should always be centered on service, which is the eternal theme of urban governance. With the continuous evolution of urban form, the emergence of smart cities has accelerated the transformation of cities to intelligent, socialized and human-oriented services, which is the innovation of urban management.

Today's urban development is in the process of transforming from a digital city to a smart city, which is supported by standardization. Today's smart city development is gradually mature, mainly in four aspects. ① Comprehensive and thorough perception, the urban information monitoring system supported by the Internet of Things can collect information on all aspects of urban operation in a timely manner, allowing management to grasp the dynamics of the city in a timely manner, and carry out effective prevention and management. (Tong, 2015) ② Broadband interconnection and the development of network construction make urban information flow more convenient, and the amount of information is also increasing, which brings great convenience to the communication and exchange of urban residents. ③ Intelligent integration applications, the introduction of

more intelligent applications in urban management facilitates the lives of the general public and allows residents to enjoy the convenience of urban life more. ④ for people-oriented sustainable innovation, the development of the city is always in constant change, and the governance of the city must also constantly innovate the management mechanism, in order to realize the continuous vitality of the city development.

## **LITERATURE REVIEW**

### **1 City management**

#### **1.1 The concept of urban management**

The object of urban management is this large, open and complex system. Although it has many components, the most core is the flow of people in it. The management of this city depends on the basic information flow of the city, which includes the operation mechanism of the city, management means, decision guidance so as to standardize the coordination and service operation behavior. In the operation mechanism of the city includes decision-making, planning, organization, command, coordination, control and so on, which is an important part of the urban operation mechanism. (Ren, 2014) In this process, it is necessary to use legal, economic, administrative and technical means, and then manage it through the interaction of government, market and society. The economic development of cities mainly depends on urban natural resources and production markets. The economic exchanges with various cities force urban management to realize open management. Only through continuous economic exchanges between cities and mutual circulation of products can further promote the economic development of cities and the openness of urban management. The characteristics are mainly manifested in the opening of rural and foreign markets, the exchange of technology and culture between cities, the mutual support of funds, and the mutual circulation of products. Traditional urban governance generally refers to municipal management, but the introduction of the smart city concept has put forward new requirements for urban governance. Today, the governance of smart cities has shown a trend of high integration of municipal management and social services.

#### **1.2 Problems existing in urban management**

##### **1.2.1 The management system is not good**

It is mainly manifested in three aspects. First, because there is no separate urban management law enforcement agencies at the central and provincial levels, the county management law enforcement agencies in cities and counties lack the policy support and business guidance from the superior competent departments, and the local governments operate independently and fight alone. Second, the scope of functions and organizational attributes of city and county urban management law enforcement agencies are not standardized. Some are purely administrative law enforcement, some are "management + law enforcement", some are hierarchical law enforcement, some are first-level law enforcement models, and some are single management. The scope is limited to city appearance and environmental sanitation. Some are integrated management. The management functions are vertical and horizontal, the powers and responsibilities are unclear, and the government has many different departments. Comprehensive law enforcement is difficult to achieve. There are still many "blind areas" in urban management in areas such as urban-rural fringes and back streets and alleys. Third, the lack of overall coordination. Urban planning, construction and management are out of touch, lack of overall coordination, emphasizing end law enforcement over source management. There are widespread problems such as "construction, management

separation, management, nutrient opening, management and punishment separation", which have caused many problems to urban management from the source.

### **1.2.2 The establishment of urban management law enforcement officers has not been unified**

Most cities are equipped with law enforcement officers mainly referring to the "Urban City Appearance and Environmental Sanitation Labor Quota" issued by the Ministry of Housing and Urban-Rural Development in 2008, which stipulates that city appearance supervisors should be equipped according to the standard of 3/10,000 to 5/10,000 of the urban population. In fact, city appearance supervision is only one of the seven categories of relatively centralized administrative punishment powers. Coupled with the rapid development of urbanization in the past ten years, the scale, population, management functions and management difficulty of the city are no longer the same. Due to the lack of law enforcement personnel, local auxiliary personnel are generally employed temporarily, and some local auxiliary personnel account for 3/4 of the total number of personnel on staff.

### **1.2.3 Legal authorization is not in place**

Due to the lack of special urban management laws and regulations at the national and provincial levels, the basic content of urban management, such as the positioning, organization, establishment, authority, and funding, has not been established in the form of law. The regulations explored and promulgated in some places are imperfect, some lack operability and feasibility, and some even have different scales and conflict with each other.

## **1.3 Reasons for promoting the innovation of urban management mode**

### **1.3.1 The lack of the current urban management system**

To promote the innovation of urban management mode The traditional management mode has made great contributions in the past development. With the development of the urban economy, the traditional urban management mode is no longer suitable for the current urban management, and its defects are gradually revealed. The development of a city is inseparable from a stable social system. This stable system promotes the economic development of the city to a certain extent, but also forms a kind of inertia, which restricts the innovation of urban management. With the continuous development of my country's market economy, the traditional urban management model has also lost its original vitality, gradually becoming rigid, restricting the economic development of the city, therefore, urban management model innovation is imperative.

### **1.3.2 Market-oriented reform continues to occur**

Promoting the continuous innovation of urban management mode, the development of urban modernization has spawned the diversity of economic industries, and at the same time, economic interests have become more diversified, and the conflict of interests between various industries has been increasing, which has brought considerable pressure to urban management. Therefore, only by fully combining the current urban economic development and innovating the urban management model can urban managers fully mobilize the enthusiasm of citizens to participate in urban management work. It enables citizens to express their voices, thereby reducing the cost of information collection for the city government and enabling city managers to better conduct management analysis.

### **1.3.3 Strong urban competition**

Promoting the application of innovative management models in urban management Economic globalization drives the exchanges between cities, prompts cities to develop on the international stage, and the competition between cities is becoming increasingly fierce, forcing urban management models to reform and innovate to win Highlights in order to

win in the city competition. At the same time, with the development of economic globalization, the economies of various countries have developed openly, increasing the exchanges between residents of various countries, and the mobility of the urban population has also greatly increased. Cities are constantly creating "buy points" to create distinct urban culture and a good urban environment. It is these factors that affect the reform of urban management models. City managers have also begun to realize the importance of innovative model management in urban management.

## **2 Urban innovation management and smart city**

For a smart city, the most important thing is standardization, which is an important prerequisite for realizing the best order of urban management. Standardized urban governance has many advantages, the most important of which is that this idea can be used to coordinate the interests of all parties, and it will not cause serious social inequity problems due to information asymmetry. How to standardize work? On the one hand, it is necessary to plan and implement the management objects, and on the other hand, the management and service activities must be fixed in a scientific and standardized form. Finally, these are formulated into standardized things and implemented, and inspection and supervision are carried out throughout the implementation process, and the problems found are rectified in time. What is the standard for the standardization of cities? According to the governance experience of smart cities at home and abroad, this standardization can only be called standardization if it meets the requirements of common use and reuse. The realization of this standardization requires the use of information and communication technology to carry out an open design. This openness is mainly in four aspects. The opening of ① data standards, data as an important information support for urban management, standardized information data can be processed through the large computing power of computers. ② The platform interface specification is open, and the open platform interface specification can realize the exchange and sharing of information and data in multiple departments, and realize resource sharing.(Meng, 2015) ③ user participation and the openness of user experience design, this open design can enhance the enthusiasm of citizens for urban governance, enhance the status of the city ownership.④ builds the opening of complex systems, which can unite more people to cope with the complex urban governance environment.

### **2.1 Build a standard system for smart cities**

Standardization plays an extremely important role in the smart city management system, because all kinds of complex information in the city are gathered together. If the information and data are not managed in a standardized form, it will bring incalculable consequences to the subsequent data processing. workload, and at the same time standardized data for computers can be recognized and processed. In fact, this concept was proposed very early in our country, and it was proposed by the great Chinese scientist Qian Xuesen. In the 1970s, Qian Xuesen proposed to strengthen standardization work and scientific research. Only in this way can we lay a foundation for my country's subsequent modernization and internationalization and adapt to the future development environment.

The city's management standard system is set up to realize the orderly urban governance, which mainly refers to the formation of a scientific and organic whole in the urban management field according to the inner connection of urban management. The establishment of a standard system of urban governance can facilitate the retrieval and query of relevant information in the future, so as to analyze the composition of the system. Both the standard planning and standard management of the city need a standard governance system to provide the basis. These are based on clarifying the relationship between laws and regulations, administrative normative documents and standards, and

then according to the objective of urban management work. Needs and actual needs for specific editing and formulation. The long-term stability of urban governance can only be achieved by strengthening the standardized management of cities and the construction of standardized systems.

## **2.2 The significance of urban innovation management mode and the construction of smart city standard system**

### **2.2.1 The application of innovative management mode has redefined the management function of the government**

The application of innovative management mode in urban management not only brings more modern management ideas to urban management, but also makes urban management tend to be information-based management, improving the level of urban management. In the traditional management mode in the past, the government was the main body of management, and it mainly managed the city through power, ignoring the coordinated development of people, economy and society. To a certain extent, it caused the dissatisfaction of urban residents and affected the economy of the city. The application of innovative management models has brought reform and innovation to the government management model, re-adjusted government functions, cancelled the main role of the government in the original management, reasonably handed some management powers to the hands of the masses, and public goods became the focus of government management. The relationship between enterprises and the government is closer, creating favorable conditions for urban economic services, making urban economic resources develop in a market-oriented direction, and correspondingly expanding the government's economic tax revenue, enabling the urban government to gradually break away from the micro-economic field and focus more energy Put it into the urban construction, strengthen the construction of urban public facilities, reasonably maintain the urban public order, create a good urban environment, and improve the quality of life of residents accordingly. Thereby promoting the urban management efficiency and management quality. Conclusion The new era should have new management, and the innovative management mode should be in urban management, so that the city government can be separated from the enterprise management, realize the distinction between politics and enterprise, thus provide the government with more time for urban management, Such as the establishment of public facilities, the construction of municipal facilities, the construction of living environment, etc., to provide more convenience for urban residents. In short, only by constantly reforming and innovating the management mode, so that it can adapt to the development of the trend of The Times, can we seek a place for itself in the fierce competitive environment.

### **2.2.2 The application of innovative management mode has streamlined the urban management institutions**

Urban management system is an important basis of urban management, but also an important guarantee of urban residents material life, with the application of innovative management mode in urban management, urban management gradually divided into city, district, street management, make urban management mechanism more streamlined, promote the implementation of urban management policy, but also provides a platform for residents to participate in urban management, provides a practical policy for urban management foothold.

### **2.2.3 The application of innovative management mode has optimized the urban productivity**

First of all, the application of innovative management models in urban management has greatly improved urban productivity, optimized urban resources and urban

infrastructure construction, especially the urban flow of people, information, logistics and urban resources have been better planned and managed, to a certain extent It saves the cost of urban economic development and lays a solid foundation for urban development. The application of innovative management models in urban management makes urban management more scientific and reasonable, fully improves the urban living environment, and provides good conditions for the introduction of investment and construction. Secondly, the innovative management model adheres to the people-oriented management concept, pays more attention to the improvement of the living standards and quality of life of urban residents, and makes urban management more humanized, which brings closer the relationship between urban managers and urban residents, and promotes residents to actively participate in urban management. , and build a harmonious city together with city managers. Finally, the application of the innovative management model has established a correct concept of operation and management for the city. The combination of market economy and urban management has established a perfect market economic system, realized the appreciation and preservation of the city's assets, fully mobilized social and economic resources, and promoted the to maximize the development of the urban economy.

### **3 Suggestions on the methods for the innovation of urban management mode**

#### **3.1 Further Deepening the Reform of Urban Management Law Enforcement System**

We will reasonably divide urban management powers, clarify that municipal and county governments assume primary responsibilities in urban management and law enforcement, shift the focus of law enforcement lower, and shift their focus to the grass-roots level. At the provincial level, it will further integrate the provincial law enforcement teams, and be responsible for the business guidance, organization and coordination, supervision, inspection, assessment and evaluation, and cross-regional joint law enforcement of urban management. On the horizontal side, straighten out the department responsibilities. It is suggested to clarify the boundaries of responsibilities for urban management, formulate a list of powers, and implement law enforcement responsibilities. We will continue to follow, people, and unify power and responsibilities. Cities and counties should establish and improve comprehensive coordination institutions for urban management, promote the reform of the major departmental system in the field of urban management of city and county governments, integrate relevant functions such as municipal public utilities, city appearance and sanitation, landscaping, and urban management law enforcement, so as to realize the comprehensive establishment of management law enforcement agencies. In addition, further rationalize the construction, management, and law enforcement systems. Follow the laws of urban operation, and establish an urban management system with the healthy operation of the city as the core and the overall coordination of the construction and operation of above-ground and underground facilities.

#### **3.2 Establish a perfect enterprise operation and management mode**

In the process of urban management, the first choice needs to clarify the actual different needs, analyze the level and characteristics of social and economic development, judge the different regional cultural characteristics, systems, habits and customs of each city, accurately analyze the overall management effect of enterprises, and analyze enterprises. The influencing factors in the model management conditions should be isolated in a certain way, the development level of social environment and culture should be continuously expanded, perfect management standards should be established, the innovation of enterprise models should be strengthened, the system construction level of

urban management should be improved, and comprehensive administrative efficiency should be continuously improved. Establish effective characteristic services to ensure that the urban management model meets the needs of future development. By studying the existing management concepts of cities, introducing effective urban management methods, trying new construction methods, learning western reform and innovation ideas, strengthening the development of urban comprehensive speed, and clarifying the rationality and effectiveness of urban management. According to the needs of the city's development and management efficiency, we will actively expand our country's urban management development and construction level, and introduce the enterprise's management objectives, quality management needs, and strategic management forms into the city government's management, and give play to the coordination of various management aspects. The actual management order, promote the city's proposed scientific and technological development, and build a perfect framework management level. According to the competitive development management mechanism, it is introduced into the urban management mode, using the reasonable enterprise spirit reform mode to improve the service and development of the innovative city, expand the development level of the urban government, and provide good vitality for the urban construction.

### **3.3 Solve problems by advancing relevant legislation and formulating standards and norms**

It is recommended that laws and regulations on urban management be formulated and promulgated at the national level as soon as possible. The accelerated legislative work at the provincial level establishes the strategic position of urban management in urban work in law, and fundamentally solves the dilemma of unlawful urban management and law enforcement. It is suggested to speed up the formulation or revision of a number of standards and norms for urban management and comprehensive law enforcement. Before the promulgation of relevant national policies and standards, various methods such as local legislation, departmental regulations, technical guidelines, and quota standards should be actively adopted to form a systematic urban management standard system.

### **3.4 Scientifically determine the proportion of urban management law enforcement personnel**

This is an important link to strengthen the construction of urban management team. It is suggested that the central level should take into account scientific and strict standards for urban management staffing as soon as possible, comprehensively considering the population number, regional area, economic conditions, public security situation, emergency response, public order and other factors. At the same time, it is also suggested to introduce the supporting assistant management of personnel allocation standards.

### **3.5 Strengthen the government's management of the city through professional technical analysis**

Urban management needs to introduce effective enterprise management technology methods, use effective enterprise model governance methods, develop in accordance with scientific management processes, analyze the multiple contents and complexity levels of urban management, and determine the factors that cause the reduction of urban management models. Accurate analysis The deficiencies in my country's urban government management, the analysis and treatment of low efficiency and high cost situations, prompts my country's urban government management departments to change their thinking and strengthen special urbanization management. Clear professional knowledge construction and development level, innovation, continuous development, attach importance to construction efficiency, analysis and assist government decision-making management standards, in effective form, provide good service management standards, coordinate government at all levels, listen to the opinions and ideas of various

aspects, strengthen the comprehensive analysis of government departments, establish perfect effective standard construction and development level, in scientific, reasonable, efficient form, improve the comprehensive management effect of the government.

## CONCLUSION

Urban management is a complex and systematic project involving a wide range of areas. We must strengthen institutional construction, straighten out relations and form a joint force to ensure the smooth implementation of urban management work from the system. First, establish an efficient coordination and coordination mechanism, clarify the responsibilities and powers of urban management and law enforcement agencies, and standardize the functions and powers with urban planning, gardens, municipal administration, environmental protection, industry and commerce, public security and transportation and other relevant departments. Pay attention to the coordination and contact with relevant departments, actively strive for cooperation and support, and improve the efficiency of law enforcement management. Establish an urban management law enforcement joint meeting system and a two-way notification system, and form a joint law enforcement mechanism to ensure that the urban management work between departments is connected in an orderly manner and runs smoothly. my country's resistance is broad, and regional cultures are different. In order to strengthen the improvement of the management model of different cities, it is necessary to develop in accordance with the actual local culture, in line with the needs and living habits of the people. The government needs to understand the needs of the people and improve the construction of urban characteristic management. , to ensure the improvement of the level of urban development reform and innovation. Doing a good job in urban management is not only necessary for development, but also what the people hope for. The level of urban management represents the image of the city and reflects the quality of people's livelihood. It is the closest thing to the people and the most direct thing that the citizens feel. Enhancing the people's sense of achievement in reform requires us to build a city management system with clear rights and responsibilities, service first, optimized management, standardized law enforcement, safe and orderly, and strive to create a livable and workable environment to make people's lives happier.

## REFERENCES

- Wang Juolin, Zhai Baohua, Zhou Jiang, Zhou Da. Research on the housing administrative system and related problems in some cities in China [J]. China Construction, 2016 (01).
- Wang Juelin. Research on the Theoretical Innovation of Urban Management Mode [J]. China Construction, 2017 (08).
- Chen Ping. Relying on the digital city technology to create a new urban management model [J]. Proceedings of the Chinese Academy of Sciences, 2016 (03).
- Ren Guanhua, Song Gang. The Standard System of Smart City Construction [J]. Standard Science, 2014 (3): 14~17.
- Meng Qingguo, Song Gang, Zhang Nan. Innovation 2.0 Research Top ten hotspots [J]. Office Automation, 2015 (5): 6~9.
- Tong Tengfei, Song Gang, Liu Weigang. European Smart City Development and Its Start [J]. Office Automation, 2015 (7): 8~15.

# AN EMPIRICAL RESEARCH OF ONLINE LEARNER-LEARNER INTERACTION MODERATING EFFECT ON CONTINUED INTENTIONS OF ONLINE LEARNING BASED ON THE TAM MODEL

LIAO WENGUO

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 116634665@qq.com*

## ABSTRACT

During COVID-19's popularity, many schools providing an online learning environment through synchronous and asynchronous ways to substitute for the convention school curriculum. Based on TAM model, this paper studies the influencing factors of students' online learning continued intention and moderation of the learner-learner interaction on learning attitude and continued intention. Using 312 valid samples and structural equation model, this study verifies the hypothesis that perceived ease of use has a significant positive impact on perceived usefulness, perceived ease of use on learning attitude, perceived usefulness on learning attitude, perceived usefulness on continued intention, and learning attitude on continued intention. All five basic assumptions are supported. In addition, our results also confirm that the learner-learner interaction plays a significant moderating effect on attitude to continued learning. The learner-learner interaction itself contributes to the improvement of continued learning intention, but with the improvement of learner-learner interaction, the positive impact of students' learning attitude on continued intention will be slightly weakened. Finally, we discussed the results, conclusion, and limitations of the study

**Keywords:** online learning, mooc, learner-learner interaction, tam, moderating effect

## INTRODUCTION

Many countries have implemented blockades at national, local and some regional levels to prevent the further spread of the virus. In order to minimize the adverse impact of the epidemic on the educational environment, many countries have taken strict social alienation measures. During the coronavirus crisis in 2019, the self-sealing and locking policy reached a climax in universities, changing the way of providing a distance online learning environment through synchronous and asynchronous channels to substitute for the traditional school curriculum.

Online learning is defined as studying style in an online environment by using internet (Singh & Thurman, 2019) . For students, the online environment does not depend on their physical environment. Teachers develop modules of teaching content delivered online and boost learning and interaction in a synchronous or asynchronous environment (Singh & Thurman, 2019). Online learning has variable definitions and vocabulary, such as e-learning, blended learning, online education, online courses, etc. Today, many schools offer online courses or blended learning, which combines traditional face-to-face teaching with online teaching (Bazelais et al., 2018). Blended courses provide 30% to 79% of the

content online. By comparison, full online learning courses usually have no face-to-face meetings, and more than 80% of the teaching content is taught online(Allen et al., 2013; Powell et al., 2015). However, as students have to adapt to many courses at home, the effectiveness of online learning during the coronavirus blockade remains in doubt. For example, MOOC as a new teaching model has attracted many students to registered learning, but many students give up learning for personal or environmental reasons to result in low completion rate. Therefore, it is necessary to study the factors affecting the willingness to accept and continue to use online learning.

Researchers listed various factors that determine students' satisfaction or participation in online learning such as connected classroom climate(Li & Zhao, 2021), quality factors and organizational factors(AlMulhem, 2020; Gray & Diloreto, 2016) social interaction(Baber, 2022),online self-efficacy(Al-Azawei et al., 2017), learning styles (Al-Azawei & Lundqvist, 2015), course structure(Baber, 2020), instructional design(Costley & Lange, 2016), learner-learner, learner-instructor, or learner-content interactions (Bağriacık Yılmaz & Karataş, 2018a; Kang & Im, 2013; Kuo et al., 2014), and system quality or facilitation support (Al-Fraihat et al., 2020; AlMulhem, 2020; M. Wang, 2007).

Interaction is one of the most important component part of distance and face-to-face teaching. The most commonly accepted and recognized types of interaction are learner –learner, learner-instructor and learner-content interaction(Bağriacık Yılmaz & Karataş, 2018b). Learner–learner interaction is one of the factors predicting learners’ satisfaction and attitude in online learning environments.(Bağriacık Yılmaz & Karataş, 2018b; Kuo et al., 2014). The main purpose of this study is to identify the technology acceptance model (TAM) in the context of higher education and COVID-19, to explaining user continued intention of online learning, and the learner–learner interaction moderation between attitude towards and continued intention.

## LITERATURE REVIEW

### 1.1 TAM Model

Technology Acceptance Model (TAM)(Davis, 1989a) was proposed to research users’ acceptance of information system (IS). In TAM model, "perceived usefulness (PU)" refers to the extent to which the user believes that the use of this technology will improve performance, while "perceived ease of use (PEU)" refers to the extent to which the user believes that the use of this technology is user-friendly or effortless. Tam points out that perceived usefulness and ease of use will affect users' attitude towards and then affect the intention of use.

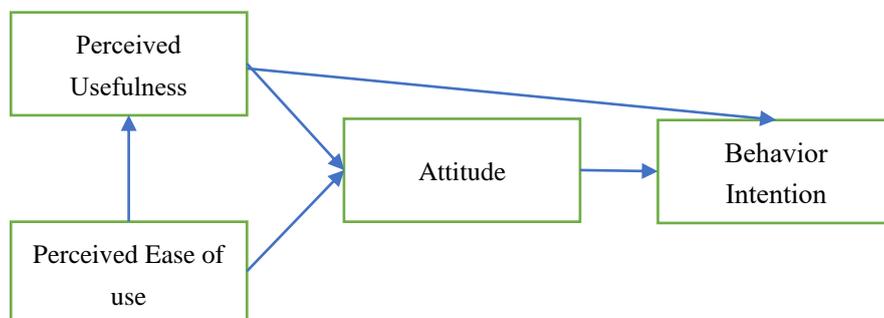


Fig 1 Technology Acceptance Model

## 1.2 Learner–learner interaction

Whether or not there is a lecturer present, there may be interaction between learners. This so-called learner-learner interaction can stimulate learning through cooperation and information sharing among learners, and may produce a sense of community among learners (Chou, n.d.; Hawkins et al., 2012). Students may need the support of other students, especially in a multicultural online learning environment. Curriculum design and implementation should include activities designed to ensure interaction between learners. Knowledge sharing among students improves learning efficiency, and students and teachers respond positively to the interaction generated by information sharing. Learners prefer activities that require cooperation with friends in an online learning environment rather than activities that require separate communication with teachers (Benzigar, 2014). Moreover, learner–learner interaction between learners and teachers also increases the interaction between learners and teachers, which is one of the factors predicting learner satisfaction in online learning environment (Bağrıacık Yılmaz & Karataş, 2018b; Kuo et al., 2014).

## 1.3 Research Model and Hypotheses

Tam is mainly used to predict users' initial acceptance of IS. Tam is not only used for the initial acceptance model, but also for the continuous willingness of the system in the later stage. Many studies have applied Tam to the continuous use of related technologies

Therefore, this study uses Tam as the basic theory to study the continuous intention of online learning. With the development of information technology, online learning is becoming a more and more important learning trend. In recent years, many studies on education have used Tam to test learners' willingness to accept the learning system.

However, few studies have used TAM to examine learner-learner interaction moderation between attitude and continued intention. On the basis of TAM and the expansion and modification of the model according to the relevant literature, we propose a new conceptual model, which can predict the continuous intention of learners in the interaction between learners and learners. A modified TAM model consists of five constructs namely perceived usefulness, perceived ease of use, attitude, continued intention and a moderation construct namely learner–learner interaction (Fig 2).

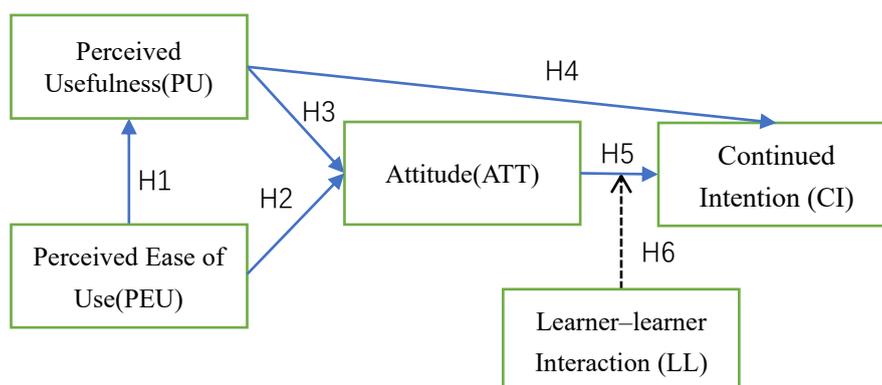


Fig 2 Hypothesized mode

Previous studies have confirmed that perceived ease of use has a significant influence on perceived usefulness (Abdullah & Ward, 2016a; Joo et al., 2013) and

strongly predicts people's attitudes towards using online learning (Binyamin et al., 2019; Joo et al., 2018).

Therefore, the following assumptions are tested.

H1: Perceived Ease of Use has a positive effect on Perceived Usefulness of online learning.

H2: Perceived Ease of Use has a positive effect on attitude of online learning.

Previous studies showed that perceived usefulness had the most significant influence on attitude (Martinho et al., 2018; Ritter, 2017; Wong, 2015) And also, also had a significant impact on behavioral intention toward e-learning adoption (Abdullah & Ward, 2016b; Martinho et al., 2018; Wong, 2015). Therefore, the following assumptions are tested.

H3: Perceived Usefulness has a positive effect on attitude of online learning.

H4: Perceived Usefulness has a positive effect on the intention of students continued intention of online learning.

Previous studies have shown that attitude is the determinant of online learning use intention (Cheung & Vogel, 2013). Attitude is the main factor affecting behavior intention (Hussein, 2017; Teo et al., 2017). This research model focuses on the willingness to continue learning after accepting online learning, so we Make the following assumptions.

H5: Attitude has a positive effect on students continued intention of online learning.

In the past decades, interaction in online learning has been widely studied, and a large number of studies have shown that interpersonal interaction has positive benefits. Learner–learner Interaction in online environment can increase perceived learning, make students more satisfied with the curriculum, teachers more satisfied with the curriculum, and improve students' academic performance (Mohall, 2020). Learner-learner interaction positively improves students' satisfaction and attitude to effect the continued intention of learning.

H6: Learner–learner Interaction will positively moderate the relationship between attitude and continued intention, where in the relationship will be stronger when the Learner–learner Interaction is high.

## RESEARCH METHODOLOGY

### 1.1 Participants

This study selected students with online learning experience as the survey object. A total of 316 questionnaires were distributed in a university in Western China. Due to incomplete filling and inconsistent answers, four questionnaires were excluded. Finally, there were 312 valid questionnaires. The basic demographic information includes gender, age and grade (see Table 1). Among them, female account for 42.10% and male account for 58%; 15.7% were under the age of 19, 53.8% between the ages of 20 and 21, and 30.4% over the age of 22.

*Table 1 Demographics of the participants*

Basic information		Frequency	Percent
gender	female	131	42.0
	male	181	58.0
age	Under 19	49	15.7
	20-21	168	53.8
	above 22	95	30.4

<b>grade</b>	freshman	118	37.8
	sophomore	132	42.3
	junior	32	10.3
	senior	30	9.6
	Total	312	100.0

## 1.2 Instruments

There are 6 constructs and 39 items in this study which are all from scholars' literature and repressed with Perceived Usefulness scale and Perceived Ease of Use scale from (Davis, 1989b; DAVIS, 1993; Venkatesh & Davis, 1996, 2000), attitude scale from (Carlson & O'Cass, 2010), Continued Intention from (Bhattacharjee, 2001), Learner–learner interaction from (Bağrıacık Yılmaz & Karataş, 2018b). All items used used the 7-point Likert scale ("1 = strongly disagree" and "7 = strongly agree").

## 1.3 Date Analysis method

Compared with CB-SEM method, PLS requires less sample size and does not need normally distributed input data. Therefore, in this study, we used Smartpls 3.0 to measure measurement model and structural Model.

# RESULT AND FINDINGS

## 1.1 Measurement Model

Indicator loading assesses indicator reliability how much of the indicator's variance is explained by the corresponding LV. It's values should be significant at the .050 level and higher than .700(Chin, 1998b). Cronbach's alpha, composite reliabilities (CR) is used to evaluate to assess internal consistency reliability. A Cronbach's alpha is proposed threshold value above 0.8(Cronbach, 1951; Nunnally & Bernstein, 1994).. The value of composition reliability above 0.7 is considered acceptable (Barclay et al., 1995; Y. Wang et al., 2020). Average variance extracted (AVE) expresses convergent validity to measures the variance captured by the indictors relative to measurement err, and it should be greater than .50 r(Fornell & Larcker, 1981) . The results show that all reliability and validity indexes meet the requirements (see Table 3).

*Table 2 Reliability, internal consistency consistency and Convergent validity*

Construct	Item	Loading	Sig test by bootstrapping	Crobach' s $\alpha$	Composit e reliability	Convergen c e validity
					CR	AVE
Perceived Ease of Use(PEU)	PEU 1	0.965	***	0.979	0.984	0.940
	PEU 2	0.971	***			
	PEU 3	0.970	***			
	PEU 4	0.973	***			
Perceived Usefulness(PU)	PU1	0.905	***	0.926	0.947	0.818
	PU2	0.863	***			
	PU3	0.934	***			
	PU4	0.913	***			

Construct	Item	Loading	Sig test by bootstrapping	Crobach' $\alpha$	Composite reliability	Convergent validity
					CR	AVE
Attitude(ATT)	ATT1	0.967	***	0.966	0.978	0.936
	ATT2	0.975	***			
	ATT3	0.961	***			
Continued Intention(CI)	CI1	0.966	***	0.968	0.979	0.940
	CI2	0.970	***			
	CI3	0.973	***			

To evaluate discriminant validity, the square root of each construct's AVE should be greater than the correlation of the construct to other (Fornell & Larcker, 1981). A second way to evaluate discriminant validity is to check Crossing Loading (Chin, 1998a). If the loading of each indicator is higher for its designated construct than for any of the other constructs, it can be inferred that the constructs have sufficient discrimination. Table 4 and Table 5 demonstrate adequate discriminant validity.

Table 3 Discriminant validity(Fornell-Larcker criterion)

	ATT	CI	PEU	PU
ATT	<b>0.967</b>			
CI	0.854	<b>0.969</b>		
PEU	0.786	0.812	<b>0.970</b>	
PU	0.823	0.819	0.757	<b>0.904</b>

Table 4 Discriminant validity(Crossing Loading)

	ATT	CI	PEU	PU
ATT1	<b>0.967</b>	0.808	0.751	0.810
ATT2	<b>0.975</b>	0.824	0.757	0.799
ATT3	<b>0.961</b>	0.845	0.771	0.780
CI1	0.840	<b>0.966</b>	0.801	0.802
CI2	0.824	<b>0.970</b>	0.779	0.790
CI3	0.818	<b>0.973</b>	0.780	0.788
PEU1	0.751	0.786	<b>0.965</b>	0.722
PEU2	0.755	0.780	<b>0.971</b>	0.728
PEU3	0.773	0.793	<b>0.970</b>	0.736
PEU4	0.767	0.791	<b>0.973</b>	0.749
PU1	0.796	0.820	0.760	<b>0.905</b>
PU2	0.659	0.624	0.610	<b>0.863</b>
PU3	0.771	0.783	0.692	<b>0.934</b>
PU4	0.739	0.714	0.662	<b>0.913</b>

## 1.2 Structural Model

The structural model should can be analyzed after successfully verifying the measurement model. The first criterion to evaluate the structural model is the determination coefficient of endogenous variables ( $R^2$ ).  $R^2$  measures explained variance to its total variance.(Chin, 1998b) considers values of approximately .670 substantial, values around .333 average, and values of .190 and lower weak. Table 5 show the LV ATT( $R^2=.739$ ) and CI( $R^2=.769$ ) is lager the 0.67 to reach substantial explanatory power.

The LV PU( $R^2=.571$ ) is between .333 and 0.67 to reach the mid explanatory power.

The next step is to evaluate the significance of the path coefficient by bootstrapping used to generate t-statistics and standard errors(Chin, 1998b) .Table 5 show the path sign are all positive and significant under the confidence level of 0.05. So theoretical assumptions H1, H2, H3, H4, H5 are all support.

Effect size( $f^2$ ) measures whether independent LV has a substantial impact on dependent LV. It is calculated as an increase in  $R^2$  relative to unexplained variance ratio of  $R^2$ (Chin, 1998b). Values for  $f^2$  between .020 and .150, between .150 and .350, and exceeding.350 show that an exogenous LV has a small, medium, or large effect on an endogenous LV(Chin, 1998b; Gefen et al., 2000). Table 6 shows IV PEU has a large impact on PU as well as PU on ATT, ATT on CI, PEU has medium effect on ATT as well as PU on CI.

Finally, the Q2 statistic is a measure of the predictive relevance of a block of manifest variables by a blindfolding procedure(Tenenhaus et al., 2005). The positive  $Q^2$  value confirms the correlation of the model prediction. The larger the value, the stronger the prediction correlation(Fornell & Cha, 1994). ATT's  $Q^2$  is .686, CI'  $Q^2$  is .717, PU's  $Q^2$  is 0.61(Table 6). The endogenous LV's are positive to confirm the model's predictive relevance.

Table 5 Hypothesis test

Hypothesis	path	Standard Beta	Sd.error	T value	P value	$R^2$	$f^2$	Decision
H1	PEU -> PU	0.757	0.041	18.281	***	0,571	1.351	Support
H2	PEU -> ATT	0.381	0.063	5.995	***	0.739	0.237	Support
H3	PU -> ATT	0.535	0.067	8.037	***		0.469	Support
H4	PU -> CI	0.360	0.064	5.609	***	0.769	0.182	Support
H5	ATT -> CI	0.557	0.063	8.865	***		0.437	Support

### 1.3 Moderating Effects Analysis

To test moderation effect learner-learning interaction between attitude and continued intention to online learning, a moderation analysis was conducted to test the hypothesis (H6) by the bootstrapping procedures.

The results are shown in Fig3 and Table 7. The learner-learning interaction has a positive effect on the continued intention ( $\beta=0.314$ ,  $p<0.001$ ). The learner-learning interaction moderation between attitude and continued Intention is significant at the significance level of 0.05 ( $\beta=-.041$ ,  $p=0.031$ ), which means that the regression coefficient of independent variables ATT to the dependent variable (CI) will decrease by 0.041 units with the moderation variable of LL increasing one unit. The moderation role of LL exists, but it has a slight negative regulatory effect. At the same time, LL plays a partial mediating role in the regulation of PU.

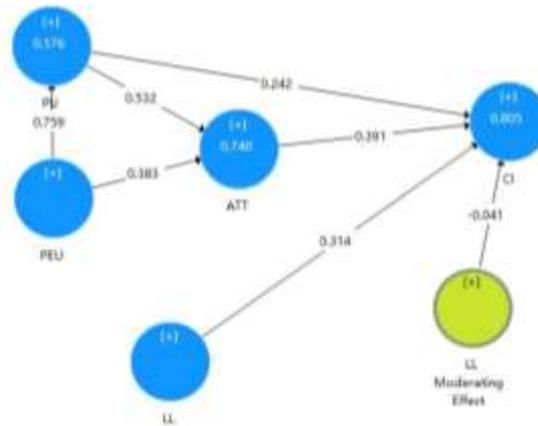


Table 6 Moderation effect of LL between ATT and CI

Hypothesis	path	Standard Beta	Sd.error	T value	P value	Decision
H6	ATT -> CI	0.391	0.081	4.797	***	Partial support
	LL -> CI	0.314	0.085	3.699	***	
	LL Moderating Effect -> CI	-0.041	0.019	2.158	***	
	PEU -> ATT	0.383	0.064	5.992	***	
	PEU -> PU	0.759	0.041	18.394	***	
	PU -> ATT	0.532	0.067	7.914	***	
	PU -> CI	0.242	0.065	3.706	***	

## DISCUSSION AND CONCLUSION

Online learning provides more high-quality learning resources and learning opportunities for students in higher education. But the effect of online learning is worrying. For example, MOOC has been widely criticized for its low completion rate. This study establishes an extended technology acceptance model to discuss acceptance willingness and continued intention online learning, and the moderation effect of students' interaction on learning attitude and continuous learning. Research shows that perceived ease of use has a significant positive impact on perceived usefulness, perceived ease of use on learning attitude, perceived usefulness on learning attitude performance expectation, perceived usefulness on learning persistence intention, and learning attitude on performance learning intention. All five basic assumptions are true. In addition, our results also confirm that the Learner-learner interaction plays a significant regulatory effect in the impact of attitude on the willingness to continue using online learning. The interaction between students itself contributes to the improvement of continued learning intention, but with the improvement of interaction learner-learner interaction, the positive impact of students' learning attitude on sustained learning intention will be slightly weakened.

## RECOMMENDATION AND LIMITATIONS

Our research found that the system usefulness and learning attitude in the model have a direct positive impact on continued intention, and the ease of use of the system has a positive impact on the willingness to continued learning through the mediation of system usability and learning attitude continued intention. This provides a theoretical basis for how to improve online learning continued intention. From the technical level, we should pay attention to the practicability and usability of online learning system. Teachers should pay attention to the usability and practicability of choosing online platform curriculum design. At the same time, we should actively guide the beneficial interaction between students, but we should not place too much emphasis on student interaction. Excessive student interaction may affect students' learning attitude and weaken students' continuous willingness to learn.

Although this study has certain significance, it still has some limitations. First, the samples were originally from the same university in Western China. Whether it can be applied to other universities still needs further verification and promotion by peers. Furthermore, this study only considers the moderating effect of learner-learner' interaction on the relationship between learning attitude and online learning continued intention. However, many factors may affect the willingness to continue learning and regulate the relationship between learning attitude and online learning continued intention. Therefore, in the future, more diversified and larger sample size surveys can be carried out to enrich the research conclusions. At the same time, we can consider the moderating effects of learner-instructor, or learner-content interactions on learning attitude and continuous willingness of online learning.

## REFERENCE

- Abdullah, F., & Ward, R. (2016a). Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) by analysing commonly used external factors. *COMPUTERS IN HUMAN BEHAVIOR*, *56*, 238–256. <https://doi.org/10.1016/j.chb.2015.11.036>
- Abdullah, F., & Ward, R. (2016b). Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) by analysing commonly used external factors. *Computers in Human Behavior*, *56*, 238–256. <https://doi.org/10.1016/j.chb.2015.11.036>
- Al-Azawei, A., & Lundqvist, K. (2015). Learner Differences in Perceived Satisfaction of an Online Learning: An Extension to the Technology Acceptance Model in an Arabic Sample. *Electronic Journal of E-Learning*, *13*(5), 408–426.
- Al-Azawei, A., Parslow, P., & Lundqvist, K. (2017). Investigating the effect of learning styles in a blended e-learning system: An extension of the technology acceptance model (TAM). In *Australasian Journal of Educational Technology* (Issue 2).
- Al-Fraihat, D., Joy, M., Masa'deh, R., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, *102*, 67–86. <https://doi.org/10.1016/j.chb.2019.08.004>
- Allen, I. E., Seaman, J., Survey, B., & Seaman, J. (2013). *Grade Change: Tracking Online Education in the United States*.

- AlMulhem, A. (2020). Investigating the effects of quality factors and organizational factors on university students' satisfaction of e-learning system quality. *Cogent Education*, 7(1). <https://doi.org/10.1080/2331186X.2020.1787004>
- Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID19. *Journal of Education and E-Learning Research*, 7(3), 285–292. <https://doi.org/10.20448/JOURNAL.509.2020.73.285.292>
- Baber, H. (2022). Social interaction and effectiveness of the online learning - A moderating role of maintaining social distance during the pandemic Covid-19. *Asian Education and Development Studies*, 11(1), 159–171. <https://doi.org/10.1108/AEDS-09-2020-0209>
- Bağrıacık Yılmaz, A., & Karataş, S. (2018a). Development and validation of perceptions of online interaction scale. *Interactive Learning Environments*, 26(3), 337–354. <https://doi.org/10.1080/10494820.2017.1333009>
- Bağrıacık Yılmaz, A., & Karataş, S. (2018b). Development and validation of perceptions of online interaction scale. *Interactive Learning Environments*, 26(3), 337–354. <https://doi.org/10.1080/10494820.2017.1333009>
- Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology Studies*, 2(2), 285–309.
- Bazelais, P., Doleck, T., & Lemay, D. J. (2018). Investigating the predictive power of TAM: A case study of CEGEP students' intentions to use online learning technologies. *Education and Information Technologies*, 23(1), 93–111. <https://doi.org/10.1007/s10639-017-9587-0>
- Benzigar. (2014). *A survey study of the association between perceptions of interactions, learning and satisfaction among undergraduate online student.*
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *Mis Quarterly*, 25(3), 351–370. <https://doi.org/10.2307/3250921>
- Binyamin, S. S., Rutter, M. J., & Smith, S. (2019). Extending the technology acceptance model to understand students' use of learning management systems in Saudi higher education. *International Journal of Emerging Technologies in Learning*, 14(3), 4–21. <https://doi.org/10.3991/ijet.v14i03.9732>
- Carlson, J., & O' Cass, A. (2010). Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites. *Journal of Services Marketing*, 24(2), 112–127. <https://doi.org/10.1108/08876041011031091>
- Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers and Education*, 63, 160–175. <https://doi.org/10.1016/j.compedu.2012.12.003>
- Chin, W. W. (1998a). Issues and opinion on structural equation modeling. *MIS Quarterly: Management Information Systems*, 22(1), vii–xvi. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0002042337&partnerID=40&md5=4385da2ebf717f06324e00e6ab9a99>
- Chin, W. W. (1998b). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295–336.
- Chou, C. (n.d.). *Model of Learner-Centered Computer-Mediated Interaction for Collaborative Distance Learning.* <https://www.researchgate.net/publication/253733773>

- Costley, J., & Lange, C. (2016). The Effects of Instructor Control of Online Learning Environments on Satisfaction and Perceived Learning. *Electronic Journal of E-Learning, 14*(3).
- Cronbach, L. J. (1951). Coefficient Alpha and The Internal Structure of Tests. *Psychometrika, 16*(3), 297–334.
- Davis, F. D. (1989a). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems, 13*(3), 319–339. <https://doi.org/10.2307/249008>
- Davis, F. D. (1989b). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems, 13*(3), 319–339. <https://doi.org/10.2307/249008>
- DAVIS, F. D. (1993). User Acceptance of Information Technology - System Characteristics, User Perceptions and Behavioral Impacts. *International Journal of Man-Machine Studies, 38*(3), 475–487. <https://doi.org/10.1006/imms.1993.1022>
- Fornell, C., & Cha, J. (1994). Partial least squares. *Advanced Methods of Marketing Research, 52–78*.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(FEBRUARY), 39–50.
- Gefen, D., Straub, D., & Boudreau, M. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems, 4*(7), 1–78.
- Gray, J. A., & Diloreto, M. (2016). The Effects of Student Engagement, Student Satisfaction, and Perceived Learning in Online Learning Environments. *International Journal of Educational Leadership Preparation*.
- Hawkins, A., Graham, C. R., & Barbour, M. K. (2012). “Everybody is their own Island” Teacher disconnection in a virtual school. *International Review of Research in Open and Distance Learning, 13*(2), 124–144. <https://doi.org/10.19173/irrodl.v13i2.967>
- Hussein, Z. (2017). Leading to Intention: The Role of Attitude in Relation to Technology Acceptance Model in E-Learning. *Procedia Computer Science, 105*, 159–164. <https://doi.org/10.1016/j.procs.2017.01.196>
- Joo, Y. J., Lim, K. Y., & Kim, J. (2013). Locus of control, self-efficacy, and task value as predictors of learning outcome in an online university context. *Computers and Education, 62*, 149–158. <https://doi.org/10.1016/j.compedu.2012.10.027>
- Joo, Y. J., Park, S., & Lim, E. (2018). Factors influencing preservice teachers’ intention to use technology: TPACK, teacher self-efficacy, and Technology Acceptance Model. *Educational Technology and Society, 21*(3), 48–59.
- Kang, M., & Im, T. (2013). Factors of learner-instructor interaction which predict perceived learning outcomes in online learning environment. *JOURNAL OF COMPUTER ASSISTED LEARNING, 29*(3), 292–301. <https://doi.org/10.1111/jcal.12005>
- Kuo, Y.-C., Belland, B. R., Schroder, K. E. E., & Walker, A. E. (2014). K-12 teachers’ perceptions of and their satisfaction with interaction type in blended learning environments. *DISTANCE EDUCATION, 35*(3), 360–381. <https://doi.org/10.1080/01587919.2015.955265>
- Li, Y., & Zhao, M. (2021). A Study on the Influencing Factors of Continued Intention to Use MOOCs: UTAUT Model and CCC Moderating Effect. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.528259>

- Martinho, D., Santos, E., Miguel, M. I., & Cordeiro, D. (2018). Factors that influence the adoption of postgraduate online courses. *International Journal of Emerging Technologies in Learning*, 13(12), 123–141. <https://doi.org/10.3991/ijet.v13i12.8864>
- Mehall, S. (2020). Purposeful interpersonal interaction in online learning: What is it and how is it measured? *Online Learning Journal*, 24(1), 182–204. <https://doi.org/10.24059/olj.v24i1.2002>
- Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric Theory. *American Educational Research Journal*, 5(3).
- Powell, A., Watson, J., Staley, P., Patrick, S., Horn, M., Fetzer, L., Hibbard, L., Oglesby, J., & Verma, S. (2015). *Blending Learning: The Evolution of Online and Face-to-Face Education from 2008-2015 Updates Written by: Promising Practices in Blended and Online Learning*. <http://www.inacol.org/>
- Ritter, N. L. (2017). Technology acceptance model of online learning management systems in higher education: A meta-analytic structural equation model. *International Journal of Learning Management Systems*, 5(1), 1–15.
- Singh, V., & Thurman, A. (2019). How Many Ways Can We Define Online Learning? A Systematic Literature Review of Definitions of Online Learning (1988-2018). *American Journal of Distance Education*, 33(4), 289–306. <https://doi.org/10.1080/08923647.2019.1663082>
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics and Data Analysis*, 48(1), 159–205. <https://doi.org/10.1016/j.csda.2004.03.005>
- Teo, T., Milutinović, V., Zhou, M., & Banković, D. (2017). Traditional vs. innovative uses of computers among mathematics pre-service teachers in Serbia. *Interactive Learning Environments*, 25(7), 811–827. <https://doi.org/10.1080/10494820.2016.1189943>
- Venkatesh, V., & Davis, F. D. (1996). *A Model of the Antecedents of Perceived Ease of Use: Development and Test\**.
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Wang, M. (2007). Designing online courses that effectively engage learners from diverse cultural backgrounds. *BRITISH JOURNAL OF EDUCATIONAL TECHNOLOGY*, 38(2), 294–311. <https://doi.org/10.1111/j.1467-8535.2006.00626.x>
- Wang, Y., Dong, C., & Zhang, X. (2020). Improving MOOC learning performance in China: An analysis of factors from the TAM and TPB. *Computer Applications in Engineering Education*, 28(6), 1421–1433. <https://doi.org/10.1002/cae.22310>
- Wong, G. K. W. (2015). Understanding technology acceptance in pre-service teachers of primary mathematics in Hong Kong. *Australasian Journal of Educational Technology*, 31(6), 713–735. <https://doi.org/10.14742/ajet.1890>

# ON THE ROLE OF ENTERPRISE MARKETING CONTENT INNOVATION AND INNOVATIVE MARKETING CHANNELS IN THE ENVIRONMENT OF INTERNET POPULARIZATION

YI CHENG FAN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 641733176@qq.com*

## ABSTRACT

This paper studies the influence of various public relations advertising and marketing methods in recent 40 years. With the development of information technology and the intensification of market competition, a large number of mobile media and new media distract consumers' attention, while the influence of traditional media is weakening, which greatly reduces the communication effect between enterprises and consumers, from public relations to advertising and marketing, Enterprises are facing rapid changes. In recent years, in the highly competitive media field, from the overnight fame of blog in 2007 to the sudden rise of SNS website in 2009, and then to the outbreak of microblog in 2010, blog, SNS and microblog are booming, which not only brings great challenges to the traditional mass media, but also quickly becomes the new media darling of enterprise marketing activities. Compared with the traditional media and web1 in the 0 era, the marketing behavior of social media has changed from "one-way communication" to "two-way dialogue", with a high degree of equality and initiative, and interaction has become its most important feature. This paper will make a qualitative analysis of the phenomenon of quantitative information dissemination to consumers, the impact of the content, channel and form of information dissemination on consumers' decision-making, and the research on psychological activities

**Keywords:** Public relations marketing, new media, Innovative marketing, Public relations communication

## INTRODUCTION

Brand thinking. In the Internet era, consumers have become manufacturers, judges and disseminators of product information in the marketing process. On microblog, wechat, community and other information sharing platforms, they share products to improve user loyalty, share goals to identify the needs of target consumer groups, and share experiences to make potential consumers have an in-depth understanding of products, Share suggestions, provide consumers with purchase guidelines, share history, let consumers understand the characteristics of brand formation, share experience, let consumers believe in the incomparable advantages of enterprises and brands, and share value, so as to truly realize the integration of producers and consumers<sup>0</sup>. Zhao Yongsheng "Internet +" Research on marketing strategy innovation. " Journal of Shandong Business Vocational and technical college 21.4 (2021): 8 )

With the popularity of the Internet and the increasing use of the Internet by the public, the Internet has a great influence on the guidance of public opinion and the evaluation of public events. The network has become the first source of consumers' influence and evaluation on a brand or commodity, and the information on the network spreads rapidly, which can have a great influence in a short time. The network has increasingly become the main position of daily public relations activities of enterprises. Expand external publicity and establish enterprise brand. The cost of network publicity is relatively low, with high pertinence and efficiency. The role of network publicity is expanding day by day, which also plays an important role in promoting the formation of enterprise reputation.

In the new media era, the dynamic and uncertain environment of enterprises often leads to crisis. Any seemingly insignificant incident may quickly ferment negative public opinion through network communication, and enterprises will naturally become the object of verbal and written criticism. If the enterprise does not have enough crisis awareness or the ability of crisis public relations in time, the image of the enterprise that has worked hard for many years will collapse overnight<sup>0</sup>. (Feng Zhiyong 2021)

With the in-depth development of the multimedia era, network video marketing has gradually penetrated into social production and daily life, and the network we media platform has also played its own advantages, and highlighted the important role of the network we media platform in the establishment of a new network video marketing model. Therefore, we should explore the actual situation of the network we media platform, and combine various marketing means such as taking advantage of the situation, implantable and emotion to realize the innovation of the video marketing mode on the basis of breaking the limitations of the traditional marketing mode, and then through the analysis of the new marketing strategy, we can realize the promotion, optimization and transformation and promote the sustainable development of the enterprise at the same time<sup>0</sup>. Wang Peng "On the innovative development model of online video marketing." (2021).)

China's public relations is in a very embarrassing dilemma: on the one hand, its market scale has developed unprecedentedly and the social needs are deepening day by day<sup>0</sup> (Chen Xianhong 2021)

The change of media environment leads to the change of audience's media contact behavior and marketing environment. Under the new media environment, what brand marketing communication strategy should be adopted to achieve effective communication with target audiences is a problem that traditional enterprises without Internet gene must seriously consider in response to the changes in the external environment, traditional enterprises have taken steps on the road of change. At the same time, they also need to further strengthen their efforts to continue to make efforts in mobile marketing, content marketing, scene marketing, entertainment marketing and integrated marketing, so as to help brand communication and enhance the competitiveness of enterprises<sup>0</sup> (Shang Yan 2017)

As a product of the development of the Internet, most of the network public relations companies have emerged in recent years, but it has to be said that due to the rapid expansion of the market, the network public relations companies, especially the domestic network public relations industry, appear to be uneven and mixed.

The application of big data can effectively help enterprises to integrate and reconstruct the Internet advertising industry by using the marketing and advertising industry institutions of the Internet, provide the combination and driving of big data

technology and industry data, and provide the standardization and cooperation mode of the advertising industry. We suggest that enterprises cut into the marketing of big data through the Internet and social media. After the enterprise has made clear its needs and objectives and formulated its corresponding strategy of using big data, it also believes that enterprises should estimate the cost, risk and possibility that the application of big data may bring to enterprise marketing in the future. Enterprises can reduce their costs and risks by analyzing big data and its, applying big data technology, and making use of the "four sharp tools" of Internet big data for accurate marketing<sup>0</sup> (Guo Huixin, Ge Jian, and Meng Fanzhe 2021)

Brands can have a variety of marketing paths, including live marketing, short video marketing and the combination of AI technology and 5g Network information technology can give the brand a more innovative marketing model. Through this marketing model, the integrated marketing system of the brand can be constructed At the same time, in the process of brand marketing, the brand management organization also needs to pay attention to the integration of products and sales process, so as to achieve the concept of "integration of products and sales"<sup>0</sup> (Sun Haojing2021)

In recent years, China's Internet penetration rate has increased year by year. By the end of December 2020, China's Internet penetration rate had reached 70.40%, an increase of 5.90% over the end of March 2020. By the end of June 2021, China's Internet penetration rate had reached 71.60%, an increase of 1.20% over the end of 2020. The marketing behavior of enterprise brands operating in China for the purpose of stimulating consumer behavior can not be carried out without the Internet

The continuous development of information, data and communication technology and media technology constitute the new media environment of current marketing. Enterprises have obvious advantages in marketing under the new media environment. The unlimited expansion of the role of advertising and publicity, and the continuous expansion of the communication scope of media due to information and networking However, the content is more and more homogeneous, the channels are more and more out of control, the users are more and more difficult to please, and the traditional marketing strategy and rhythm are gradually ineffective The biggest difference between the new media era and the traditional media era is that we must better understand the laws and skills of content communication<sup>0</sup> (Lv Ke2017.2)

## **Research significance**

More marketing methods can help more enterprises develop. public relations to describe the concept of public relations. Later, people referred to it as PR, which is the abbreviation of public relations. Etiquette expert Jin Zhengkun believes that the concept of public relations is better translated into public relations. In fact, people in Hong Kong and Macao call it public relations. In 1907, the public relations in Webster's new ninth edition university dictionary was abbreviated as "PR".

The first appearance of the word "public relations" was in 1807 when American President Thomas Jefferson delivered a speech to Congress.

According to Edward Bernays, public relations is a management function: making policies and procedures to gain public understanding and acceptance. Public relations is a kind of social relationship between social organizations and the part of the public that constitutes their living environment and affects their survival and development. Public

relations is a science and art for social organizations to survive and develop, through communication, shape image, balance interests, coordinate relations, optimize social psychological environment, and influence the public.

In the online economy, there are bound to be obvious differences in public relations and marketing methods, which also puts forward different professional requirements for public relations practitioners. Specifically, under the concept of online popularity, how traditional enterprises formulate public relations strategies according to their own characteristics, what are the key and difficult points of their public relations work, and how to realize brand Changhong are topics worthy of systematic discussion<sup>0</sup>.

In the era of network informatization, new media is the most popular keyword. The rapid development of new media has a far-reaching impact on the communication mode of information society. New media is the expansion of the field of traditional media, which is based on and affects each other. The development of media integration is the general trend. Its development trend is the relationship between competition and cooperation, and it is a win-win mutual assistance model. With the rapid development of new technologies such as Internet, cloud computing, big data, artificial intelligence and virtual reality, traditional media are also constantly using the technical means of new media to build emerging media platforms<sup>0</sup>.(Wang 2021)

Only by focusing on the audience can brand marketing activities realize brand recognition and acceptance in a wider range. As a reader - centered theory of literary works, reception theory has methodological significance in guiding the practice of audience - centered brand marketing. Among them, the concepts of audience subject theory, transmission and reception interaction theory and "Horizon of expectation" can inspire brand marketing innovation<sup>0</sup>.(Liu Lan, Chen Weichao "Research on brand marketing innovation in the Post Internet era from the perspective of acceptance theory." 2019-3(2021):71-75.)

The rapid development of Internet technology has created favorable conditions for technology research and development, product marketing and brand communication in various industries, and expanded the radius of enterprise development. Through the new product marketing mode integrating online and offline, enterprises can form a broader brand influence and win new opportunities and channels for development<sup>0</sup>.

The advent of the new media era has not only expanded people's access to information, but also gradually changed the brand marketing model in various industries<sup>0</sup>.

## SIGNIFICANCE

### 1 Practical significance

It can help enterprises output content more accurately in marketing behavior and make the location of content more effective

Through mutual communication and sharing in the Internet community, consumers can not only meet their social needs, but also fully understand all kinds of goods and service information in this process, so that they can make rational decisions in consumption. Based on this, Internet community has brought important opportunities to enterprises' marketing. At present, many enterprises carry out marketing innovation through Internet community. This paper studies the enterprise marketing innovation based on the business value of Internet community, analyzes the business value and profit model of Internet community, and discusses the enterprise marketing innovation strategy under

the community profit model, in order to provide reference for the current marketing innovation of Chinese enterprises<sup>0</sup>. ( Hao Shujun, Chen cunxia "Research on enterprise marketing innovation based on the business value of Internet community." Business Economics Research 11 (2021): 4 )

Whether online e-commerce enterprises or offline entity enterprises, it is very necessary to make up the lesson of global marketing. After all, it is the beginning of a new decade. Whether they can soar in the new decade depends on their keen understanding and rapid change of industry changes, especially for marketing<sup>0</sup>.

## **2 Social value**

1. Consumers can clearly distinguish whether their purchase decisions have practical value, rather than making passionate purchases under the condition of psychological hint. In the process of receiving information dissemination, whether there are purchase decisions and other psychological activities is the focus of our research.

2. Enterprises can understand the needs of consumers in more ways than in the past through traditional market research and collection and communication. Now they can understand information through more two-way communication channels and obtain information from cultural trends, aesthetic trends, cultural interpretation and so on

3. The maturity of Internet technology and the popularization and application of mobile terminal equipment have brought many opportunities for enterprise marketing. Internet community is one of the popular social models among consumers in recent years<sup>0</sup>. (Hao Shujun, Chen cunxia "Research on enterprise marketing innovation based on the business value of Internet community." Business Economics Research 11 (2021): 4)

4. This paper puts forward what effective measures should be taken by each economic subject in the development model of enterprise brand marketing, so as to promote the microeconomic subject led by the enterprise to develop brand marketing combined with logistics network and realize the win-win situation of enterprise, government and consumer<sup>0</sup>.

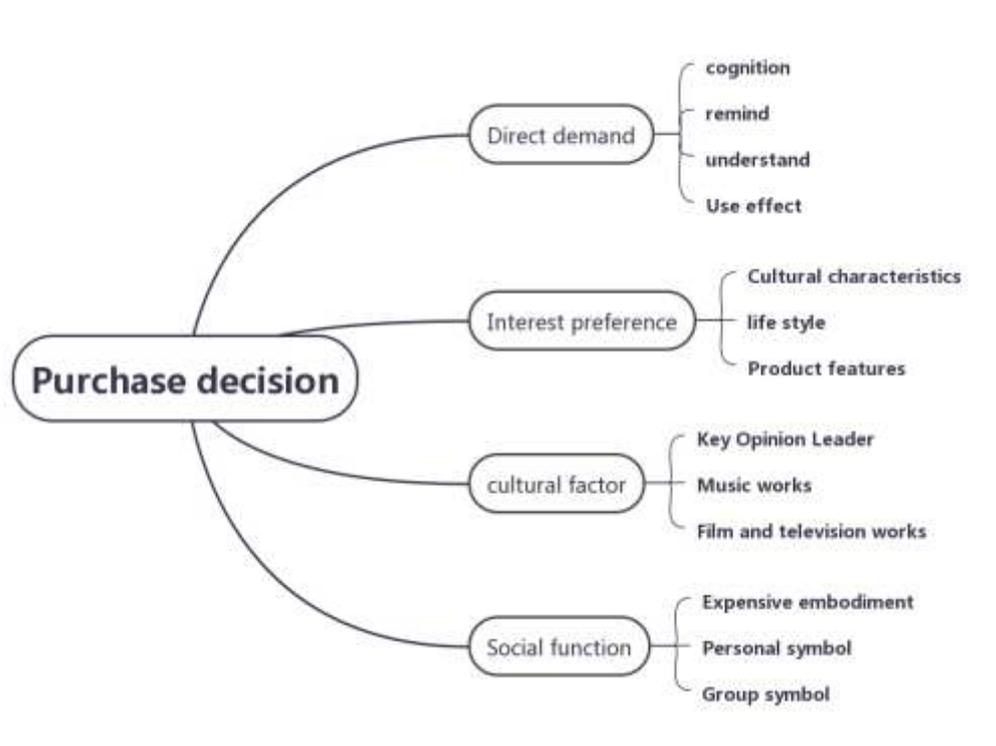
5. With the rapid development of modern society, the competition among various types of enterprises is becoming more and more fierce, and many enterprises will be born every day. In order to improve their popularity, enterprises need to pay attention to brand marketing. However, because the brand marketing communication mode adopted by enterprises is relatively backward and has no wide coverage, they can not obtain good communication effect, which has a serious impact on the publicity and promotion of enterprise brand. In the new media era, enterprises can use new media means to carry out brand marketing communication, enrich communication methods, enable enterprises to master more market information and share information in the market. This requires enterprises to actively face the challenges and opportunities brought by the development of new media, fully integrate innovative media and support brand marketing communication<sup>0</sup>.

## **3 Research questions**

Marketing methods have become more diversified from newspapers, television and outdoor static advertising in the past 40 years to today's public relations marketing, brand marketing, network marketing and social media marketing. For users, most of the purchase decisions in the past were due to a single 'need' to today's "interest", "social preference" and "preference" "Cultural attribute", "social function" and other reasons

Different marketing methods satisfy different purchase decision-making factors for consumers

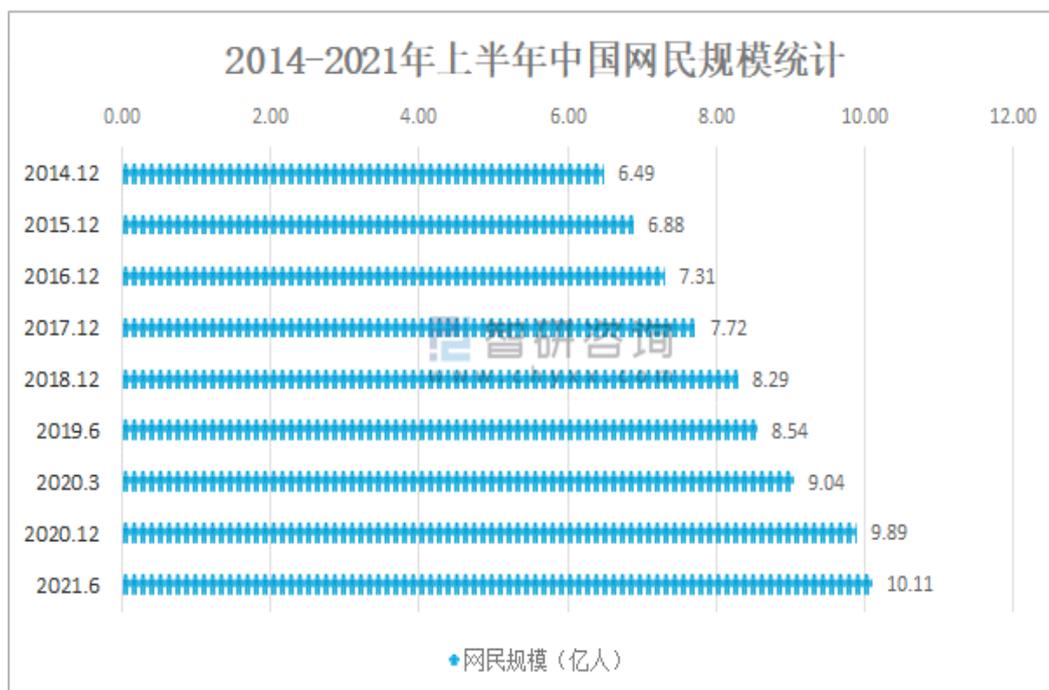
For enterprise brand, we can form a simple model of the current problems



*Purchase decision model*

*Source: Yi cheng Fan*

In the environment of increasingly fierce market competition, it is very difficult for small and medium-sized enterprises to achieve sustainable and healthy development through the existing brand marketing and communication mode, especially in the face of the rapid development of the Internet and the changes of consumers' purchase psychology and purchase process. Only by creating high-quality content, timely interactive feedback on consumers' information, constantly optimizing consumers' lives with products, updating consumers' experience by using big data, community and new generation data analysis technology, and better combining online and offline strategies, can we succeed in the new marketing environment<sup>0</sup>.



The picture describes the changes in the number of Internet users in China from 2014 to 2021

Source: CNNIC

According to the data in the survey on the development status and development trend of China's Internet industry from 2021 to 2027 released by Zhiyan consulting, it can be seen from the comparative data of the scale of Chinese Internet users in the first half of 2014-2021 that the scale of Chinese Internet users continued to grow in the first half of 2021. In the first half of 2021, the scale of Chinese Internet users reached 101.74 million, an increase of 70.9 million over the same period in 2020, a year-on-year increase of 7.5%.

On July 20, 2021, a serious flood disaster occurred in Henan Province, China. Chinese sportswear brand Hongxing Erke announced to donate money to the disaster area under the condition of extremely poor business conditions. This information quickly spread on China's Sina Weibo and became the focus of public attention. On the afternoon of July 21, Hongxing Erke issued a statement on Sina Weibo. On July 26, the topic was read 1.02 billion times and the number of comments exceeded 170000. The number of reprints of hongxingerke's official donation statement reached 229000 times and the number of comments exceeded 284000

In the context of the wide dissemination of donation information, Hongxing Erke's e-commerce channel sales began to grow rapidly, with a year-on-year increase of more than 52 times from July 22 to July 23. In the face of the support of netizens, Hongxing Erke managers issued an appeal in the live broadcasting room to persuade netizens to consume rationally and leave the heat to the disaster in Henan.

The whole event is very fast from information dissemination to the occurrence of the event. After this event, the brand has a great psychological impact on consumers. Many netizens released their views on the platform and said: I hope this enterprise can become a century old enterprise, hope this enterprise can develop better, and hope this enterprise can make profits

# RESEARCH METHOD

## 1 Research method

With the globalization of enterprises, brands and products and the globalization of information dissemination and marketing, consumers can learn about enterprises, brands and products all over the world at home anytime and anywhere, at present, for enterprises, the effect they want to achieve through public relations, advertising and social media content dissemination, whether it is traditional channels and content or innovative channels and content, the first goal is to let the people they need know their own enterprises, brands and products.

The second is to solve the problem of purchase decision

Here, select three different industries, traditional marketing channels and traditional content and innovative channels and content, and use the comparative study method

## 2 Data collection

In order to fully understand the results of different marketing methods through analysis and research, for enterprise management, use case analysis method to analyze marketing cases, and the comparative study method is used for verification.

With the continuous development and innovation of the advertising industry, diversified marketing methods are also constantly impacting consumers. Enterprises should take actions with different marketing strategies corresponding to their own development stage and industry to adapt to the Internet environment, big data tools, etc

Enterprises need to have the judgment ability to deal with the marketing environment, to deal with the results caused by content creativity, and to deal with the channels of content output

In the digital age, the decision-making of marketing behavior has a great impact on the profitability, cash flow and development stage of enterprises. Positive marketing behavior needs positive content output. What affects consumers is not only purchase decision, but also consumers' psychological consumption cognition, value understanding and consumption habits.

In the fierce market competition, the competition is not only the number of users, but also the position of enterprises, brands and products in the hearts of consumers. From the perspective of public relations, the three factors of popularity, reputation and loyalty directly affect the market competitiveness

### 2.1 Case of "small pot of tea"

Du Guoying, founder of small pot tea of marketing model, has always been a marketing entrepreneur with sharp insight. From the first-class pain point of customers, she has found the core customer market. Then the use of television media to enlarge publicity, resulting in the audience's conditioned reflection on the brand he promoted. Light from his creation of hundreds of advertising films, so from the analysis of ability, he is a senior advertiser and marketer. Back to back in 1997, to Haojixing in 2003, to E-person e-book in 2009, to small cans of tea in 2012, and finally 8848 products in 2013. It is because the first-class pain point of the customer is found that the project can hit the market direction, and the small pot of tea is his ultimate dream. The tea market is 360

billion, and there is enough operation space and imagination space. From the analysis of the iteration type of entrepreneurial talents, he changed from a marketing entrepreneur to a product manager entrepreneur, and the iteration lasted for 15 years (from 1997 to 2012). After all, product is 1 and marketing is 0. If the product doesn't work, no matter how the marketing flickers, it still can't solve the customer's pain points. When the outlet is gone, the market still doesn't exist. If the product is ready and the customer's pain points are solved, do you still need to design a marketing routine? Need to invest more marketing costs than ever before? Persuasion chain logic of small pot tea: eight tea making masters were invited to speak for their own tea products, which proved that the specialty and grade of tea making were implemented in strict accordance with the methods of tea making masters, which could affect customers' psychological interest cognition of small pot tea. Many people don't know that the TV media channels for the promotion of small pot tea have been signed by Du Guoying, resulting in other tea brands unable to compete with small pot tea in the same promotion channel within a certain period of time, which has become a unique moat of small pot tea. The advertising film of small can of tea is iterated quickly with the development process of the product manager, which lasted 20 months and 5 versions. After a small-scale test, the display volume, click through rate, incoming line rate and other data get the optimal conversion rate of the advertising product, which is put into major advertising channels across the country for broadcasting, and the agents in key cities across the country can be recruited soon

## **2.2 Mobile phone brand "oppo"**

As the top event in the new media industry, the awards of the annual "new list night" represent the wind vane of the influence of the new media industry and become the most concerned annual awards in the industry. The establishment of the annual content marketing case award aims to recognize excellent content marketing creative cases in the industry, dig deep into the value of content marketing, and encourage more advertisers and marketing practitioners to innovate and explore. Oppo won this award with the hot red Limited gift box launched cross-border with French luxury beauty brand Guerlain in 2017.

In June 2017, shortly after the OPPO R11 launch, OPPO officially announced the cross-border cooperation with the French luxury beauty brand Guerlain. The exclusive launch of the OPPO X GUERLAIN thermal Red Limited gift box included a thermal red OPPO R11 and Guerlain 325 KISSKISS lipstick with the same color as hot red, and engraved "Call Me Me" in the lipstick tube, which is romantic and witty.

One is the most fashionable and young brand in the smartphone industry, and the other is the French luxury beauty brand founded in 1828 and with a legendary history of 190 years. The cooperation between the two sides has produced a wonderful chemical reaction. On the one hand, oppo's young and fashionable label has been further strengthened. On the other hand, as oppo has more than 200 million users worldwide, its appeal among young users has also helped Guerlain reach a wider young market. Not only that, "little fresh meat" Yang Yang, as the spokesman of both brands, called for the "marriage" strength of the two brands. For a time, the thermal Red Limited gift box became the best choice for wool.

Looking back on the whole process of cooperation between oppo and Guerlain, from the first voice of oppo and Guerlain's official microblog to the follow-up of many leading new media including "Cosmo" and "if love and beauty" who won the annual influential new media, a complete communication matrix was built at the new media end,

high-quality content was continuously produced, and the communication effect was maximized.

The interaction between the two sides successfully moved many young people and was unanimously sought after by people. It also successfully made oppo R11 hot red a fashion item in the hands of many stars. At that time, Ju Jingyi, a member of snh48 team NII, and Wang Ziwen, the actor of Qu Xiao gauze in Ode to joy 2, competed to show this gift created by oppo and Guerlain, France.

All along, oppo has always adhered to the high-quality strategy, starting from the needs of users, and insisted on creating exciting products. At the same time, oppo also continues to innovate in marketing methods, maintaining communication with users in a way loved by young people, so as to win more choices of young people.

Looking back on 2017, oppo had many refreshing ways to play in addition to its cross-border cooperation with Guerlain, France. For cross-border fashion, oppo, together with Fauvism and fashion bazaar, launched a new year's flower box, and together with Shangguan, launched a limited edition trend sweater; Cross border entertainment, together with Zhejiang satellite TV, held the most different Mid Year Festival and new product launch in history; Cross border sports, holding hands with Barcelona for three times, launched the first integrated metal body color contrast mobile phone in the industry - R11 Barcelona red and blue color contrast limited edition.

The annual content marketing case award of 2018 new list conference represents the recognition of oppo's efforts in user communication and operation in the past year, highlighting oppo's communication value and brand value. 2018 has begun. Oppo will continue to focus on young users, actively explore more innovative marketing methods, and become a mobile phone brand loved by more young people.

### **2.3 ERKE (Clothing marketing case)**

On July 21, Hongxing Erke's official microblog announced that it donated 50 million yuan of materials to Henan.

On the evening of July 22, some netizens commented that "you feel like you are going to go bankrupt and donate so much", which aroused the resonance of netizens and promoted the topic "hongxingerke's microblog heartache" to the first place in the microblog hot search list, and public opinion fermented rapidly.

On the same day, hongxingerke Taobao live broadcasting room had more than 2 million viewers, and the sales of single live broadcasting with goods exceeded 10.22 million. Hung tiktok has also created more than 15 million sales in live broadcast.

On the afternoon of July 23, hongxingerke's official microblog showed that microblog members had been given away for 2140.

From July 23 to 24, the sales of Taobao live studio, the official flagship store of hongxingerke brand, exceeded 107 million, with a total sales of 645000 pieces, and nearly 30 million viewers. At the same time, some netizens went to the live broadcasting rooms of other brands to abuse and denounce

Tiktok's tiktok live broadcast was rated 420 million at the same time, and became tiktok's highest record. The cumulative sales of Hongxing Erke's 3 live streaming rooms exceeded 130 million yuan.

On July 24, we media published an article "Hongxing Erke who donated 200000 bottles of ice Dew Mineral water, how to donate 50 million materials?". On the same day, some netizens questioned Hongxing Erke as a foreign-funded company.

On July 25, "Liji", a well-known media person, sent a document on "Hongxing Erke rushed to Henan" on his microblog, questioning Hongxing Erke's donation.

On the same day, hongxingerke's official microblog made a relevant response, and Zhengzhou Charity Federation and one foundation also confirmed hongxingerke's donation on the same day.

On July 26, the website of the Central Commission for Discipline Inspection and the State Supervision Commission commented that hongxingerke's popularity was "a moving story of good triggering good".

On July 26, the cultural and tourism departments of Hangzhou, Zhejiang, Wuyuan, Jiangxi, Huanggang, Hubei and hepingjiang County, Yueyang City, Hunan Province announced that wearing "Hongxing Erke" shoes can enjoy preferential or even free visits to the scenic spot.

On July 29, Hongxing Erke issued an emergency notice saying that due to the recent influx of orders, the company's system collapsed, more than 40 products could not keep up with the demand of stock volume, local warehouses had been sold out, and the main production line had been overloaded.

## 2. Communication paths and trends

### Communication by platform

According to the monitoring of the big data platform of topaz.com, 2176511 pieces / piece (including forwarding) of relevant information were monitored in the monitoring interval (0:00 on July 21, 2021 - 12:00 on July 30, 2021). From the perspective of communication channels, microblog, short video and forum platforms are the most important channels for information communication. Among them, microblog platform has the highest communication volume, with a total of 1605707, accounting for 73.77%; The second is the short video platform, with 181717 articles, accounting for 8.35%; The third channel is the forum platform, with 140454 articles, accounting for 6.45%; There are 248633 articles / articles on other platforms, accounting for 11.43%.

### Trend of public opinion

Within the monitoring range, the public opinion trend of relevant events is shown in the figure.

On July 22, some netizens commented that "you feel like you're going to go bankrupt and donate so much", which aroused the resonance of netizens, promoted the topic "hongxingerke's microblog heartache" to the first place in the microblog hot search list, and promoted the popularity of related topics to reach the first peak.

On July 24, netizens went to the live broadcasting rooms of other brands for online violence and Hongxing Erke was questioned for fraudulent donation, which caused hot discussion, and promoted the heat of relevant topics to reach the second peak. Since then, the sound volume of the event gradually decreased.

## **1 Traditional marketing content and traditional marketing channel**

According to different case studies, "small pot tea" brand marketing adopts traditional content and traditional channels (traditional advertising content combined with TV advertising), which can effectively achieve purchase decisions for users between the ages of 40 and 60

From the development stage, "small pot tea" has relatively strong capital reserves through a large amount of financing, which can support the layout of a large number of traditional marketing channels

Through communication with many users of "small pot tea", they believe that: small pot tea brand is the first tea brand to appear in the public view, forming a general public perception. It is very suitable as a gift, because people who receive gifts usually know or have heard of the "small pot tea" brand. Because of its high popularity, it is also very convenient as a product for daily drinking

## **2 Mobile phone brand "oppo"**

Oppo brand makes co branded products with fashion brands and cooperates in marketing exhibitions and marketing activities. This marketing method is an innovative content and traditional marketing channel

Through the interview with oppo brand users, the psychology of users generally believes that oppo brand is a very fashionable technology brand, and the products have a strong sense of color and fashion .Oppo's marketing method also uses a large number of young "star actors" as KOLs to drive the purchase desire of young users. Of course, this method does make a large number of young people start to try to buy products using oppo, and associate the two things of "luxury" and "mobile phone"Oppo's products are not expensive, so this connects the concept of "luxury brand" with "civilian consumption"

## **3. ERKE ( Clothing marketing )**

In the event of a sudden natural disaster, the story of local brands standing up despite the shortage of funds is deeply loved by the public

From the perspective of communication, brand communication does not do much subjective action. The dissemination of information and the fermentation of events mainly rely on the public users of the network platform, which belongs to innovative content in terms of marketing content (actively helping disaster areas) and innovative channel in terms of marketing channel (webcast and social media platform)

The psychological situation of the audience is very obvious: "this is a great conscience enterprise", "this enterprise has actively helped the country and the masses", "it has been difficult to protect itself and is generous. We can't let such an enterprise go bankrupt" So the audience responded positively and madly bought the company's products

Internet technology has brought about constant changes in media. New media with the banner of interactivity, such as network media, mobile media, outdoor new media and mobile TV of digital information technology, have sprung up in large numbers, providing new means and methods for brand communication of garment enterprises, so that enterprises can quickly and accurately locate the audience in the fierce competition. However, there are also some problems in communication, such as marketing concept, brand value, integrity, talents and so on. It is necessary to improve the marketing

communication strategy from the following aspects: clothing brand positioning should tend to be differentiated, integrate clothing brand communication content and channels, use network word-of-mouth to improve brand popularity, and use network public relations to improve brand reputation<sup>0</sup>.(Yang 2021)

## CONCLUSION

When dealing with the emptiness of product categories in the marketing market, choosing traditional marketing content and marketing channels can effectively stimulate the middle-aged consumer market

In countries and regions where nationalism is more prominent or patriotism is more prominent, the "positive contribution" is really paid, and when these real contributions are spread, a large number of audiences of all ages will love and be willing to make purchase decisions

When facing young consumers, we need more innovative content, art, cultural elements, luxury goods, etc

Before 2005, the main communication channels of PR information were TV, magazines and newspapers

In April 1994, China was fully connected to the Internet. In January 1995, Shenzhou scholar magazine became the first online media in China. Since then, China's online media has experienced nearly a decade of development, which can also be seen as the first historical period of China's online media. In this historical period, China's network media industry has made great progress, one of the most direct and outstanding performance is the progress of network media in the news business.

At the beginning of its birth, the network news business is an extension of the traditional news business. However, after nearly a decade of development, it has gradually formed its own brand-new appearance while continuously absorbing the nutrients of the traditional news business. Some, even revolutionary, may have an impact on the development of the whole media news business.

The time when the public began to widely use Internet news was about 2000. People began to receive information about events that happened all over the world through the Internet, However, it is still one-way reception.

'The process of news release is a process of communication. In the era of traditional media, news communication is often a one-way process. The audience can only act as a passive receiver. What news to watch and when to watch news are all decided by the communicators. This is not only due to the limitations of traditional media communication technology, but also due to the constraints of communication costs.

However, network technology makes a revolutionary change in the relationship between communicators and audiences. Due to the technical feasibility and cost reduction, audience participation in communication has become a very common thing.

Network media is gradually realizing the technical characteristics of network media, at the same time, gradually improving the ability to interact with the audience, developing new forms of interaction, and fundamentally, their audience view is also constantly improving.

From one-way to interaction is the first change of audience view.

From the perspective of form, it includes:

Communication between media and audience: usually through email, BBS or chat room. Audiences can directly express their opinions and suggestions on media work, and can also provide news clues for the media.

Audience opinion survey: usually in the form of simple voting, to understand the attitude of netizens to a news event or a problem.

Communication between special guests and netizens: these special guests include experts, scientists, stars, heads of relevant departments, etc. they can interact with netizens on a certain topic or event through BBS, chat rooms, etc.

Audience interaction: netizens exchange and discuss news or other social hot issues through email, forum and other channels.

People's daily online edition is one of the earliest websites to develop interactive functions among traditional media websites. On the evening of April 11, 1998, the BBS forum in the "sports online" column of people's Daily carried out a direct dialogue between reporters and readers. On May 8, 1999, the Chinese ambassador to the fry was attacked by NATO missiles. On May 9, the online edition of people's daily opened the BBS forum of "strongly protest against NATO atrocities", providing an important channel for netizens to express their anger. A month later, the forum was renamed "forum of powerful countries". The forum has not only become an important Chinese Forum, but also a barometer of national conditions and public opinion.

The "development forum" and "unified forum" of Xinhuanet and the "youth topic" of Zhongqing online have also become the strong brands of these news websites.

In Sina, in addition to the large-scale and wide range of various forums, the dynamic forum set up in every major news event report is even more eye-catching. Many news events can attract tens of thousands or even hundreds of thousands of Internet users to post here. These posts form a powerful opinion force. Although irrational views, even abusive vent, are very common, they are still the wind vane of public opinion.

There are not only news websites, but also the traditional media behind them. The interaction between CCTV and its website CCTV international is more prominent. Since 2001, CCTV international has realized the interaction with TV programs for many times, including the special report of China's accession to the WTO, the online interactive live broadcast between CCTV international and "Oriental time and space", the Spring Festival Gala in 2002 and 2003, and the interaction between CCTV international and TV programs. However, interaction can only show that communication channels between the two sides are smooth. In the process of interaction, the communicator still plays a leading role, while the audience is still the receiver and relatively passive feedback. However, from the practice of the development of network news, under certain circumstances, Internet users are not only the receivers and feedbacks of information, but also may affect the communication intention and behavior of network news communicators to a certain extent. Sometimes, in the dissemination process of a news event, the role of netizens and news websites is almost equally important, and the two are gradually integrated, so it is difficult to distinguish each other. The way of communication between the two is no longer simple feedback and exchange, but a kind of cooperation between you and me.

Therefore, the second leap of the network audience view is to further evolve the interactive relationship into the "co movement" relationship. At this time, the main means of audience participation is still forum, e-mail and other basic ways, but they are in a more

positive position. They can enhance the value of some news and increase the attention of some events through news forwarding. They can also gather personal opinions into public opinions through heated discussions.

"Co movement" means that the audience's role in the network news communication has been more fully reflected, and at the same time, their ability to intervene in social life has also been enhanced. A series of events in 2003 are the result of the co movement of traditional media, network media and Internet users. The above six developments are the result of the deepening understanding of China's online media and the deepening of China's news reform. The development of Internet news is of great significance not only to the prosperity of Internet media, but also to the further reform of China's media industry. '(the author is a researcher in the research center of Journalism and social development, Renmin University of China)

Nowadays, people begin to influence the result of information dissemination. Questioning the authenticity of the source of dissemination through the Internet and giving feedback also affect the final result of dissemination

In order to draw a conclusion, we sampled 10 people from different cities in China, including Shanghai, Shandong and Zhejiang, The average age of the subjects was 40

1.It is recalled that around 2005, each person received about 3 pieces of news information every day and could form memory, and would talk with friends and colleagues around him

2.In 2021, there will be about 20 news messages received and remembered every day, and about 40 news messages that can be recalled by seeing or hearing

We repeatedly spread the public relations information of three organizations a, B and C through mobile phone video, outdoor advertising and news events in three days. We found that the research objects were most interested in watching mobile phone video, and the news events left the deepest memory after watching,

However, outdoor advertising will affect the consumption behavior of repetitive consumer goods. Among them, group B is a beverage manufacturer. Ten of the subjects have ever consumed group B drinks, but only two of them often consumed group B drinks. In three days, seven of them drank group B drinks.

Organization C is a brand of new snacks. We found that under the influence of outdoor media, it didn't have much influence on the selection tendency of the experimental subjects. However, when mobile video was used to disseminate the content, 8 of the 10 experimental subjects talked about C snacks and expressed their interest in C snacks, trying to try.

For enterprises, the consumption concept of consumers to be faced in the future should be younger, and content innovation will become necessary. In the digital age, information dissemination has universality and timeliness. For more audiences, the density of information is higher and higher, and how to make information stand out in the high-density information flow is the most important thing in the whole marketing link, the way to achieve this is through the content innovation of communication, which needs to be innovated in the content of information communication, such as advertising, public relations, events, publications and speeches

Marketing channel innovation is not necessary for the current marketing environment. The role of marketing channel innovation is to save the cost of information

dissemination for enterprises or organizations. The dissemination of information does not play a decisive role in the final purchase decision, nor does it have a decisive effect on the psychology of the audience

## REFERENCES

- Shang Yan Analysis of brand marketing communication strategy of traditional enterprises in the new media era [J] Mall modernization, 2017 (1): 2
- Lv Ke "Analysis of effective marketing strategies in the new media environment." China media technology 12 (2017): 2
- Chen Xianhong "Sunshine public relations: the future prospect of China's public relations." 2015-10(2021):144-148.
- Guo Huixin, Ge Jian, and Meng Fanzhe "Research on new media marketing strategy of advertising companies based on big data." 2020-12(2021):46-48.
- Sun Haojing "Research on brand marketing based on the concept of" integration of product and sales. " Media (2021)
- Feng Zhiyong "Corporate crisis public relations in the new entertainment era: taking Haidilao as an example." International public relations 4 (2021): 3
- Wang Jinpeng "On how to build new mainstream media in the new media era and improve the public opinion guidance of mainstream media." Pr world 7 (2021): 3
- Yang Ming "Analysis on the current situation and strategy of new media marketing of clothing brands." 2014-4(2021):25-27.
- Hao Shujun, Chen cunxia "Research on enterprise marketing innovation based on the business value of Internet community." Business Economics Research 11 (2021): 4
- Wang Peng "On the innovative development model of online video marketing." (2021).
- Liu Lan, Chen Weichao "Research on brand marketing innovation in the Post Internet era from the perspective of acceptance theory." 2019-3(2021):71-75.
- Zhao Yongsheng "Internet +" Research on marketing strategy innovation. " Journal of Shandong Business Vocational and technical college 21.4 (2021): 8
- Li Min, ou Yangbo "Research on the development model of enterprise brand marketing based on logistics network." 2011-7(2021):185-189.
- Wang Peiyuan "On the brand marketing communication strategy of traditional enterprises in the new media era." Theoretical research on Urban Construction: electronic version 4 (2021): 2
- Du Wenqi "Research on brand marketing strategy of small and medium-sized enterprises under the background of marketing 4.0." Time honored brand marketing 4 (2021): 2
- Zhu Minggang "Innovative exploration of enterprise brand marketing strategy in the Internet environment." Internet Weekly 16 (2021): 3
- Guo Jia "Under the concept of online popularity, the brand marketing road of traditional enterprises." International public relations 3 (2021): 10
- Wang Jia "Research on marketing communication and brand building of furniture enterprises in the new media era." Knowledge economy 11 (2021): 2
- Zong Ning "Times have changed, and the playing method of brand marketing in 2021 should be reshaped." Enterprise observer 4 (2021): 3

# RESEARCH ON THE IMPROVEMENT OF HUMAN CAPITAL OF LEFT-BEHIND WOMEN IN GUANGXI RURAL AREAS UNDER THE BACKGROUND OF RURAL REVITALIZATION STRATEGY

JUN HU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 894776434@qq.com*

## ABSTRACT

Women, who account for half of all farmers in rural China, not only shoulder the heavy burden of material production, but also bear the responsibility of population regeneration. With the acceleration of China's urbanization construction process, the loss of rural human capital is serious, that is, a large number of rural labor force to the cities and towns one-way transfer, and mainly male labor force transfer, forming the pattern of rural women become the main rural labor force. Left-behind women in rural areas are not only an important part of rural women, but also a part of the social vulnerable groups. Left-behind women in rural areas are an important force for rural revitalization, and also a part of the existing rural human capital, which can not be ignored in rural areas. Therefore, it has become an urgent problem to improve the human capital of rural left-behind women. This paper takes the rural revitalization strategy as the research background, takes the rural left-behind women in Guangxi province as the research object, and combines the human capital related theories and endogenous development theories. This paper analyzes the factors that affect the human capital of rural left-behind women in Guangxi, and puts forward some suggestions to improve the human capital of rural left-behind women in Guangxi province, so as to invigorate the existing rural human capital, obtain the "talent" from local human resource and promote rural revitalization in Guangxi.

**Keywords:** Guangxi, human capital, rural left-behind women, rural revitalization strategy, endogenous development model

## INTRODUCTION

### 1.2 Research background

On October 18, 2017, Xi Jinping, President of China, put forward the strategy of rural revitalization in the report of the 19th National Congress of the Communist Party of China. The report of the 19th National Congress of the Communist Party of China pointed out that the issue of agricultural, rural and farmers ("three rural") is a fundamental issue related to China's national economy and people's livelihood. We must always address the "three rural" issues as the top priority of the party's work and implement the rural revitalization strategy.

On March 5, 2018, Premier Li Keqiang of the State Council mentioned in the "Government Work Report" that vigorous implementation of the rural revitalization strategy. On May 31, 2018, the Political Bureau of the CPC Central Committee held a meeting to review the National Rural Revitalization Strategic Plan (2018-2022). In

September 2018, the Central Committee of the Communist Party of China and the State Council issued the "Strategic Plan for Rural Revitalization (2018-2022)" and issued a notice requiring all regions and departments to conscientiously implement it in light of actual conditions. On February 21, 2021, the "Opinions of the Central Committee of the Communist Party of China and the State Council on Comprehensively Promoting Rural Revitalization and Accelerating Agricultural and Rural Modernization"; On February 25, the National Rural Revitalization Bureau, an agency directly under the State Council, was officially listed. In March 2021, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Achieving the Effective Connection of the Consolidation and Expansion of Poverty Alleviation Results with Rural Revitalization", stating that one of the main principles for achieving the consolidation and expansion of the poverty alleviation results and the effective connection of rural revitalization is to adhere to the masses and stimulate Endogenous power. Immediately, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the "Opinions on Accelerating the Revitalization of Rural Talents," which pointed out that the key to rural revitalization lies in people. Farmers are the main body of rural endogenous development and the main body of implementing the strategy of rural revitalization. The main goal of the strategy of rural revitalization is to realize agricultural and rural modernization, and the realization of agricultural and rural modernization must rely on farmers. Therefore, it is particularly important to fully mobilize and give play to the enthusiasm, initiative and creativity of farmers in developing production and revitalizing the countryside.

As an important part of the people, women currently account for about half of the total labor force in our country. The number of women who are able to work in the vast rural areas exceeds half of the total rural labor force. Emphasizing women's participation in the implementation of the rural revitalization strategy is not only a need to solve the shortage of rural labor, but also a need to promote women's own development and improve the quality and effectiveness of the implementation of the rural revitalization strategy.

At this stage, the left-behind women in rural areas are largely a "surplus" group that has been screened by market mechanisms and national policies. They mainly rely on their husbands who work outside the country financially, and face a more severe marriage crisis emotionally. It may be necessary to endure new and unspeakable diseases. After "targeted poverty alleviation", the specific implementation of the rural revitalization strategy also needs to pay attention to these characteristics of left-behind women, provide them with more support and care, more skills training and medical resources, so that they can actively participate in rural revitalization. Come and become a more self-reliant and more dignified person in the process. To sum up, in order to solve the problem of left-behind women fundamentally, in addition to the work done by the current assistance and assistance departments, it is also necessary for the state to make overall adjustments in its development policies similar to the rural revitalization strategy, and to Effectively reconstruct the subjectivity of rural left-behind women in the implementation process.

### **1.2 Problem Statement**

The number of women in rural China accounts for half of all farmers. They not only shoulder the heavy responsibility of material production, but also have to bear the responsibility of population regeneration. As the process of urbanization in my country continues to accelerate, the loss of rural human capital is serious, that is, a large number of rural laborers are transferred to cities and towns in a one-way manner, and male laborers are mainly transferred, forming a pattern in which rural women have become the main

labor force in rural areas. Rural left-behind women are not only an important part of rural women, but also a part of socially disadvantaged groups. Rural left-behind women are an important force in rural revitalization, as well as part of the existing human capital in rural areas, and they are human capital that cannot be ignored in rural areas. At the same time, the overall quality of rural left-behind women directly affects the development of left-behind women and the quality of rural talent revitalization. As far as the current situation is concerned, the overall quality of left-behind women in my country's rural areas is relatively low. Such labor quality is far from the requirements of rural revitalization in terms of ideology, technical level, and ability to adapt to the market. Therefore, striving to improve the human capital of left-behind women in rural my country has become a problem that needs to be solved urgently.

On October 9, 2020, 13 departments including the Civil Affairs Department, Public Security Department, and Justice Department of Guangxi Autonomous Region issued the "Implementation Opinions on Strengthening Care and Services for Left-behind Women in Rural Areas". The fine traditions of the country play an important role in agricultural and rural development, poverty alleviation, and rural revitalization, especially in family life, child upbringing, elderly care, and agricultural production. At the same time, due to reasons such as male family going out to work and doing business, rural left-behind women still face some difficulties and needs in production and life, mainly including: a heavier burden of family care, fewer jobs and opportunities for employment and entrepreneurship, and insufficient job training; Lack of emotional care, relatively lack of spiritual and cultural life; lack of legal knowledge, weak rights protection capabilities, unable to use legal weapons in a timely and effective manner to protect their own legal rights, and face personal and property safety risks higher than other groups. How to solve these difficulties is an urgent and realistic problem. The problem of left-behind women in the rural areas of Guangxi must be fundamentally resolved. At the same time, they can actively participate in the revitalization of Guangxi's rural areas, reconstructing their subjectivity, and enhancing the human capital of rural left-behind women in Guangxi is a good angle.

### **1.3 Research Question and Research Objectives**

Rural human capital is the core driving force for the modernization of agriculture and rural development. The improvement of the human capital level of rural left-behind women will help the steady increase of rural human capital stock, help cultivate and expand the new professional farmer team, and provide new kinetic energy for the sustainable development of agriculture and rural areas. What are the factors that affect the increase in the human capital of left-behind women in rural areas? How to improve the human capital of rural left-behind women as one of the rural human capital?

Based on the above questions, this article will focus on rural left-behind women in Guangxi, based on the theory of human capital, analyze the factors affecting the human capital of left-behind women in Guangxi rural areas, put forward suggestions to improve the human capital of left-behind women in Guangxi rural areas, and revitalize the existing rural human resources Capital, to acquire "talents" on the spot, and to promote rural revitalization.

### **1.4 Significance of Research**

Theoretical significance is to enrich the research on left-behind women in rural China and their human capital.

Practical significance is that by enhancing the human capital of left-behind women in the rural areas of Guangxi, we could revitalize the stock of human capital in the rural areas of Guangxi, promote the revitalization of rural talents, and then achieve the goal of rural revitalization.

## LITERATURE REVIEW

The phenomenon of rural left-behind women is a phased phenomenon in China's economic and social development, and an objective reflection of the uneven development of urban and rural areas. Left-behind women refer to groups of married rural women whose husbands in rural areas have long-term (usually more than half a year) employment outside (referring to outside the county) and left behind in their hometowns. Rural left-behind women are not only a component of farmers, but also a vulnerable group in rural areas.

### **2.1 Research on farmers under the background of rural revitalization strategy**

#### **2.1.1 Research on Farmers' Subjectivity in the Context of Rural Revitalization Strategy**

Rural revitalization strategy is not only a systematic summary of rural construction and the solution of rural issues, but also an innovative development of rural development in the new era, and the extent of farmers' subjectivity determines the progress of the strategic goal of rural revitalization (Chen, 2020).

The rural revitalization strategy has put forward higher requirements for farmers' subjectivity, but the enthusiasm and innovation of farmers are obviously insufficient at present, which seriously restricts the effective implementation of the rural revitalization strategy (Zhou and Cui, 2019).

Due to farmers' autonomy, the active power is lack, from the "cognitive subject", "stakeholders" and "value subject" three sides facing farmers to shape the subjectivity, training farmers as a thinking, technology and organization of the new era of farmers, to promote the strategy of rejuvenating rural and beautiful smooth realization the goal of construction of new countryside (Ban, 2019)

The academic research on rural revitalization and farmers' subjectivity research is mainly manifested in two aspects: first, research on the role of farmers' subjectivity in rural revitalization construction; second, research on the reconstruction and promotion of farmers' subjectivity under the background of rural revitalization strategy. It makes us more aware of the importance of farmers' subjectivity, but the concept of farmers' subjectivity in these research results has not been clearly defined. In-depth research is needed to discuss how to rebuild and realize farmers' subjectivity.

#### **2.1.2 Research on Farmer Education under the Background of Rural Revitalization Strategy**

In the context of rural revitalization, there are widespread problems in rural education, such as imperfect education and training systems, poorly targeted training content and lack of teachers. Therefore, we should enhance farmers' education by strengthening farmers' concept, perfecting education and training system, setting up education according to needs and strengthening education and publicity (Xin and Zhang, 2020).

Under the background of rural revitalization strategy, it is necessary to perfect farmers' education path from the aspects of external environment optimization and internal working mechanism innovation (Chen, 2019)

#### **2.1.3 Rural vocational education research under the background of rural revitalization strategy**

Many scholars have paid attention to and researched rural vocational education under the background of rural revitalization strategy. Based on the background of rural revitalization strategy, scholars discuss the adaptability of rural vocational education development and rural talent revitalization, which has important practical significance. It

provides effective reference countermeasures for rural talent training models and promotes the reform of rural vocational education in my country. Development and improvement.

The development of Rural vocational education in China is not perfect, which seriously restricts the great demand of talents for rural revitalization. Therefore, effective measures should be taken to develop rural vocational education in China (Gu, 2020)

Under the background of rural revitalization, the value orientation of China's rural vocational education should be reshaped. In order to ensure the realization of this orientation, China's rural vocational education should be reformed (Huang, Ge and Zhang, 2019)

Rural vocational education should take the initiative to foster new professional farmers, support agricultural modernization, serve new urbanization, docking targeted poverty alleviation mission of The Times, boost the development of rural learning society (Sun, 2018)

## **2.2 Study on left-behind women in rural areas**

### **2.2.1 Research on the Living Conditions of Left-behind Women in Rural Areas**

China's rural revitalization strategy must mobilize the enthusiasm and creativity of the existing rural labor force. However, China's long-term industrialization and urbanization process has made the phenomenon of floating population and left-behind population have undergone great changes. The overall number of women left behind in rural areas has been greatly reduced, and the areas left behind have shifted from rural areas to towns and even counties. At the present stage, left-behind women in rural areas are the "surplus" group after long-term market and policy screening, and they are facing heavier burden of care, more severe marital crisis and more difficult to talk about diseases. These new characteristics and prominent problems of left-behind women in rural areas require more targeted government attention and intervention so that they can better participate in rural revitalization (Wang and Ye, 2020).

The living conditions of left-behind women in rural areas of Jilin Province are not good. They are faced with such problems as great pressure from agricultural production, great pressure from physical and mental health, great contradiction between generations, marital crisis and inadequate development ability. If these problems are not solved properly, they will directly affect the development of rural areas in the future (Ji, 2019).

Rural left-behind women in Pingliang City of Gansu Province are facing difficulties in marriage, family and society, which indicates that rural left-behind women have many problems and obstacles in personal life and social development (Zhu, 2018).

Among the poor social support for left-behind women in JD Township, Weining County, Guizhou Province, both formal and informal social support is not perfect, especially the serious absence of formal social support (Zou, 2021)

On the basis of research, the above-mentioned scholars have profoundly exposed the dilemma of rural left-behind women in terms of economic income, physical and psychological pressure, emotional appeals, and spiritual belonging, etc., based on the actual conditions in the rural areas of my country. Because they are "obscured" in the countryside, they are easy to be caught. The "forgetting" and "marginalization" of society will in turn cause some social problems, such as rural women's crimes.

### **2.2.2 Research on the happiness of left-behind women in rural areas**

The happiness of rural left-behind women is an important indicator to measure the realization of the Chinese Dream, and various measures must be taken to improve their happiness (Li, 2018).

Rural left-behind women are an important value entity of the Chinese Dream, and

enhancing their happiness is the national construction of socialist harmony. The inevitable requirement of society is an inevitable requirement for building a new socialist countryside, an inevitable requirement for building a well-off society in an all-round way, and at the same time an inevitable requirement for achieving the great rejuvenation of the Chinese nation (Li, 2018).

In the research on the happiness of left-behind women in rural areas, the above-mentioned scholars have provided us with a new understanding that happiness is not only objective, such as economic level and family situation, but also subjective, such as spiritual world and emotions.

### **2.2.3 Research on rural left-behind women's participation in politics**

Under the background of population mobility, the political participation of left-behind women is directly related to the development of rural democracy, and thus affects the development process of grassroots democratic politics. However, their vigor is limited because they have to give consideration to family and production. On the other hand, it is not optimistic for the environment of their participation in politics because of the limitation of their ideology and educational level. Therefore, we should improve the ability and environment of rural women's political participation by education, developing rural economy, strengthening rural cultural construction and perfecting system construction (Zhang, 2018).

The lack of political participation of left-behind women is due to the fact that the national institutional discourse of "de-gendered" has strengthened gender political differences, and the informal system dominated by traditional gender concepts has played a strong ideological role. Therefore, it is necessary to establish and improve institutional guarantee, reasonably eliminate the influence of traditional gender concepts, give play to actors' subjectivity and initiative, and strengthen the shaping role of formal and informal institutions related to left-behind women's political participation (Zhang, 2018).

### **2.2.4 Research on education of left-behind women in rural areas**

The economic status of left-behind women in rural areas in Ji 'an city of Jiangxi Province is generally low, and their enthusiasm for political participation is not high, especially in some economically backward areas, which is worse, because they are backward in ideology and culture, low level of education, lack of subjective initiative and so on. (Xu, 2021)

Combined with the background of China's current rural revitalization and development, there are several problems in the continuing education of rural left-behind women in L County, Guilin, Guangxi. First, there is insufficient understanding of the importance of continuing education for rural left-behind women. Second, rural left-behind women lack of motivation in continuing education; Third, the investment in continuing education of rural left-behind women is insufficient. Fourth, the effect of continuing education experience of rural left-behind women is poor; Fifthly, laws and regulations on rural women's continuing education have not yet been implemented, so the overall quality of left-behind women in rural areas should be improved by means of continuing education to reserve high-quality human resources for the new countryside (Gong, 2020).

Nowadays, rural left-behind women's ideological and moral quality is not coordinated, their health and safety awareness is weak, their employment and entrepreneurship ability is weak, and their information reception rate of emerging carriers is low. We can use scientific educational content, diversified educational methods and multiple protection of educational rights in the education of Hakka women in the Soviet area of western Fujian to stimulate the endogenous power of women left behind in rural areas and make up for the "shortcomings" in rural women's education. (Zhong and Liu,

2018).

There are some problems in family virtue of rural left-behind women in Tianshui City, Gansu Province, including improper education of children, lack of respect for the elderly, disharmonious marriage relationship, weak sense of thrift, poor neighborhood relations, and there are also some problems in family virtue education, which directly affects the quality of life of rural left-behind women in underdeveloped areas(Wang,2018)

### **2.3 Research on female human capital**

Female human capital contribution to economic growth has a role, and the contribution rate of female human capital is different in the different stages China's fertility policy. Female human capital contribution rate of economic growth on China's eastern, central and western regions is also different. The influence of female human capital on economic growth in western China is the Maximum elasticity. The influence of female human capital on economic growth in central China is less, and the influence of female human capital on economic growth in the eastern China is the minimal. Therefore, western China needs to pay attention to female human capital investment, and central China needs to realize the significant potential of female human capital development. (Duan, 2020)

The stock of human capital has a subtle influence on women's reproductive intention and behavior, and the education level, work reward in the explicit human capital and physical and mental health, life happiness and cognitive ability in the implicit human capital have a significant positive impact on the reproductive intention (Zhang and Cui, 2020).

Female human capital can better promote economic growth and enhance the overall quality of human capital by improving female education level, which has a positive impact on economic growth. Strengthening investment in female human capital will lead to higher returns and thus accelerate the process of economic growth. At the same time, it can enhance its international competitiveness, stimulate consumption, expand domestic demand and drive economic growth (Gao, 2020)

Attaching importance to the value of female human capital will give full play to female human capital and be significant to the overall sustainable development of China (Chen, 2021).

It is necessary to strengthen the government's main responsibility and highlight the guarantee mechanism of public welfare training funds, launch "tailored" vocational training design, and strengthen publicity and guidance to stimulate the subject consciousness and action consciousness of older rural left-behind women to participate in vocational training, so as to effectively improve the human capital of older rural left-behind women (Dai, 2019)

Developing female human capital is the Key to Pakistan's Economic Development so that it is necessary to improve female labor force rate in Pakistan(Saima Tabassum Siddiqui, 2020) .

To sum up, scholars have conducted certain studies on the education, political participation and living conditions of left-behind women in rural areas, but few have conducted special studies on the human capital of left-behind women in rural areas, especially in Guangxi. Therefore, under the background of rural revitalization strategy, this paper takes Guangxi rural left-behind women as the research object, discusses the factors influencing Guangxi rural left-behind women's human capital, and puts forward some suggestions for improving the human capital of Guangxi rural left-behind women's advice, so that they can better play the main body role in the process of Chinese rural revitalization.

## RESEARCH METHODOLOGY

### 3.1 Theoretical Basis

#### 3.1.1 Human Capital Theory

According to Schultz who is one of the founders of human capital theory, he pointed out that the key to transforming traditional agriculture into modern agriculture in developing countries is to improve farmers' knowledge, skills and resource allocation through investment in human capital. For developing countries, investing in primary and secondary education and culture for farmers is the most beneficial investment in human capital. Only by providing cultural education to farmers, can they master various improved farming methods and technology such as advanced agricultural tools, fertilizers, improved varieties, and elimination of pests and diseases. In addition, education not only improves farmers' ability to complete various tasks, but also improves farmers' ability to process and use external information, and to adopt new technologies and production techniques. Therefore, to improve the human capital of left-behind women in rural Guangxi, it is necessary to further invest in them and increase investment.

#### 3.1.2 Endogenous Development Model

Endogenous development model is China's beneficial experience in poverty alleviation. Alleged endogenous development, it is combined ambition supporting with wisdom supporting, and combined employment and entrepreneurship, to stimulate the activity and initiative of the poor people, so as to shift their ideas from "want me out of poverty" to "I want to out of poverty", "I want to get rich". Endogenous development model holds that poor people that are the object of poverty alleviation are the main subjects of poverty control, so it is very important to constantly improve the development capacity and organization level of poverty alleviation objects through policies and resource markets, so that a sustainable development system of endogenous growth will be established. This paper bases on human capital theory and endogenous development model, and holds that through the allocation of resource elements and the cultivation of development capabilities, impoverished areas and poor groups can generate endogenous motivation to achieve sustainable poverty alleviation and improve the human capital of left-behind women in Guangxi rural areas.

### 3.2 Analysis Method

The relevant and basic data of this sample survey comes from the Child Welfare Division of Liuzhou Civil Affairs Bureau, Liuzhou city, Guangxi province.

#### 3.2.1 Quantitative analysis method

The paper makes a descriptive statistic analysis of the sample data.

#### 3.2.1 Qualitative research method

Based on the theory of human capital, this paper analyzes the factors affecting the human capital of Guangxi rural left-behind women. Then combine with endogenous development model to put forward suggestions on improving the human capital of left-behind women in Guangxi rural areas

## RESULTS AND FINDINGS

In accordance with the goal of cultivating a new type of professional farmers who love agriculture, understand technology, are good at management in the "Strategic Plan for Rural Revitalization (2018-2022)" issued by the Central Committee of the Communist Party of China and the State Council in 2018, the human capital of left-behind women in Guangxi's rural areas is presented a trend that is not optimistic. This is specifically

manifested in the low stock of human capital of left-behind women in Guangxi's rural areas, including rural left-behind women's overall low education level, few skills training, low health status (generally, if they are in a healthy state, the survey respondents will be very cooperative in the investigation and inform themselves. The actual situation. In fact, more than half of them did not inform), and fewer employment transfer.

## CONCLUSION

Rural left-behind women give full play to the Chinese nation's fine traditions of enduring hardships and standing hard work and constantly striving for self-improvement. Whether in agricultural and rural development, new rural construction, poverty alleviation, or rural revitalization, they play an irreplaceable role, especially in family life and child upbringing, elderly care, agricultural production, etc. they also play a major role. But in reality, as a disadvantaged group, left-behind women in rural areas face many difficulties, and many needs cannot be met. How to fundamentally solve the various difficulties faced by rural left-behind women and meet their different needs? The paper believes that seizing the good opportunity of rural revitalization and enhancing the human capital of rural left-behind women is a good solution.

We should recognize the main role of left-behind women in rural revitalization. In order to improve the capital level of rural left-behind women in Guangxi, the sustainable development system of endogenous growth of human capital of rural left-behind women is established. The establishment of sustainable development system of endogenous growth of rural left-behind women's human capital is to invest in rural left-behind women's human capital.

The investment in the human capital of rural left-behind women requires the joint efforts of various investment entities, including the government, various educational institutions, intermediary organizations, left-behind women's families, and left-behind women themselves. These investment entities should take the initiative to invest in the human capital of rural left-behind women. The endogenous development model of rural left-behind women establishes an endogenous human capital growth system for rural left-behind women, which not only achieves the primary purpose of rural left-behind women being left-behind, but also enables rural left-behind women to develop themselves. In the endogenous human capital growth system, it is necessary to ensure the main status of rural left-behind women as educated, select cultural and educational content reasonably so as to achieve the purpose of staying at hometown with high quality, strengthen relevant skills training for left-behind women in rural Guangxi, increase the supply of childcare and elderly care services so as to increase the flow of left-behind women, and continue to increase investment in medical and health care for rural left-behind women. Thus, rural left-behind women in Guangxi become new professional farmers who love agriculture, understand technology, and are good at management, and finally achieve the purpose of promoting rural revitalization.

## LIMITATIONS

(1) This paper puts forward that the investment of rural left-behind women's human capital needs the joint efforts of various investment subjects, including the government, various educational institutions, intermediary organizations, left-behind women's families and left-behind women themselves, which should take the initiative to invest in the human capital of rural left-behind women. However, the paper only puts forward specific investment direction suggestions from the perspective of the government, left-behind

women's families and left-behind women themselves, while ignoring the role of various educational institutions and intermediary organizations. And

(2) Ignoring the suggestions on the investment scale and investment structure of the government, left-behind women's families and left-behind women themselves

## REFERENCES

- Chen Xuebing. (2020). Reconstruction of farmers' subjectivity under the background of rural revitalization[J]. *Journal of Hubei University for Nationalities*, Vol. No. 1. pp63-71.
- Zhou Cui, Cui Zhangguo, etc. (2019). Research on the lack of farmers' subjectivity and the improvement path under the background of rural revitalization strategy [J]. *Kaifeng Institute of Education*, Vol. No. 7. pp290-291.
- Ban Lan. (2019). *Research on the promotion of farmers' subjectivity from the perspective of rural revitalization strategy*[D]. Shanxi: Shanxi University.
- Xin Jiamin, Zhang Xiaonan. (2020) The current situation and countermeasures of farmer education under the background of rural revitalization[J]. *Journal of Anhui Agricultural Sciences*, Vol. No. 3. pp261-262.
- Chen Peiyao. (2019). *Research on Farmer Education in the Implementation of Rural Revitalization Strategy*[D]. Hubei: Huazhong Agricultural University.
- Gu Yue. (2020) Research on the development of rural vocational education under the background of rural revitalization strategy [J]. *Contemporary Educational Practice and Teaching Research*, Vol. No. 8. pp65-66.
- Huang Ying, Ge Xin, Zhang Hongchong. (2019). Remodeling and realization of the value orientation of rural vocational education under the background of rural revitalization strategy[J]. *Adult Education*, Vol. No. 7. pp67-71
- Sun Li. (2018). Reform and innovative development of rural vocational education under the strategy of rural revitalization [J]. *Education and Vocation*, Vol. No. 13.pp5-11
- Wang Chunyu, Ye Jingzhong. (2020) The new characteristics and outstanding problems of rural left-behind women from the perspective of rural revitalization[J]. *Collection of Women's Studies*. Vol. No. 1. pp17-25+55.
- Ji Meilin. (2018). *Research on the living conditions of left-behind women in rural areas of Jilin Province—Taking X Town, Gongzhuling City as an example* [D]. Jilin: Jilin Agricultural University.
- Zhu Huanhuan. (2018). The Survival Status and Countermeasures of Left-behind Women in Rural Areas from the Perspective of Marxist Outlook on Women: Taking Pingliang City, Gansu Province as an Example [J]. *Educational Journal of Kaifeng Institute of Education*, Vol. No. 11. pp295-296.
- Zou Yaping. (2021). Research on Social Support for Left-behind Women in Rural Areas-Taking JD Township, Weining County, Guizhou Province as an Example[J]. *Agricultural Economics and Technology*, Vol35. No. 05. pp232-234+247
- Li Yun. (2018) An analysis of ways to improve the happiness of rural left-behind women from the perspective of the Chinese dream[J]. *World of Labor and Social Security*, Vol. No.27.pp15.
- Yun. (2018) A Probe into the Significance of Improving the Happiness of Rural Left-behind Women from the Perspective of the Chinese Dream[J]. *Rural Economy and Technology*, Vol. No.17. pp240-241.

- Zhang Xiaodan (2018). *Research on Political Participation of Left-behind Women in Rural Areas of Shandong Province---Taking Three Villages in Yishui County as Examples*[D]. Si Chuan: University of Electronic Science and Technology of China.
- Zhang Yan. (2018). Theoretical explanation of the logic of rural left-behind women's participation in politics——Based on the analysis framework of "system-life"[J]. *Tianfu New Theory*, Vol. No.2.pp90-97.
- Xu Lanlan. (2021) Research on the Ideological and Political Education of Left-behind Women in Remote Rural Areas——Taking Tancheng and Countryside, Yongfeng County, Ji'an City as an Example [J]. *Rural Economy and Technology*. Vol32. No.09.pp329-331.
- Gong Ronghua. (2018). *Research on the Problems and Countermeasures of Continuing Education of Left-behind Women in Rural Areas under the Context of Rural Revitalization Strategy——Based on the Survey of L County, Guangxi Zhuang Autonomous Region* [D]. Guangxi: Guangxi Normal University.
- Zhong Hangdi, Liu Shulan. (2018). The exploration and enlightenment of Hakka women's education in the Soviet area in western Fujian: Taking rural left-behind women's education as an example[J]. *Journal of Ningde Normal University (Philosophy and Social Sciences Edition)*, Vol. No.1.pp44-48.
- Wang Minghui. (2018). Analysis of the status quo and countermeasures of family virtue education for left-behind women in rural areas[J]. *Knowledge Library*, Vol. No.22.pp19-20.
- Duan Yingying. (2020). *The Effect of Female Human Capital on Economic Growth under the Background of China's Fertility Policy Changes*[D]. Yunnan Yunnan University of Finance and Economics.
- Zhang Xixi, Cui Yuqian. (2020). Are women with high human capital more willing to have two children? ——Research on the transformation of reproductive willingness based on human capital[J]. *Journal of Tsinghua University (Philosophy and Social Sciences Edition)*, Vol. 35. No.2.pp182-193.
- Gao Nan. (2020). Research on the influence of female human capital on economic growth [J]. *THE BORDER ECONOMY AND CULTURE*, Vol. No. 4. pp45-47.
- Chen Yuxi. Research on the Strategy to Improve Women's Human Capital from the perspective of Lifelong Education[J]. *Continuing Education Research* 2021(6). pp.19-22.
- Dai Feng. (2019) Research on the Vocational Training of Rural Older Left-behind Women from the Perspective of Human Capital[J]. *Contemporary Vocational Education*, Vol. No.2. pp.90-94.
- Saima Tabassum Siddiqui. (2020). Female Human Capital: The Key to Pakistan's Economic Development[J]. *Journal of Innovation and Social Science Research*, Vol.7. Issue 8. pp13-18.
- Chen Xingmei. (2018). An Economic Analysis of Rural Left-behind Women in Underdeveloped Areas—Taking Guigang City, Guangxi as an Example[J]. *Journal of Yulin Normal University (Philosophy & Social Science)*, Vol39. No.3.pp17-23.
- Tang Mengke. (2020) Investigation and Research on the Development of Human Resources of Young Left-behind Women in Rural Areas-Taking Shouyang Town, Longxi County as an Example [J]. *Gansu Agriculture*, Vol. No.6.pp96-99.

- Luo Zhe, Shan Xuepeng. *How to improve the level of rural people's capital investment* [N]. Sichuan Daily, 2019.4.4
- Chai Qianyun, Li Yaolei. (2020). Research and practice of vocational training for rural women in higher vocational colleges[J]. *Vocational Education Research*, Vol. No.10. pp29-33.
- Huang Kuaisheng. (2021). Women's Participation in Rural Revitalization: Institutional Dilemma and Policy Options[J]. *Social Scientist*, Vol. No.4). pp182-193.
- Fang Hua. (2018). *Research on China's Rural Anti-poverty from the Perspective of Endogenous Development*[D]. Beijing: Party School of the Central Committee of the Communist Party of China.
- Li Zhou, Zhou Chao. (2019). Understanding and thinking on Schultz's human capital theory[J]. *Jiangnan Forum*, Vol. No.6.pp21-23.
- Zhang Huangzhou, Huang Chaochao and Zhou Yongguang. (2007). A review of endogenous development model[J]. *Journal of Zhejiang University (Humanities and Social Sciences)*, Vol.37, No.2.pp61-68.

# **ANALYSIS OF THE WAYS TO IMPROVE INNOVATION AND ENTREPRENEURSHIP EDUCATION IN THE ERA OF BIG DATA**

**ROU TANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 823672527@qq.com*

## **ABSTRACT**

The new era requires schools to master the professional knowledge of innovation entrepreneurship innovative talents, these talents are the power and foundation of social development, students to cultivate innovative entrepreneurial ability, need to change the learning attitude, can not do the passive recipient of classroom teaching, need to actively learn and think, and combine the study of theoretical knowledge and practice, cultivate innovative entrepreneurial thinking, to lay a good foundation for becoming personalized innovative talents.

**Key words:** big data era; innovation and entrepreneurship education; promotion ways

## **INTRODUCTION**

The reform of the new curriculum standard requires schools to change the teaching mode with teachers as the main body, so that students can better give full play to their subjective initiative, cultivate students' independent ability, absorb advanced innovation and entrepreneurship knowledge, and cultivate innovation and entrepreneurial talents. Schools also need to increase the attention to innovation and entrepreneurship teaching, increase the investment in the funds, teachers, equipment, absorb innovative and entrepreneurial professional talents, the construction of professional teacher team, strengthen the school database in terms of innovation and entrepreneurship data collection work, to provide data support for the training of innovation and entrepreneurial talents. Strengthen the practical teaching of innovation and entrepreneurship to provide students with more operational opportunities in innovation and entrepreneurship. Establish an innovation and entrepreneurship exchange platform to facilitate students to exchange and communicate with experience.

## **LITERATURE REVIEW**

### **1. Current situation of innovation and entrepreneurship education**

#### **(1) Less basic data, and the analysis is not comprehensive**

In the Internet era, the Internet has been deeply integrated into people's daily life. People's clothing, food, housing and transportation cannot be separated from the Internet. The network has also greatly changed people's way of life, actively using information technology in teaching management, and increasing the use of information management system [1]. But in the information management system, the school usually knowledge

collection student's attendance, test results, teacher evaluation information, the information can not fully reflect the students to course learning situation, just for the information to determine the student learning situation, which will cause inaccurate results, one-sided analysis for students and teachers is not responsible, can not reflect the accuracy and fairness of the results.

### **(2) Lack of advanced educational concepts and teachers**

With the development of our country economy and the improvement of national living standards, the country and citizens hope our education level can a higher level, in order to adapt to the requirements of the new era of education, education actively innovation entrepreneurship education, but innovation education is conform to the era, in the theoretical system and practical experience, lack of systematic teaching mode, lead to some universities in innovation do not enough, just simple teaching theoretical knowledge, without practice certification, students can't feel the essence of innovation and entrepreneurship, cannot mobilize students to participate in innovation and entrepreneurship education. In addition, China's education system has not paid enough attention to innovation and entrepreneurship education, and there are no specialized talents specializing in innovation and entrepreneurship. Most of the innovation and entrepreneurship education in colleges and universities teach part-time, and ordinary teachers have no actual experience as a basis, but generally and cannot achieve the purpose of professional explanation. Even hire professional innovation and entrepreneurship teachers, also ignore the difference between theory and practice, teaching teachers theory knowledge is not complete or lack of practical experience, greatly affected the students' understanding of innovation and entrepreneurship, neither master complete theoretical knowledge, is not familiar with practical experience, can not meet the conditions for entrepreneurship, teachers did not give full play to the guiding role in innovation and entrepreneurship education, seriously hinder the development of innovation and entrepreneurship education.

### **(3) Lack of practical operation opportunities**

In order to adapt to the situation, although the universities have launched innovation and entrepreneurship education, they do not pay enough attention to the curriculum, but the professors who focus on the theoretical system do not provide students with operational opportunities. The only innovation and entrepreneurship simulation experience is only in the surface experience is not deep enough. Such fur simulation operation can not bring deep feelings to students, and can not have a great help effect to students [2]. Our universities database is not a lot of information about innovation and entrepreneurship, students can use few resources, these limit the development process of innovation and entrepreneurship education, so want to fully implement the innovation and entrepreneurship education, you must increase the absorption of professional introduction, strengthen the collection of innovation and entrepreneurship information, provide students with rich data base, help students better understand and grasp the innovation and entrepreneurship education.

## **2. Impact of big data on innovation and entrepreneurship education**

Big data is being used more and more widely in life, involving many fields, and can also play a great role in teaching [3]. The popularization of big data has changed people's habits and ways of thinking about problems, which requires educators to change their ideas, actively change their teaching methods, change the students' learning attitude of waiting for teachers to feed them, advocate students to think and learn independently, and innovate on the basis of mastering knowledge. Big data has fundamentally changed the pattern of many fields and provides superior conditions for the change of teaching philosophy. Just like shopping habits, the traditional face-to-face shopping mode is that consumers first

give the types of items to buy, and then go to shopping malls and other fields to buy. After comparing goods, hand by hand delivery. The purchase of the way under big data is much more simple, only consumers need to search for the goods they need on the website, in the website after comparison can be purchased, the goods can be directly mailed to the home [4]. Through the change of the purchase way, it can be seen that the information integrated under big data can be better presented to consumers, which is also true in education. Students can get more information through the Internet and show themselves on the Internet. Both the information sources and display platforms have become more rich and diversified.

### **3.Problems arising from innovation and entrepreneurship education in the era of big data**

The main goal of college students to conduct innovation and entrepreneurship is to understand the environmental conditions of innovation and entrepreneurship, practice the innovation and entrepreneurship, constantly improve their innovation and entrepreneurship ability, and strive to cultivate themselves into innovative practical talents [5]. With the reform of the new curriculum standard, China constantly adjusts its educational strategy to build more innovative talents, but there will also be some problems in the process of practice.

Big data era of the requirements of talent is personalized, teaching mode is to give students more freedom and choice, no longer like the traditional teaching mode, students must take which course, which teacher's course, these are already planned, in the modern teaching mode, students can choose their own courses according to their own needs, want to achieve such freedom, need to break the tradition, with students as the main body of comprehensive reform of the teaching mode. The school also needs to establish a systematic talent training plan, strengthen the human and equipment capital investment, and fully change the teaching mode according to the actual situation[6].

Big data era means that a lot of labor-intensive industry will decline, more labor positions will be replaced by artificial intelligence and robots, in the production mode will also adopt a new mode of production, which requires schools and students to learn more advanced technology, change the traditional teaching content, join new entrepreneurship related courses [7]. Although some schools have realized this, and began to reform, but the school set up the innovation and entrepreneurship curriculum is more basic, the attention to these related courses is not enough, these courses are just students' leisure time minor subjects, students will not spend energy on these disciplines, can not reach the teaching goal of innovation and entrepreneurship.

### **4.Countermeasures of innovation and entrepreneurship education in the era of big data**

Now people for the utilization rate of the network has been quite high, can be said to leave the network basic no way to normal life, so schools should make full use of the popularity and advantages of the network, for students 'innovative entrepreneurship teaching, schools can collect information through big data, combined with the students' personal situation, choose the appropriate teaching method, personalized teaching for students, cultivate personalized innovative talents [8]. The school can also build an innovation and entrepreneurship exchange platform, so that students can easily access the platform, and upload excellent innovation and entrepreneurship experience sharing and video documents on the platform, so that students can see the examples of innovation and entrepreneurship more conveniently and intuitively. For the schools that have gained successful experience, the educators can also actively absorb the experience and popularize the students.

The successful development of an enterprise has a lot to do with the manager. Just

like Alibaba, if it had established a team without Jack Ma Yun, maybe there may not have been such a successful Alibaba now, which shows that the uniqueness of managers also has an impact on the development of the enterprise [9]. Students should fully discover their own advantages, combine their own advantages and successful cases, and absorb the experience of their predecessors on their own basis, so as to achieve their own success.

The development of society needs talents to promote, the training of talents needs schools and educators together, create conditions for talent training, constantly adjust the education training strategy, create an environment suitable for talent growth and development, through various ways to strengthen the construction of innovative talents and training, fully realize the importance of teaching mode change. To train innovative talents, we need to cultivate students through innovation. Talent has a unique personalized, their way of thinking and behavior are unique, the general teaching method is not suitable for personality cultivation, which requires educators to observe carefully, fully understand each student's personality and advantages, targeted training, so that students can find their own development path. Educators have a great responsibility, and they need to constantly strengthen their own knowledge, constantly adjust their own ideas and teaching methods, and actively find suitable innovation and entrepreneurship teaching methods.

## REFERENCE

- Jin Dawei, Huang Xiao, Guan Yan. Innovation and Entrepreneurship Education in Big Data [J]. Industrial Technology and Vocational Education, 2018,16 (04): 47-50.
- Zheng Yuhe. Thinking on Innovation and Entrepreneurship Education for College Students under the background of Big Data [J]. Journal of Zhengzhou Institute of Aviation Industry Management (Social Science Edition), 2017,36 (06): 137-140.
- Wang Yilong, He Aihong. Research on Innovation and Entrepreneurship Talents Training in Ethnic Universities under the background of "Internet +" [J]. China market, 2021 (20): 168-169.
- Sun Ning, Guo Donghui, Jiang Ning. Path Research of Innovation and entrepreneurship education into the whole process of talent training [J]. China market, 2021 (20): 170-171.
- Lu Dongxiang, Cao Yingying, and Yu Jianjiang. Exploring the Training of Innovation and Entrepreneurship Ability in Applied Undergraduate Colleges [J]. Jiangsu Higher Education, 2021 (07): 85-88.
- Lin Zhen, Huang Xueqin. The Reform of Innovation and Entrepreneurship Education Mode for College Students [J]. Modern Vocational Education, 2021 (27): 42-43.
- Zhang Yuanyuan. The Influence and Countermeasures of Innovation and Entrepreneurship Education on College Students' Entrepreneurship intention [J]. Journal of Jiamusi Vocational College, 2021,37 (07): 155-156.
- Zhang Changping, Du Hui, Ling Yunfeng. The Integration of Innovation and Entrepreneurship Education and Professional Education [J]. Journal of Anyang Institute of Technology, 2021,20 (04): 120-122.
- Song Yiwen. Research on Innovation and Entrepreneurship Ability of College Students [J]. Business Theory of China, 2021 (12): 185-187.

# RESEARCH ON THE CONSTRUCTION AND MANAGEMENT OF BASIC TEACHING ORGANIZATIONS BASED ON TEACHING AND RESEARCH SECTIONS IN COLLEGES AND UNIVERSITIES

**SHI MEIJIAO**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: shimeijiao99@163.com*

## ABSTRACT

The grassroots teaching organization in China was developed from the Soviet model in the 20th century, and it is still used today. It is the most basic organizational unit for teaching and scientific research in colleges and universities. It plays a fundamental role in the teaching reform, curriculum construction, discipline development, and scientific research innovation of colleges and universities. With the deepening of mass education, the functional status of basic-level teaching organizations in colleges and universities has gradually declined, and their roles in teaching and scientific research have been weakened, and more and more problems have begun to appear. Based on the research conducted by the teaching and research section as a grass-roots teaching organization in colleges and universities, in view of the problems in the construction of the teaching and research section, by improving the management system of the teaching and research section, clarifying responsibilities, increasing the enthusiasm of teachers to participate in the work of grassroots teaching organizations, and injecting vitality into the development of grassroots teaching organization construction, the construction is more suitable. The grassroots teaching organization Universities must innovate forms, clarify responsibilities, strengthen management, strengthen guarantees, improve evaluation and incentive mechanisms, and strengthen the construction of grassroots teaching organizations.

**Keywords:** Grassroots teaching organization, Construction and management, Colleges and Universities

## INTRODUCTION

### 1. Introduction

Canadian scholar John Van de Graaff divided the modern university organization into levels in the book "Academic Power: A Comparison of Higher Education Management Systems in Seven Countries". Grassroots learning or research is the first level. Faculty or College (College or School) is the second level, and the university organization itself is the third level. The basic organization of the university is the basic unit and the operating body of the university. It is the cell of the university. Only by improving the function and operation of the basic organization can the mission of the university be truly achieved.

Grassroots teaching organizations serve as the basis for colleges and universities to carry out teaching and research activities. This unit implements educational and teaching tasks while advancing teaching research and reform. It plays an important role in promoting the growth and development of teachers' teaching (Liu xiaoqing,2016). The

broad basic-level teaching organization includes departments, teaching departments, teaching teams, teaching and research sections, teaching and research groups, curriculum groups, and experimental teaching centers, etc. The narrow sense usually refers to teaching and research sections or curriculum groups in the traditional sense. teaching and research section, namely the "education teaching and research studio". The university teaching and research section, as a part of the grassroots teaching organization teaching system, is the grass-roots research organization in colleges and universities. More specifically, it refers to the grass-roots teaching organization in colleges and universities (Fu Bajun, 2013). China's current higher education management system is composed of three levels: universities, schools or colleges, and teaching and research sections. As the most basic teaching, scientific research, and management organizations, the teaching and research sections of colleges and universities play the roles of uploading and distributing between teachers and students. It is of great significance to the smooth development of school teaching and teaching activities. At present, Chinese academic circles believe that the teaching and research sections of colleges and universities have the three basic functions of organizing teaching, scientific research, and teacher training. Organizing teaching is the primary function of the grassroots teaching organization in colleges and universities. It is mainly responsible for the distribution of teaching tasks in the teaching and research section, the planning and summary of the teaching and research section for each academic year, the development of teaching and research activities, the teaching inspection, the formulation of student training plans, etc. The task of scientific research is also one of the important functions of the grass-roots teaching organization in colleges and universities; teacher training is another important function of the grass-roots teaching organization in colleges and universities. Teaching activities carried out by grassroots teaching organizations in colleges and universities usually have a great impact on teachers' professional knowledge, teaching ability, and the development of teachers' teaching profession, and are also conducive to the cultivation of teachers' professional ethics.

The ultimate goal of teaching management is the basic teaching and research component. Therefore, based on the teaching and research section, it is of great significance to study the construction and management of grassroots teaching organizations.

## **LITERATURE REVIEW**

### **2 Existing problems in the construction of the teaching and research section**

The role of teaching and research stations in many universities has been underutilized for a long time due to institutional flaws, institutional inertia, and bad teaching and research habits. The challenges that exist in grassroots teaching organizations have steadily evolved as the scale of colleges and universities has grown.

#### **2.1 The imbalance of teaching and administrative functions**

The teaching and research section's fundamental functions include education and research, whereas administrative administration is an auxiliary role of the teaching and research section. Education and instruction should be served by an administrative administration that should give macro supervision and policy assistance. However, some schools and universities' teaching and research departments have reversed the relationship between the two in their work methods, and administrative functions have been over-emphasized and thrown off. On the one hand, they weaken education and teaching by

limiting talent development, professional development, and discipline development; on the other hand, the administrative management function has been pushed into the abyss of formalism, and the teaching and research section has become the "uploading and distributing" "report room" and "intermediary."

## **2.2 The organization's management system is out of touch with teaching and research**

The system is the foundation of management, and it serves as a guide, restriction, spur, and encouragement in the organization's operations. The teaching and research section's organization and management system are the guiding force for maintaining the teaching and research section's normal operating order and daily work mode, as well as the primary guarantee for the teaching and research section's ability to carry out teaching and scientific research activities. Many local institutions' teaching and research sections, on the other hand, have a conservative and incomplete organizational and administrative framework. Some content has not kept up with the new changes in the educational information 2.0 era, and it has not been converted to the new educational and scientific research needs. As a result, it is critical to alter and update.

## **2.3 The coordination mechanism between teaching and scientific research is not sound**

The teaching and research sections of some local universities lack the awareness and measures to promote the interaction between teachers' "teaching" and "research". On the one hand, teachers' teaching and scientific research activities are usually carried out individually or replaced by "formal cooperation". Substantial cooperation" lacks the collective teaching and scientific research team building promoted by the teaching and research section, whereas teachers' teaching work is separated from scientific research activities and fails to cooperate and assist one another. Among them, there are many guiding factors that focus on scientific research results in the evaluation of professional titles, but the inadequacy of the organization of the teaching and research section is also an important cause.

## **2.4 A scarcity of teachers' teaching communities**

The teaching and research component is essentially a teaching community for teachers, as it is a grassroots teaching organization. The main goal of the teaching and research section's setup is to allow similar courses and professional teachers to collaborate and fulfill the goal of talent development. However, despite the fact that teachers in each teaching and research section formally join the organization, all practical powers related to their personal interests, such as salary evaluation, professional title qualification review, and project research project declaration, are concentrated in secondary schools, and teaching and research work is a formality. Teachers' instructional responsibilities are often self-contained. Teachers gather less and leave more during the instructional process, and there is minimal communication (Gaodan, 2019). In addition, the interaction between the teaching and research rooms and the outside world is relatively poor. The organization does not often carry out teaching and research exchange activities, the construction of the curriculum teaching system and teaching research is sometimes not carried out, and the observation, listening, or commenting in the teaching process is just a formality, lacking a strong teaching and research atmosphere. The teaching and research section are also very

closed and rarely conduct academic exchanges with the outside world for teaching and research. This is not conducive to the broadening of teachers' thinking horizons, and academic information exchanges complement each other, which seriously hinders the growth of high-level and compound teachers. In general, the discrete state of grassroots teaching organizations such as university teaching and research offices is relatively obvious; cohesion needs to be strengthened; and there is a serious lack of community.

Therefore, appropriate measures must be taken to promote the reform of the teaching and research section, so that it can truly become the backbone of the promotion of discipline construction and talent cultivation.

### **3 Countermeasures to strengthen the construction of the teaching and research sections**

#### **3.1 Optimize the organization and management system**

The teaching and research section should clarify its own functions and responsibilities based on the role of the "learning community" of teaching, research, and service, optimize the organization and management system, and improve the scientific, standardized, and standardized teaching and research section management system, including the curriculum construction system, collective lesson preparation system, teaching evaluation system, teacher training system, academic research system, political learning system, social service system, etc. Using the system as a starting point and tool, and with the assistance of a complete and mature organization and management system, improve the quality of curriculum teaching, raise the level of teacher education and scientific research, deepen social service functions, and increase the efficiency of the teaching and research sections to promote disciplinary development and professional construction.

#### **3.2 Clarify the responsibilities of grassroots teaching organizations**

The colleges and universities should further clarify the work responsibilities of the grassroots teaching organization and implement its work and tasks in all aspects of teaching management, professional and discipline construction, teacher team construction, curriculum and teaching materials construction, laboratory construction, base construction, and teaching reform. strengthen the tracking and research of the frontiers of discipline development and industry talent demand according to the professional construction plan and requirements; encourage and guide teachers to actively participate in professional construction; promote the professional docking industry; optimize and integrate teaching resources; and promote the orderly improvement of professional construction. Optimize the curriculum system, formulate and standardize curriculum construction plans, syllabuses, and curriculum standards. Strengthen the training of young and middle-aged teachers and designate special personnel to spread, help, and lead young teachers. Organize teachers to prepare and sharpen lessons collectively. Implement the curriculum dynamic adjustment system and integrate the frontiers of disciplines, the frontiers of industrial technology development, and the latest scientific research results into classroom teaching in a timely manner.

### **3.3 Refining the implementation units of grassroots teaching organizations**

Delicacy management derived from developed countries and first appeared in the enterprise management field. Delicacy management is a new type of management, and it has changed the original extensive management pattern, which is a kind of management mode with the main target of reducing enterprise resource and management costs (Zhu 2007). Delicacy management is a management mode, but also a concept and a culture. It can activate all available resources to the maximum and create the greatest value at the lowest cost. Faced with the opportunities and challenges of the new era, grassroots teachers and researchers should actively promote and improve refined management. First, the work is refined to the most precise unit; second, the tasks are considered in all of their links and details; and third, the responsibilities are assigned to specific individuals.

### **3.4 Improve and improve the work guarantee mechanism of the teaching and research section**

Colleges and universities should prioritize the development of basic-level teaching organizations such as teaching and research sections, as well as the strengthening of organizational leadership, the creation of good working conditions and an environment for the organization's operation, and the provision of funding, office space, and other resources. The administrative functions of the teaching and research section should be weakened, and the education and teaching functions should be strengthened, so that the teaching and research section should return to the right track, focusing on teaching, scientific research, and social service functions. Schools and departments should be given autonomy in all aspects of the organization of teaching and research sections, investment and use of funds, and assessment and review.

### **3.5 Formulate and improve assessment standards for teachers and grassroots teaching organizations**

First, individual assessment and the assessment of grassroots teaching organizations are equally important. While improving the personal assessment standards and methods, they establish a group evaluation system with grassroots teaching organizations, teaching and research teams, and curriculum groups as units to strengthen team awareness and promote teacher cooperation. Secondly, scientific research assessment and teaching assessment are equally emphasized. A multi-level assessment standard must be built based on the teaching-oriented, teaching-research-oriented, and research-development service-oriented types; third, process evaluation and results Evaluation is equally important. It is necessary to pay attention not only to the achievements and progress made by the teaching and research section in teaching, scientific research, social services, etc., but also to the unremitting efforts made by the teaching and research section in these areas, and to stimulate the spirit of cooperation and collaboration among grassroots teaching organizations through the construction of a comprehensive evaluation model. ability to enhance its centripetal force and cohesion.

## **CONCLUSION**

As one of the basic units of the basic teaching organization, the teaching and research section is the final foothold of the entire school's teaching and research work. It is also a fertile ground for cultivating a large number of excellent teachers and producing a large number of excellent teaching results, excellent courses, and excellent scientific

research results. Therefore, it is necessary to speed up the reform of grassroots teaching organizations, starting from the aspects of updating work concepts, reshaping social roles, optimizing organizational structures, reversing the focus of functions, and strengthening teamwork, focusing on teaching functions, diluting administrative functions, improving system construction, and building a cooperative culture, Clarify organizational boundaries and other aspects to rebuild the teaching and research section and build it into a "learning community" integrating teaching, scientific research, social services, cultural inheritance and innovation, and international cooperation and exchanges, so as to promote the construction of disciplines and professions and improve the quality of talent training.

## REFERENCE

- Aaron Bolton. Management of Academic Organizations in Institutions of Higher Learning[M]. Song Weihong, Trans. Nanjing: *Jiangsu Education Press*, 2010: 9.
- Bai Li, Shen Yuanying, Wu Lixian and so on. Discussion on the practice of teaching and research section construction aimed at cultivating excellent courses [J]. *Basic medical education*,2013(1): 98-100.
- Du Yanyan. The internal governance of the university towards the origin: the reform of the teaching and research section of Russian universities [J]. *Liaoning Education Research*, 2007(11).
- Gao Dan. Research on the Development of Basic Teaching Organizations in Local Newly-built Undergraduate Universities[J]. *Journal of Mudanjiang Institute of Education*,2019(9):21-23
- John H. Van de Graaff, translated by Wang Chengxu and others. Academic power [M]. Hangzhou: *Zhejiang Education Press*, 2001:114.
- Li Hui, Liu Yun, Lin Xiaocheng, etc. Research on the functions and operation management mechanism of teaching and research section [J]. *Higher Education Research*, 2010(9):94-95.
- Liu Xiaoqing. Research on the Construction of Basic-level Teaching Organizations in Universities: Taking Huazhong Agricultural University as an Example[D]. Wuhan: *Huazhong Agricultural University*,2016
- Meng Xianglin. Analysis of the functions, problems and countermeasures of the teaching and research section in the development of universities [J]. *Journal of Yangzhou University (Higher Education Research Edition)*, 2014(6): 8-9
- Tang Zhi, Li Xiaonian. The operating mechanism of university academic organizations at the grassroots level: foreign models and their reference [J]. *Educational Research*, 2015(6):137-138.
- Wang Yigao. Soviet Russian Education [M]. Changchun: *Jilin Education Press*, 2000:56.
- Wei Huoyan. The cultural construction of university teaching and research section from the perspective of knowledge sharing[J]. *Journal of Jiangxi University of Finance and Workers*, 2009(4):127-129.
- Wu Xing. The changes of university academic organizations in the perspective of knowledge evolution[M]. Hangzhou: *Zhejiang University Press*, 2016:4.
- Xiong Lan. Return and reconstruction of the function of university teaching and research section[J]. *Modern Education Management*, 2010(6): 33-35.
- Zhu, M. On the meticulous work of management in university. *Journal of Anhui University of Technology*, 2007(7): 7

# EXPERIENTIAL MARKETING STRATEGY RESEARCH OF STARBUCKS

**FEI ZHENG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 17494704@qq.com*

## ABSTRACT

With the rapid development of coffee industry, the potential profit of Chinese coffee industry is also very huge. At the same time, more and more coffee brands appear in the Chinese market. Coffee giant Starbucks also faces big challenges. It is not enough to analyze the marketing strategy of Starbucks only through the traditional marketing theory model. Service and brand culture are also indispensable factors in the coffee industry. How to develop brand culture and keep customer satisfaction and loyalty; At the same time, maintaining good marketing performance is a difficult problem that many enterprises need to solve. While international brands occupy the Chinese coffee market one after another, Chinese local coffee brands are also actively exploring the road of internationalization. Analysing the brand experience marketing strategy of coffee giant Starbucks is helpful for Chinese coffee brands to learn from its successful marketing model and be inspired by it, so as to grow and expand smoothly and even promote overseas. By analysing Experiential Marketing Analysis Model and related cases, this paper puts forward two problems for Starbucks to implement Experiential Marketing: ① Cultural adaptation problem; ②Expansion Speed Problem. Finally, some suggestions are put forward to solve the two problems.

**Keywords:** Experiential Marketing Analysis Model, Chinese coffee market, Starbucks brand

## INTRODUCTION

### 1. Introduction

For people who love coffee, Starbucks is a name which is extremely familiar to them. In a times of customer demand center changing from product to service, and service to experiment, Starbucks makes full use of the third life space experience to establish a coffee religion which is characterized by Starbucks Experience. (B -Joseph Pine,1999) Starbucks is different from ordinary coffee shop, because it entrusts a cup of coffee with rich experience and profound cultural connotation. Starbucks has temperament light design and coffee-colored desk, individualized decoration and beautiful music rhythm, which created warm situation. With coffee fragrance and various coffee and cakes, to consume in Starbucks can gain a kind of unique feeling. Starbucks provides the third space experience, and offers customers with emotional product to let it become capital of showing-off, and thus attract more customers. Except this, Starbucks often send free coupons to staff and customers to attract potential customers.

At present, Starbucks already become a kind of cultural symbol and is deeply loved by the Chinese. What Starbucks symbolizes is no longer a cup of coffee, but a kind of brand and culture. Then what on earth does Starbucks win admittance and approval from people all over the world? This paper thinks that experience marketing is its key factor in success. Starbucks growth and development give birth to a wealth creation mode in new economic ties: to integrate experience into your product and service, and to use experience marketing to create future and success.

This paper will illustrate its success mystery through analyzing experiencing marketing strategy in China. The thesis is divided into introduction, main body and conclusion; the main body is composed by five parts, including review of experimental marketing and development of Starbucks in China, methodology and analysis of the survey, research discussion and findings.

## **LITERATURE REVIEW**

### **2. The Construction of Experiential Marketing Analysis Model**

#### **2.1 Concept of Experiential Marketing**

The word “Experience” originates from Latin language experiential, which means inspect, test. According to the explanation of Aristotle, for experiences which are formed by sense and feeling, memory and many same memories, they are called experience. Norris (1941) firstly put forward the consumption experience, he emphasized that the emphasis of consumption experience lies in object service, rather than products (Zhang, X., & Zhao, L.,2018). Abbott (1995) stresses that experience is related to consumers, he points out that experience is related to consumers, and all products are for implementing service, and provide consumption experience (Zhang, X., & Zhao, L.,2018). What people thirsty is not product but satisfied service. Experience is achieved through activities, besides, it is economic activity which is within people’s inner and outer world. John and James defined experience as a kind of economic product, whose value is much higher than commercial product and service. They think when a company consciously takes service as stage, and product as tool, to integrate consumers in it, and concentrate on consumers to create activities which are worth consumers’ memories, the so-called experience appears. Holbrook (2018) divides consumers’ experiences into fantasy, feeling and interesting, and thinks that consumers’ experience comes from fantasy, feeling and interesting pursue. Consumers nowadays focus on functional interests brought by products and service, they attach more attention to certain experiences like their psychological demand and interest preference in the process of purchasing and using products and service. In the situation of same product and service, experience becomes decisive factor of key value, experience is usually the important reliance for customer to make purchase decision. Customer is ration and sensitive at the same time. In comparison with the past, people have increasing demands in pure experiencing consumption, people’s total income accounts for entertainment are increasing, various phenomenon prove that, consumers are becoming more and more sensitive, individualized and emotional. Their demand emphasis converts from pragmatic pursue and price into emotional satisfaction or the experience of pursuing consistency between products and self-definition. (Bernd Schmitt, 2004) Experiencing marketing stands by consumers’ organs and emotion, thinking and behavior plus imagination, it redefines and designs a thoughtful marketing method. Experiencing marketing features are: first of all, it focuses on customer experience, and enables experience into necessary component of customer value; secondly, dramatic and

interaction definitions become core definition and guidance manners of marketing; thirdly, marketing planning, designing and creation out of experiencing economy needs to combine science and humanism, technology and art.

## **2.2 The Components of Experience Marketing**

Experimental marketing has the following components: equipment, also known as experience scenarios, to experience various aspects of the physical environment; to experience the internal realization of customer interaction activities; products, in order to make products with experience value, the direct method is to add some elements, increase The feelings of customers communicating with products; service and service experience are integrated by many details; interactive experience process refers to the sequence of activities and business experience of a series of activities to provide products and services. For different experience interaction processes, these four The contribution of each element to the experience effect varies according to the characteristics of the industry, product, and service. (Schmitt, 2011) Perception experience means organ experience, it applies sense organs of vision and hearing, tasting and smell in experience marketing. Organ experience can be divided into company and product recognition, the simulation of consumers' purchase motivation and adding extra value of product, and so on. As for the thinking experience, it uses creative method to simulate consumers' curiosity and interest, and thus think problems concentrate, and thus create consumers with experiences of cognition and solving problems. Behavior experience means to add consumers' body experience to point out substitution methods for their behaviors, enrich their life and interaction in life, and thus simulates consumers consciously change their life formation. For the emotional experience, it refers to consumers' impression and feeling on product and brand. For related experience, it means to practice self-improvement for individual thirsty, and enable others to have good feelings on themselves, it enables consumers to connect with a wider social system and thus establish preference in a certain brand.

## **3.The Development Situation of Starbucks Market in China**

### **3.1 Starbucks Employees**

Starbucks stipulates to give one-month training for each new member. In Starbucks, here is a saying: in Starbucks, there is no difference between boss and staff, for we are all partners. And this makes me felt an extra intimacy in my job. The first month of each new member in Starbucks will get one experienced partner to be the teacher for guidance and study. The study in Starbucks divides into three modules: The first module has several parts, the first part is to have a coffee taste, this lets me know the four steps of coffee taste: smell and suck, remain and collocation.

The second module is to learn modulate some simple coffee, such as latte and cappuccino, mocha and some other simple coffee. the staff must remember dates of all raw material formula, and cannot let customers ate anything out-of-warranty.

The third module is to learn sales skills, such as how to communicate with customers and how to get customers to buy the drinks and products you recommend. There are also cashier shortcut buttons, a quick way to make hot and cold beverages that allows customers to wait less than three minutes from payment to coffee to wait for their purchased beverages. In addition, the staff also learned about Starbucks' strategy for coffee growers, such as establishing fair trade, and some coffee beans have a special logo on the packaging, so you should know the meaning of this logo, as well as Starbucks' feedback to the society and their advocacy for environmental protection. Starbucks is offering \$2

off for customers who bring their own cups. In addition, there are solutions for different customers, making them feel 100% satisfied.

## **2.2 Starbucks Customer**

For Starbucks customers in China, most of them are white collar who have high requirements on life quality, Starbucks, as third space for life, is the usual place for them to go. Therefore, this paper selects 100 usual customers of Starbucks, and sends out related questionnaire and interview questions for them for gaining feedback on experience marketing.

## **4. Research on Experiencing Marketing of Starbucks**

### **4.1 Perceptual Experience**

The first impression of customer is composed by equipment. Design administration of Starbucks asks designers to pay attention to every details of the comprehensive experiencing process of customer from their entering to leaving. Starbucks comprehensive equipment brings customers a kind of free and comfortable feeling in vision and hearing, tasting and smelling. First of all, good architectural outer appearance, the shining falling glass window with tender and warm lamp, with Italy-styled furniture plus western abstract representative pictures, all of these bring customers with different organ feeling. The sound of coffee cooing and coffee bean, the beautiful music in the sky, all of this reflects a kind of Starbucks fragrance; Starbucks uses wooden material from desk to chair, boxes and even floor, this let customer to feel grace, stable and warm. Besides, the movable chair and table enables customers to have comfortable feeling, they feel casual and ease as if they were at home. Meanwhile, there are painted cheese and word guessing on the table, with news and magazines on the shelf, customers can get an entertainment when they feel tedious and boring. The fragrance of coffee cooking directly simulates customers' desire for enjoying Starbucks coffee. From tender lam to comfortable and leisure background music, from freely moved chair and table to the strong fragrance of coffee cooking, from freely combined chair and desk to the dedicated news and magazines, Starbucks provides customers with experience journey in each tiny details, and thus attract more customers' attentions and love. For the perceptual experience, CIS accounts fr 42.9%, and style accounts for 12.6%; color and taste account for 9.3% separately. According to the questionnaire data, consumers' perceptual experiences are mainly based on vision. Starbucks present consumers with feelings of warmth and happiness, comfortableness and pleasure. In color, Starbucks gives consumers the feeling of shining and tender, warmth and nature, customer mentions that color in Starbucks bases on coffee and green, which belong to natural color, and let customers to have comfortable and free feeling the moment they walk into Starbucks. In aspect of taste, customers talk about their feelings in coffee taste, and almost no one dislike its taste in coffee. However, there are still customers who point out differences between Starbucks and other coffee chain shop. The reason why they come to Starbucks is because they like its style and atmosphere, this meant, when product and service both reach to mature situation, customers will select brand which has continuous positive experience in them.

### **4.2 Thinking Experience**

In terms of thinking experience, simulation accounted for 41.6%, temptation accounted for 39.3%; creating a surprise accounted for 19.1%. The questionnaire results

showed that the customer's thinking experience is based on the simulation part, i.e. cases can be created to simulate the customer's discussion. Such as the elegant behavior of customers and so on. In terms of simulated thinking, such as music performances in different languages and different countries, customers can simulate an idea that broadens their horizons. In the eyes of customers, Starbucks is no longer a coffee bar, but a home, a cultural occasion. Starbucks enjoys the brand effect of a global coffee brand and has played a huge role in opening up the Chinese market. In the minds of many white-collar workers, Starbucks is a symbol of health, success and status. In pursuit of fashion, more and more Chinese are willing to pay twice, three, four times more than tea for a cup of Starbucks coffee, which gives them a sense of success. In China, Starbucks' slogan is to provide China's middle class with a clean and affordable fashion social occasion. (Bernd Schmidt, 2004)

### **4.3 Behavioral Experience**

Starbucks sticks to a way of direct management, and only accept company alliance or authority, it refuses personal or individual alliance. (Sherry J. A, 1992) Besides, Starbucks makes serious standard for its partners: for instance, whether the cooperators' reputation, quality controlling ability could use the standard of Starbucks standard to train staff. Starbucks could strictly ask its manager to admit company theory and brand, simulate behavior and discipline as well as quality with consistency. Starbucks guarantees each branch shop with standard procedure in each item or project. All staff in Starbucks finish their own jobs according to stipulations of staff operation, in this way, staff can pay attention to each details, and implement each service into practice. Through a series of standardization, Starbucks achieve the purpose of letting customer to have comprehensive experience. Staff in Starbucks behaves according to the standard of product and service procedure. In terms of behavioral experience, physical experience accounted for 42.7%; life forms accounted for 25%; interactions between other people accounted for 16.9%. The results of the questionnaire survey show that customers still give priority to comprehensive feelings. Starbucks creates the right products and simulation-plus atmosphere to allow customers to have a rich physical experience. Customers experience the consistent quality of coffee products, the enthusiasm of the waiters, the user-friendly equipment and the eager atmosphere. Starbucks flexibly integrates the lifestyle of customers, so that students can read without worry, and office workers can rest after get off work. Many customers say Starbucks has become part of their lives.

### **4.4 Emotional Experience**

The moment customer enters into Starbucks, no matter how busy the servant is, they will turn back to get eye contact with customer, and say "Welcome to Starbucks" with smile. Starbucks gives profound training in its staff, and enable each staff to be expert in coffee. While customers are enjoying coffee, they can also discuss various knowledge about coffee with staff of Starbucks freely and thus gain more experiences in coffee, then they can describe this knowledge to their friends and relative, or to leisurely enjoy music and read news, use their wireless functional computer to surf the internet, and enjoy beautiful times. If someone breaks the beverage carelessly, in Starbucks, no one would blame you, servant will care about you, and exchange a new beverage for you, which sows its individualized style. Servant will use a series of service skill training, including basic etiquette, sales skills a coffee knowledge, to standardize service and make it individualized. In the process of service, it lets customers to feel their kindness and enthusiasm, and thus reflects the service theory of customer comes first. For affection experience, consumption

sitcom accounts for 38.3%; location space account for 26.3%; product accounts for 16.2%; Schmitt (1999) pointed out that, emotion happened in the period of consumption was strongest in affection. For emotion, the scene of consumption was very important. This research proves that the main factor for customer's emotion in consumption lies in consumption scene. Customers experienced the feeling of being at home, they feel comfortable and free as well as relaxed. Meanwhile, another place for simulating customers' emotion lies inside Starbucks, for customers feel free and cold do things they want, they can think things or daydreaming; when customers want to be alone but unwilling to feel lonely, Starbucks is indeed a good place to choose. Many customers also point out that Starbucks provides a social communication occasion, they can have gathering here. Even though Schmitt thought face-to-face interaction is the most important condition for simulating strong emotion, this research shows that service person is not the main factor for emotion simulation, and the reason may because Starbucks adopts self-free service, servant and customer have short time in contacting with each other.

#### **4.5 Related Experience**

The relevant experience is to make others feel good about themselves through the practice of a personal desire for self-improvement. Regarding relevant experiences, our survey results showed that group belonging and social identity accounted for 20% respectively; cultural value accounted for 16.7%; social influence and social role accounted for 13.3% respectively. Sociology states that customers believe that buying a brand can change their perception or engagement within a certain group. Starbucks' target market positioning is that customers are not ordinary people, but a group of urban white-collar workers with a petty bourgeoisie who focus on enjoyment, leisure, knowledge and respect for people. The consumers who consume at Starbucks are all white-collar workers or intellectuals with a certain status. Customers see Starbucks as a place full of humanity, and buying a cup of Starbucks coffee is something to be proud of, because it can elevate their taste and differentiate themselves.

### **DISCOVERY AND SOLUTION**

#### **5.1 Findings**

##### **5.1.1 Cultural Adaption Problem**

According to the research data collection, some interviews do not lie Starbucks, for they prefer traditional Chinese tea. Here, it reveals a cultural adaptation problem. As it is known to all, China is a nation with long history of tea. Chinese tea can prevent sickness and do good for healthy. Chinese tea culture is beyond any other beverages. What's more, tea has large number of consumers, billions of Chinese. That's why part of customers interviewed in this research express their dissatisfaction about experiences in Starbucks. Anyway, Starbucks cook's coffee, which is not loved and familiar to the Chinese. Even though Starbucks do innovate special tea, customers say that if they want to drink tea, they prefer other tea bar rather than Starbucks.

##### **5.1.2 Expansion Speed Problem**

The high speed in expansion result weakness in experience. While gradually occupy Chinese market, Starbucks was covered with interests, and forgot its enterprise mission of "building Starbucks into global top coffee brand, and stick to its habitual principle in the continuous growth process of Starbucks". Starbucks began and gradually

ignored the essence of experiencing marketing. Starbucks developed from hundreds of shops into more than ten thousand shops, such growth brings weakness in Starbucks experience, and the main problem lies in Starbucks itself, for it focuses on expansion and abandons customer experience of Starbucks. The result of fast expansion lies in the short distance between two shops, for Starbucks in a same region, it is near, this results ferocious competition in Starbucks. Meanwhile, because of the rapid expansion, it results cost increase, especially the rapid growth in labor cost. Moreover, it increases the quantity of new staff, however, training for these new staff are backward, as a result, Starbucks experience is hard to copy. In such situation, Starbucks began to add investment on hardware, for instance, install super automatic fresh coffee machine to instead of part of coffee cook, even though coffee machine could achieve standardization in operation, and it does not need extra time and energy to train coffee master, besides, it can reduce costs and man-made mistakes, Starbucks seems to forget that Starbucks provides a kind of experience, and such experience must make use of certain unique manner--to be expressed by the nonstandard man-made process. Once machine substitute man-made coffee, some aspect in Starbucks will disappear for sure. For a time, Starbucks in China trapped into quality case, and this worries customers indeed. Before Middle Autumn Festival in 2005, in the issue meeting of national mooncake quality, national quality supervision master revealed that mooncakes from Starbucks in Tianjin were checked for over ingredients in germs, and the reason is Starbucks entrusts second-class mooncake manufacture to produce mooncakes. In 2012, Starbucks in America was revealed that part of its products used dyestuff which may cause sensitiveness in people. Chinese management newspaper declared in sina official blog: Starbucks stopped the beverage of strawberry icy drink, which was loved by many customers, for the beautiful color was coming from a kind of insect. More than 6500 people fought against this, and as a result, Starbucks had to stop using this insect dyestuff, because no one was willing to eat insects while enjoying their beloved Starbucks product. For another example, Qianjiang news reported Starbucks in Ningbo had used sugar juice which was out of expire date, Starbucks reacted this and proved the fact, and confirmed the mistake of workers.

## **5.2 Solution**

### **5.2.1 Strengthen Localization**

While innovating product, Starbucks shall combine product and culture, and adapt to local culture to integrate culture into experience marketing, and thus shorten its distance between customers, let them have good impression with unforgettable experiences, in this way, it achieves the effect of experience, and find unique Starbucks customer experience back once more, customers' confidence and love in Starbucks would come back again, and they will love Starbucks the second time. Starbucks should invest its energy on the things they are good at--to do the best coffee and try its best to improve customer experience, and let customer find back original romance in Starbucks. Chinese market for Starbucks also possesses its own characteristics. Culture in north of China is different from culture in the east. Mainland consumption also cannot match up with coastal cities. For the sake of solving complex in Chinese market, Starbucks select three regional cooperation partners for its expansion plan. In north of China, Starbucks and Beijing Meida coffee company establishes a capital enterprise. In the east of China, Starbucks cooperates with Taiwan Uni-President Enterprises. In south of China, Starbucks's partner is HK food company. Each partner of Starbucks has different advantages and local knowledge, and this is good for Starbucks to know local Chinese customers' tastes and preferences. To cooperate with correct local partner can effectively know local consumers

to achieve rapid development and thus utilize the experience marketing strategy. After entering into China, Starbucks shall adopt dedicated marketing entering strategy, and its advertisement propaganda does not let Chinese feel their tea drinking culture is threatened, on the contrary, it selects places with large amount of population and visibility to establish brand image. Starbucks made full use of Chinese consumers' tea drinking culture, and can implement beverage though using green tea and other native or local popular ingredients, this strategy convert potential barriers into advantage. And Chinese consumers rapidly like Starbucks coffee. Moreover, Starbucks can grasp the uniqueness of experience marketing strategy, and provide unique decoration inside Starbucks. With unique music, Starbucks strongly attract the young generation.

### **5.2.2 Control Expansion Speed with Reasonable way**

As the introduction of capital, it accelerates the rapid expansion of Starbucks, and let it break away from the original enterprise growth road. The speed of Starbucks unique culture and good service quality transportation is far behind its expansion speed. Service professional decrease gives discount on Starbucks image to a great degree. Naturally, it will influence customers' loyalty in Starbucks brand. Excessive expansion in brand will cause loss in brand individuality and core value weakness of brand. At last, as customers loss loyalty in Starbucks, Starbucks direct motivation should be customer's loyalty. Starbucks does not pursue for its shop quantity but customer quality and certain group's loyalty in Starbucks coffee. Therefore, Starbucks should slow down its expansion speed, adjust its tempo and establish perfect experience marketing system, and cultivate experience marketing talents with high cultivation. An enterprise needs to master the main direction of progress, besides, it shall also pay attention to detail development, in this way, it can guarantee each link of experience marketing to carry on smoothly. Starbucks should continue providing over-all service to improve customer satisfaction and loyalty degree.

## **CONCLUSION**

For the success of Starbucks in China, domestic enterprise shall also make full use of experience marketing strategy, anyway, resent economic mode already transfer from service marketing to experience marketing. Starbucks successfully develops the oldest commodity of the world into a unique and sustainable brand with high additional values, and becomes coffee green giant which covers more than thirty countries and regions. Meanwhile, Starbucks only used ten years to make it into a fashion pronoun in China. Starbucks' enterprise strategy and marketing strategy worth domestic enterprise manager to learn and borrow. However, in China, Starbucks also exists certain restrain factors.

This research exists certain limitations, and the biggest limitation lies in that experience marketing is a newly born marketing method, research on theories for experiencing marketing is indeed rare, therefore, mode construction on doing research on experience marketing exists certain difficulty. Meanwhile, the reason for success in Starbucks in China does not lie in customers' satisfaction in experience, even though the satisfied customer experience style is not the only factor for Starbucks success, this paper focuses on the experience marketing's influences on customers in Starbucks, therefore, for success factors in Starbucks in China do not involve in. Moreover, as this research observes Shanghai South station Starbucks, as manager and staff here are not professional enough, they lack of ideas about higher rank in Starbucks and have little knowledge about Starbucks marketing strategy, hence, instruction collection has certain limitation.

China was not a market which was easy to open, it needed long-term efforts indeed.

One important strategy of opening a market lied in investing on staff. Starbucks' staff employment and training job did very good, because the staff was the core to provide Starbucks experience to customers, they were best marketing representatives of Starbucks.

## REFERENCES

- Andersson, T. D. (2007). *The tourist in the experience economy*. Scandinavian journal of hospitality and tourism, 7(1), 46-58.
- Pine, B. J., & Gilmore, J. H. (2011). *The experience economy*. Harvard Business Press.
- Zhang, X., & Zhao, L. (2018). Morphology, structure and ultrastructure of staminal nectary in *Lamprocapnos* (Fumarioideae, Papaveraceae). *Flora*, 242, 128-136.
- Liu, X., Wang, X., Zhou, X., He, X., Pan, D., & Feng, L. (2021, June). Analysis of Starbucks' "Third Place" Cultural Experience Marketing Mode. In *2021 International Conference on Enterprise Management and Economic Development (ICEMED 2021)* (pp. 30-37). Atlantis Press.
- Devia, A. N., Aisjah, S., & Puspaningrum, A. (2018). The influence of brand experience and service quality to customer loyalty mediated by customer satisfaction in Starbucks coffee Malang. *MEC-J (Management and Economics Journal)*, 2(2), 161-170.
- Schmitt, B. (2011). *Experience marketing: Concepts, frameworks and consumer insights*. Now Publishers Inc.
- B -Joseph Pine, James. (1999). *Welcome to the Experience Economy*. Harvard Business School Press, Boston, Massachusetts.
- Schmitt, B. (2000). *Experiential Marketing*. New York: The Free Press.
- Zollo, L., Filieri, R., Rialti, R., & Yoon, S. (2020). Unpacking the relationship between social media marketing and brand equity: The mediating role of consumers' benefits and experience. *Journal of Business Research*, 117, 256-267.
- Wiedmann, K. P., Labenz, F., Haase, J., & Hennigs, N. (2018). The power of experiential marketing: exploring the causal relationships among multisensory marketing, brand experience, customer perceived value and brand strength. *Journal of Brand Management*, 25(2), 101-118.
- Grove, Stephen. J. (2009). *The Service experience as theater*. London: Cambridge University Press.
- Sherry J. Advances in consumer research. *Association for Consumer Research*, 1992:138-149.
- Oh, H., Fiore, A. M., & Jeoung, M. (2007). Measuring experience economy concepts: Tourism applications. *Journal of travel research*, 46(2), 119-132.
- Loureiro, S. M. C. (2014). The role of the rural tourism experience economy in place attachment and behavioral intentions. *International Journal of Hospitality Management*, 40, 1-9.
- Chang, S. (2018). Experience economy in hospitality and tourism: Gain and loss values for service and experience. *Tourism Management*, 64, 55-63.
- Xiang, Z. (2018). From digitization to the age of acceleration: On information technology and tourism. *Tourism management perspectives*, 25, 147-150.
- Hurriyati, R., & Sultan, M. A. (2020). Analysis of the Relationship Between Consumer-Based Brand Equity, Experiential Marketing, Customer Satisfaction, and Customer Loyalty at Starbucks Coffee in Karawang. *JRB-Jurnal Riset Bisnis*, 4(1), 58-69.

- Mi, B., Zhang, T., Zhang, J., & Du, H. (2021, June). Research of the Starbucks' Ritual Sense and Strategy of Sales. In *2021 International Conference on Enterprise Management and Economic Development (ICEMED 2021)* (pp. 86-92). Atlantis Press.
- Bertels, H. M., & Desplaces, D. (2021). Starbucks in China: What lessons can Starbucks learn from Luckin? *The CASE Journal*.
- Rahmawati, D. H., Rachmawati, F., & Saifuddin, W. (2021). Green Integrated Marketing Communication Starbucks: Studi Kasus Pada Program Bring Your Own Tumblr. *Jurnal Ilmu Komunikasi*, 4(1), 15-31.
- Senduk, A. T., & Saerang, R. T. (2020). A qualitative study of consumer perception on emotional branding of starbucks Manado Town Square. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 8(1).
- Holbrook, M. B. (2018). Essay on the origins, development and future of the consumption experience as a concept in marketing and consumer research. *Qualitative Market Research: An International Journal*.

# THE COMPETITIVENESS OF COFFEE INDUSTRY IN YUNNAN PROVINCE OF CHINA

**ZHAO YAPING**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 83794148@qq.com*

## ABSTRACT

Coffee is a kind of beverage crop with high economic value, which has been called the world's three major drinks together with tea and cocoa. Coffee industry is a characteristic industry rising rapidly in Yunnan Province in recent years. Its output has always accounted for more than 98% of the total output of the country. It has a unique resource advantage in the country. "Yunnan coffee" represents the development of China's coffee industry in a large extent, and determines the world status of China's coffee. Moreover, from the perspective of its market potential, Yunnan coffee has many substitutes for internationally famous coffee Energy. However, there are still many problems in the development of Yunnan coffee industry, so we should evaluate the international competitiveness of Yunnan coffee industry more comprehensively, further improve the economic benefits of Yunnan coffee industry, and enhance the overall status of Yunnan coffee.

This paper analyzes the competitiveness of coffee industry in Yunnan province from the aspects of production factors, domestic market demand, industrial development mode, related and auxiliary industries, government, opportunities, and innovation ability, and puts forward relevant countermeasures to enhance the competitiveness of coffee industry in Yunnan Province. Finally, specific suggestions put forward from the two sides: the government and enterprises should to improve the international competitiveness of the coffee industry in Yunnan Province and ensure the healthy and sustainable development of the coffee industry.

**Keywords:** Yunnan coffee, Industrial competitiveness, competitive advantage

## INTRODUCTION

### 1. Introduction

#### 1.1 Research background

Coffee is a beverage crop with high economic value. The first coffee tree in Yunnan Province was planted in Zhukula, Binchuan, Dali, Yunnan by the French Missionary Father Tian in 1902. The coffee planting history in Yunnan has been 120 years.

With the help of its inherent superior natural conditions and climatic environment, Yunnan Province has cultivated a very rich variety of characteristic agricultural products. As a special agricultural product, Yunnan small coffee has a long history of planting. It also has unique advantages across the country, and it gradually developed into commercialization in the middle of the 20th century. The Yunnan Provincial Government

has issued a series of policies in recent years to accelerate the development of the coffee industry and create a good policy and development environment. The coffee planting output in Yunnan has also developed rapidly, and it has become China's largest coffee planting base and trade export destination. Yunnan coffee products are exported to more than 40 countries and regions. "Yunnan Coffee" has become a unique part of agricultural products. Relying on its unique geographical environment, Yunnan can grow coffee with high nutrient content and excellent quality, which is also at the upper level in the world. As a representative of China's coffee industry, "Yunnan Coffee" has basically determined the status of China's coffee in the world. Yunnan Province has the natural geographical conditions for coffee planting and development. Its coffee industry has a long history of development and has formed its own coffee characteristics in the long-term development.

With the development of economic integration and globalization, China's economy has also developed rapidly, which has improved the people's quality of life and consumption levels. Coffee is not only a refreshing drink, but also represents a lifestyle and fashion culture. Domestic consumer demand for coffee has also increased. In recent years, the domestic annual demand for coffee has grown rapidly. In 2018, China consumed 128,000 tons of coffee, and the coffee consumption market was around RMB 60 billion (Ding Li,2017) . China has developed into the most potential coffee consuming country, which has brought huge customer potential and market opportunities to the development of Yunnan's coffee industry. It has infinite and broad development prospects.

However, the current development status of Yunnan coffee industry is not optimistic. The blind cultivation of coffee farmers, the weak awareness of origin, the low level of enterprise processing and development, the lack of sales channels, the imperfect logistics facility system, the export of raw materials and the development of consumer demand in the domestic market imbalances. These problems have severely restricted the overall development of the coffee industry in Yunnan, and have also hindered the exchange of information among coffee-related stakeholders, making Yunnan coffee an obstacle to its transformation from a resource advantage to a competitive advantage. Problems such as the squeeze of big-brand companies such as Starbucks and Nestlé are still widespread, leading to the prominent phenomenon of "small, scattered, chaotic, and soft" by local companies, and severely weakening the market competitiveness of Yunnan's coffee industry. Therefore, it is particularly important to comprehensively evaluate the competitiveness of the coffee industry in Yunnan Province.

## **LITERATURE REVIEW**

### **2. The development status of Yunnan coffee industry**

#### **2.1 The development history of Yunnan coffee industry**

1952-1978 was the first stage of the development of Yunnan coffee. In order to suit needs of the Soviet Union, the Chinese government sought coffee plantations in the country and supplied coffee to them. As a result, Baoshan City became the earliest industrialized coffee cultivation area in Yunnan Province.

The period from 1978 to 1988 was the second stage of the development of Yunnan coffee. This stage was an exploratory stage. Most farmers had just started planting coffee, so this stage was relatively unstable.

1988-2008 was the third stage of the development of Yunnan coffee. After 1988, Nestlé seted up a purchasing station in Pu'er to help farmers introduce coffee. In the

following 20 years, Yunnan coffee developed steadily. The continuous development of Yunnan coffee planting area and output growth of multinational groups has enabled the recovery of Yunnan coffee planting industry. By the end of 1997, the coffee planting area in Yunnan had reached 7,800 hectares, accounting for 83% of the country's total output (Qin Wang & Zeng Lu,2012).

Beginning in 2008, the development of Yunnan coffee entered the fourth stage. Yunnan coffee planting has initially formed an industrial chain and is constantly improving. For the first time, Hougu Coffee announced the purchase price of coffee cherries, breaking the pattern that Yunnan coffee industry only provides raw materials for export.

## **2.2 The planting area and output of Yunnan coffee**

The total output and total output value of coffee in Yunnan Province accounted for more than 98% of the country's total, ranking first in the country. The scale of planting has gradually changed from scattered to concentrated planting. The coffee industry in Yunnan will continue to maintain its absolute advantage. The harvest area and production of coffee in Yunnan reached its peak in 2017. From 2010 to 2017, Yunnan Province maintained an upward trend in coffee harvest area and output. The harvest area increased from 25,000 hectares in 2010 to 83,400 hectares in 2017. The output has also increased from 49,400 tons in 2010 to 164,700 tons in 2017, accounting for 1.1% of the world's area and 1.5% of the world's output, ranking the 13th in the world. In 2017, the total output value of coffee agriculture in Yunnan Province was 2.59 billion yuan, and there were about 300,000 coffee farmers in the province, with a total population of 1 million people. However, in 2018, the planted area, harvested area and output all declined. This is the first time that the harvested area and output have declined since 2010. The harvested area fell to 77,900 hectares, and the output fell to 151,200 tons. The development trend shows that there are indeed some problems in the development of coffee in Yunnan Province.

## **2.3 Yunnan coffee import and export trade situation**

Yunnan coffee mainly exports green coffee beans. The demand for green coffee beans is relatively elastic and lacks stable trading partners. It is easily disturbed by external environmental factors, and the export volume presents a certain degree of volatility. In 2016, the export volume reached 85,900 tons, the export value increased to 292 million dollars, a growth rate of 90.67%, and in 2017 it dropped to 6.07 million tons, and the export value fell to 194 million dollars (General Administration of Customs of the People's Republic of China). As the largest coffee producing area in China today, Yunnan is also the province with the largest export volume of coffee in China. Exports accounted for more than 65% of China's total coffee exports. In 2010, the export accounted for the largest proportion of 90.25%, followed by 85.17% in 2017. The coffee output of Yunnan Province accounts for more than 98% of China's total coffee output, and there is a certain gap between the proportion of output and the proportion of exports.

In terms of export markets, the main export markets of Yunnan coffee are developed countries such as Europe and the United States. In 2017, the top eight countries with the largest coffee exports in Yunnan accounted for more than 70% of the total coffee exports in Yunnan in 2017. These eight countries are: Germany, the United States, Belgium, the United Kingdom, Russia, Switzerland, Sweden, and Spain. Divided according to the export share: European market>Asian market>Middle East market; From the perspective of the types of exports, the products purchased in the European

market are mainly green coffee beans, while the Asian and Middle Eastern markets will import in addition to green coffee beans, mix coffee and coffee powder.

### **3. Problems in the development of Yunnan coffee**

#### **3.1 The production technology level is not high**

Due to the inadequacy of the management of Yunnan coffee and the prevention and control of pests and diseases during the planting process, the technical production level of Yunnan coffee is not high and cannot meet the international production standards. This directly affects the production quality, resulting in that the quality of Yunnan coffee produced is not good enough, and there is still a certain gap compared with similar foreign products, so that it does not have an advantage in market competition and is not conducive to its further development (Zhao Jianzhi,2016).

#### **3.2 The brand culture is not strong**

Nowadays, Yunnan coffee brands have always focused on the quality of materials, so there is insufficient emotional communication with consumers. The values and worldview that the brand wants to convey to customers, as well as the colorful lifestyles that it promotes, will appear very unclear., Not to mention want to gain the trust of consumers, make consumers psychologically identify, and form loyalty. Coffee means “strength and passion” in Hebrew—this is the indispensable spirit of Yunnan specialty coffee in defining and creating its own cultural characteristics (Wang Li, 2016).

#### **3.3 Insufficient policy support**

Although the government is not one of the four major determinants of industrial development in the theory of competitive advantage, its role as an important auxiliary factor cannot be ignored. Governments at all levels in our country pay great attention to the development of the coffee industry, but the support for the industry is mainly based on financial subsidies, and substantive measures have not been taken in some areas. Such as opening up capital ways and enacting competition regulations. The problems that need to be solved in the field of entry. In addition, the government's support for the coffee industry is not enough, and the policy system is not sound. The current policy supports only the planting process, and the lack of government policy guidance in the value-added links such as processing and sales has led to the lack of effective long-term development of the coffee industry.

#### **3.4 Insufficient brand communication**

With the continuous development of Yunnan coffee, the promotion of coffee brand and culture is particularly important. However, due to the obvious lack of communication on multimedia platforms (including commercial advertisements), it rarely appears in national media. Brand image and culture communication are not ideal on height, intensity, and frequency, and the brand awareness and brand influence are also difficult to reach expectations (Dai Zhengming & Du Gang & Mao Zhaoqing, 2018).

#### **3.5 Little economic benefit improvement**

More than 90% of Yunnan coffee is supplied to the world's coffee giants such as Nestlé and Starbucks in the form of raw bean raw materials (Du Huabo,2007). Most of the profits in the value-added links of coffee processing, distribution, and retail are occupied by foreign coffee sellers. Yunnan coffee intensive processing technology is inadequate, coffee products lack added value, and there is little room for improvement in economic benefits. Unclear coffee beans standards, unstable quality, inaccurate picking

and selection of mature fruits, and more blemishes in primary processing hinder Yunnan coffee from improving its intensive processing technology and affecting the improvement of industrial competitiveness.

### **3.6 Low domestic market share**

At present, the development of domestic coffee culture is immature, and coffee consumption accounts for the proportion of domestic consumption is very small, and the coffee consumer group is limited to young people under 35 years old in big cities. In addition, the coffee consumption format is still dominated by instant coffee, and the proportion of freshly ground coffee consumption is relatively small. According to relevant data, the instant coffee market share accounted for 84% in 2018, and the freshly ground coffee market accounts for only 16%.

## **4. The Countermeasures for Improving the Competitiveness of Yunnan Coffee Industry**

In order to enable Chinese coffee to better integrate into the world coffee consumer market, adapt to market changes, and make Yunnan coffee develop in a better direction, the author proposes the following countermeasures in response to the problems mentioned above.

### **4.1 Establish a risk warning system to protect the interests of coffee farmers**

Establish a risk warning system for the coffee industry to protect the interests of coffee farmers, in order to ensure that Yunnan coffee can effectively resist market risks and protect the production interests of coffee farmers (Yunnan Provincial Development and Reform Commission). First, based on the current situation of Yunnan coffee industry information services, establish a Yunnan coffee information network platform that collects domestic and foreign coffee information, coffee industry-related data analysis, and press releases. Second, should establish a coffee industry risk fund and a coffee bean purchase minimum price protection mechanism. The coffee industry risk fund can be jointly funded by the government, enterprises, cooperatives, and farmers, and it can maintain and increase its value through financial investment; The coffee bean purchase minimum price protection mechanism is to protect coffee farmers' income by invoking the coffee industry risk fund when the coffee market price is as low as the cost price.

### **4.2 Expand the domestic coffee market with the help of publicity and marketing**

Actively learn from the successful experience of foreign coffee brands, fully explore the cultural connotation of Yunnan coffee, and expand the domestic coffee market. First, we must use advertisements to promote the characteristics, efficacy and product types, enhance the brand awareness of Yunnan coffee. Second, the coffee industry and the tourism industry must be integrated develop. With the help of the development of Yunnan tourism, coffee eco-tourism tourist area should integrates eating, traveling and shopping.

### **4.3 Optimizing the policy environment and committing to structural reforms**

The development of the coffee industry in Yunnan needs the support of a good policy environment, and at the same time, it must be committed to promoting the structural reform of the coffee industry. The first is to promote the reform of administrative management, optimize and improve the policies of finance, science and

technology, industry and talents, to improve the level of integrated projects, funds, technical talents, and entrepreneurial innovation capabilities. The second is to improve the policy environment for industrial investment and financing, and build a "government + society" new coffee agricultural infrastructure construction investment model.

#### **4.4 Cultivate high-quality coffee varieties and improve coffee intensive processing technology**

Cultivating high-quality coffee varieties and improving the quality of coffee is the basis of developing and enhancing intensive processing technology to increase the added value of coffee products. First, establish a national coffee variety cultivation research team, commit to coffee variety screening, breeding and promotion, accelerate the transformation of Yunnan coffee scientific research achievements, and lay a good foundation for improving the deep processing technology and increasing the added value of coffee products. Second, the strict picking fresh coffee standards, promoting coffee production technology and equipment upgrading. The third is to scientifically plan the layout of coffee intensive and deep processing bases and vigorously promote the construction of coffee industrial area.

#### **4.5 Increase financial input to encourage coffee enterprises to take the path of independent innovation**

Innovation ability is the core of industrial development, with which enterprises can truly develop their own sustainable competitiveness. The government should increase financial input to encourage coffee enterprises to take the path of independent innovation. One is to increase subsidies for research and development, investment and establish an innovation fund. The second is to increase the government's direct input in supporting the coffee industry and the processing technology development of coffee enterprises. Public funds are provided to R&D of coffee enterprises in various forms, such as appropriation, interest subsidy, loan, loan guarantee and equity participation. The third is to encourage coffee enterprises to accelerate the depreciation of technical equipment.

### **CONCLUSION**

Through analyzes the development of Yunnan coffee and the problems, puts forward some measures to enhance the competitiveness of Yunnan coffee industry. Through the adjustment and implementation of these policies, the government, enterprises and relevant departments can highly recognize the importance of developing the coffee industry, so as to ensure that the Yunnan coffee industry can form a good sustainable development trend, which has a certain practical significance to enhance the dominant position of Yunnan coffee in the world.

### **REFERENCES**

- Ding Li and Zhou Xiangyang. (2017). Analysis and prospect of Competitiveness of Chinese coffee industry. *Agricultural outlook*. 2017 (10) , pp.53-58.
- Qin Wang and Zeng Lu. (2012). 100 years of memory of Yunnan coffee. *The western times*.2012(11).
- Zhao Jianzhi. (2016). Development status and future prospect of small grain coffee. *Farmer's friend*. 2016(14), pp.24.

- Wang Li. (2016). Study on brand Marketing of Yunnan agricultural products -- taking Yunnan small coffee as an example. *Chinese Business*. 2016(19), pp.7-8
- Dai Zhengming, Du Gang and Mao Zhaoqing. (2018). The status and development countermeasures of Yunnan coffee brand building. *China Tropical Agriculture*. 2018(15), pp.11-13.
- Du Huabo. (2007). Discussion on the Sustainable Development of Yunnan Coffee Industry. *China Tropical Agriculture*.2007(5), pp.15-17.
- Yunnan Provincial Development and Reform Commission. Yunnan Provincial Department of Agriculture. *Yunnan Coffee Industry Development Plan (2010-2020)*. 2011-03-31. Available: [http : // www.ynagri.gov.cn/ \\_main/ article- 848724.html](http://www.ynagri.gov.cn/_main/article-848724.html).

# LIVE STREAMING IN THE NEW MEDIA ERA—TAOBAO AS AN EXAMPLE

ZU YIN ZHANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 754433179@qq.com*

## ABSTRACT

With the popularization of Internet technology and mobile payment technology, the continuous development of the times, and the continuous innovation of product marketing models, people's consumption patterns have gradually shifted from offline physical consumption to online e-commerce, e-commerce platforms, and live broadcasts. The goods slowly became popular on the Internet. The continuous development of e-commerce has made people's lives more convenient and provided more choices for ordinary consumers. E-commerce platforms such as Taobao, JD.com, and Pinduoduo have provided more entrepreneurial opportunities for more small merchants. The live broadcast of goods has attracted more Internet celebrities, entrepreneurs, and staff from impoverished mountainous areas to join in. Among them, live streaming has the most rapid development momentum.

Since the outbreak of the novel coronavirus in 2020, residents have been largely restricted from traveling and purchasing daily necessities. The concept of shopping and living in a contactless mode has been continuously popularized, which has laid a solid foundation for the vigorous development of my country's live broadcast delivery industry. The emerging delivery mode of "anchor + live broadcast + e-commerce" has ushered in more and more, especially the favor of young people, and it has become a new mode of online consumption. The most prominent advantage of live streaming is that it can break the geographical core and space constraints when selling products, and open up new sales channels for more brands. While reducing the negative impact of the epidemic on the real economy, it also brings a different consumption experience to consumers.

This paper selects Taobao live broadcast platform and consumers as the research objects, conducts in-depth research, combines interactive rituals, immersive interaction, consumerism and other theories to analyze, to explore why consumers like and trust the emerging model of live broadcast. By sorting out the problems existing in the live broadcast platform, we hope to find out the reasons why the head anchor (KOL) attracts users, increases user stickiness and achieves success.

**Keywords:** Live broadcast with goods, service innovation, e-commerce platform, interactive ceremony

## INTRODUCTION

### 1.1 Research background

According to the 48th "Statistical Report on Internet Development in China", as of June 2021, the number of netizens in China reached 1.011 billion, an increase of 21.75

million compared with December 2020, and the Internet penetration rate reached 71.6%. One billion users are connected to the Internet, forming the largest and most vibrant digital society in the world. It can be seen that live webcasting now plays a pivotal role in the lives of Chinese residents. Online shopping has also become an inseparable part of Chinese residents. However, with the development of the times, some drawbacks of online shopping will inevitably emerge. For example, consumers can only purchase goods through text and pictures, and cannot use online shopping. Just like in a physical store, you can use the sensory identification of products such as touching, touching, and identifying colors. Coupled with the continuous occurrence of exaggeration, false propaganda, false purchase evaluations, and mixed products by some merchants, it has increased the difficulty of consumers' purchase. As a result, live streaming came into being.

2016 is recognized by the industry as the first year of the Internet. Since Mogujie, Mogujie is the first platform to test the water live broadcast and bring goods. As early as March 2016, it took the lead in launching the live video function, focusing on live broadcast and delivery, trying to create a live broadcast platform of "live broadcast + content + e-commerce". It was not until May 2016 that Taobao officially launched Taobao's live broadcast function. In 2019, the first year of e-commerce live broadcast, according to the "2020 Taobao Live New Economy Report", Taobao Live's ability to bring goods has exploded in 2019. For three consecutive years, Taobao Live has guided the transaction growth rate by more than 150%. This is the fastest growing form of e-commerce in the world in the past three years. In 2019, the number of Taobao broadcast accounts increased rapidly, and the growth rate has reached 100% compared with 2018; since 2020, more than 100 occupations have moved to Taobao live broadcast rooms, regardless of whether they are talents or merchants. Driven by new trends Entrance in large numbers. As the first new economic format to break out, Taobao Live has spent 4 years creating a brand new industry and promoting live streaming into a mature stage; the blowout explosion of Taobao Live shows that my country has entered a new economic era, and commercial The core will change from traffic to "people". Through people with stories, creativity, and warmth, a new round of outbreaks is realized. The new economy of Taobao live broadcast is a new economy of people; The best proof of the new economy". Taobao Live defines "baby", and in this way it draws in the emotional distance between people. At the same time, the strong interaction and real-time feedback of Taobao Live also shorten users' decision-making time and improve efficiency. *Eliminate the information difference of intuitive experience and truly realize what you see is what you get.*

## **RESEARCH SIGNIFICANCE**

### **1.2.1 Theoretical significance**

Due to the different development status of e-commerce live broadcasts at home and abroad, most foreign literatures focus on e-commerce on social platforms, not on live-streaming marketing communications based on e-commerce platforms that Taobao Live belongs to. Based on the different platforms, even if the presentation forms are extremely similar, they are not the same. Secondly, due to the huge differences between Eastern and Western cultures and consumption habits, the impact of e-commerce live streaming on Chinese consumers is also different. Therefore, the research will focus on Chinese



*Taobao e-commerce live streaming and Taobao consumers to use in related fields Research. (Qin Jiayi, 2020).*

### 1.2.2 Practical significance

The live broadcast platform has grown through the explosive growth in 2016, and has brought consumers a new shopping experience through continuous technological innovation. The e-commerce platform will lay out the new field of live broadcast. In recent years, the e-commerce platform has changed from the "New Year's Day" at the beginning of the year to the "618" in the middle of the year to the "Double 11", "Double 12" and other innovative marketing methods at the end of the year, e-commerce live broadcast has formed a transformation from traffic efficiency. However, the emerging mode of "anchor + live broadcast + e-commerce" has not yet formed a mature industry chain. With the interaction of anchors and product sales, some problems have gradually emerged. Will group interaction in live broadcast scenarios lead to irrational consumption, Whether Xun is falsely promoting shoddy things, these are the problems that live broadcast platforms must face if they want to develop benignly. This paper attempts to put forward feasible suggestions on how to cultivate high - quality anchors, increase user stickiness, and attract more users for e-commerce live broadcasts by discussing the characteristics of interactive ritual behaviors, immersive interactions, and consumerism under the live broadcast platform, so as to provide practical suggestions for live broadcast platforms. Provide some sustainable development reference and thinking.

## RESEARCH METHODOLOGY

### 1.3 Research purpose

First, study the current situation of live broadcast and the development of goods and the problems that arise in it; second, combine the problems of live broadcast, analyze the causes of the problems and put forward corresponding countermeasures; third, according to the current situation of the existing head anchors (KOL) Analysis, how the anchor attracts users and increases the reasons for user stickiness.

### 1.3 Research methods

#### (1) Literature research method

Literature research is essential for writing a paper. Through topic retrieval, keyword retrieval, literature classification reading, and reviewing and sorting out domestic and foreign literature related to live broadcasting, you can more comprehensively understand

and summarize previous research results on live broadcasting and delivery. Find the research topic and entry point that suits you, so as to determine the basic framework of the thesis. Focusing on related concepts such as the Internet combined with interactive rituals, immersive interaction, consumerism and other theories, while sorting out the relevant literature on live broadcast and delivery, it uses divergent thinking to find the relationship between the connection points and points, and builds a theoretical framework for the research subject to ensure that The rationality of the research process in this paper.

## (2) Case analysis method

At the same time, this question will use the method of case analysis to try to study the live broadcast mode of e-commerce by taking Taobao e-commerce live broadcast as an example. First of all, the platforms that have carried out live broadcast business so far include Taobao, JD.com, Pinduoduo, Suning.com, Mogujie, Vipshop, etc. Due to the limited time and energy, it is difficult to study all the live broadcast platforms in this paper; secondly, Looking at all the live broadcast platforms, it is not difficult to find that the product categories of live broadcasts, the types of anchors involved, platform functions, and the number of users, etc., all other platforms have not exceeded the scope covered by the Taobao live broadcast platform; It can be seen that Taobao Live is the most influential e-commerce live broadcast platform in China and even in the world. And the data shows that the use of Taobao, the most commonly used e-commerce shopping live broadcast platform, is the first and far ahead. From the perspective of consumer satisfaction, Taobao Live also has a complete after-sales model. Therefore, this article starts from the case study of Taobao live broadcast platform, which can achieve a general understanding of the whole industry of e-commerce live broadcast platform.

## LITERATURE REVIEW

The following is a review of the research literature in this paper. First, the existing literature related to e-commerce live broadcast is reviewed and commented on. Secondly, a brief review of theories such as interactive rituals, immersive interaction, and consumerism is analyzed to guide follow-up research.

### 2.1 Development History of E-commerce Live Streaming

Live e-commerce is booming today, and it is a phenomenal existence. The development of live broadcast e-commerce seems to be traceable today, and it has experienced five evolutionary processes from the initial budding period, exploration period, outward expansion period, outbreak period, and normative period. In the process of this development, consumers' cognition and acceptance of new consumption patterns are often reflected.

The first stage: the budding stage refers to the initial development stage of the live broadcast e-commerce industry. In 2016, the live broadcast industry was in the initial stage of formation, realizing cross-domain integration. The Mogujie platform was the first e-commerce platform to launch live streaming in March 2016, and Taobao Live subsequently entered the field in May 2016. At that time, Taobao Live, headed by "Internet celebrity" Zhang Dayi, opened the golden age of Taobao Live. In the same year, Li Jiaqi and Wei Ya entered Taobao Live successively. Most of the categories of live broadcast products are mainly women's clothing and make-up, the styles of anchors are diversified, and the categories of products have become more diversified.

The second stage: exploration period Since 2017, the live broadcast industry has begun to explore continuously. As a diversion platform, Kuaishou continuously diverts users to its own e-commerce platform to continuously monetize advertising revenue.

The third stage: Outward expansion period in 2018, Taobao's "Double 11" concept detonated live broadcast and brought goods, and the top KOLs Li Jiaqi and Wei Ya had outstanding records. On the same day, the total transaction volume of Taobao live broadcast exceeded 300 million yuan. In order to improve the retention rate of users, Douyin and Kuaishou, which specialize in short videos, have joined the e-commerce live broadcast battle.

The fourth stage: the outbreak period in 2019, the scale of the live broadcast industry showed a blowout growth. Stars, Internet celebrities, entrepreneurs, governments and other parties participated in the live broadcast of live broadcast e-commerce Taobao. Taobao's annual transaction volume is as high as 200 billion. The Kuaishou platform has accelerated the pace of e-commerce live broadcasts, connecting with many mainstream e-commerce trading platforms such as Taobao, JD.com, and Pinduoduo. Douyin has launched a selection alliance to cooperate with e-commerce platforms such as JD.com and Vipshop.

The fifth stage: the normative period. In 2020, live streaming has attracted much attention, and relevant industry norms, policies, employment standards for employees, and legislation have been introduced one after another. At the end of 2021, Taobao's top anchors Wei Ya, Sydney, and Lin Shanshan have successively paid back taxes of 1.341 billion yuan, 66 million yuan and 28 million yuan.

## **2.2 Users change from real-time communication to real-time interactive communication**

The initial social software such as Weibo and WeChat public accounts have the function of timely communication and publishing and sharing information at any time. However, there is a lag in the real-time interaction between Weibo and WeChat official accounts. The communication between the author and the messenger is in the form of text and picture emoticons. The publisher will reply as soon as possible after seeing the message, so this method is also used. called timely communication. Real-time interaction is different. He refers to the process of completing the interaction immediately, and it is not as delayed as a timely reply. And now the live webcast can achieve real-time interaction. The host of the live broadcast needs to maintain a good interaction with the audience during the whole live broadcast. At present, the main source of income of live broadcast anchors in China is the commission after viewing the user's order, and the service fee is charged to the merchant, or the so-called pit fee as the basic fee. Only the anchor attracts enough users to place orders to increase their income. Therefore, the anchor with goods needs to communicate and interact with the audience in a timely manner. (Liu Zhuyu 2018)

## **2.3 Taobao head anchor (KOL) Li Jiaqi**

Taking Taobao anchor Li Jiaqi's Weibo as the research object, 382 original Weibo posts of Li Jiaqi from January 1, 2019 to November 24, 2019 were selected as samples, and systematic data statistics and text content analysis were carried out on the selected content., Using the AFAS model, it is pointed out that Li Jiaqi's marketing model starts from four aspects: self-presentation, community building, media situation, and word of mouth. Finally, it is found that the marketing strategy of Li Jiaqi and his team focuses on

quality first, building word-of-mouth, and building people. Design, use the fan effect, etc. (Zhang Yimeng 2020)

## **2.4 Status of Taobao Live Streaming**

E-commerce live broadcast will be the outlet of the next stage of the e-commerce industry. This new model allows traditional Internet celebrities to show the commercial value of "product online shopping guides, forming a new Internet celebrity value economy; strengthening the relationship between people. The interaction between them has new social value; it has new traffic value, and realizes the change from traffic to sales." (Shen Guoliang 2020) The main difference between the anchors of e-commerce live broadcasts and the online celebrity live broadcasts is that e-commerce anchors will meet More professional, there will be longer-term development, the live broadcast process should be more refined, and subdivided occupations should be derived to better focus on the professionalism of live broadcast. (Weng Yi 2019) In the current e-commerce live broadcast mode, if you want to achieve a virtuous cycle, you must rely on " knowledge-based anchors ". Only by operating with integrity and doing a good job can you achieve success.

5 forms of live streaming:

1. "Brand + live broadcast + star", the brand invites stars to participate in the live broadcast, and uses the star's own traffic to attract more users to watch the live broadcast, and brand marketing;

2. "Brand + live broadcast + release", the brand party will hold a product launch (such as a movie launch) through live broadcast to attract traffic and market the brand and product;

3. "Brand + live broadcast + corporate daily life", that is, the company can directly show the daily work content of the company to the audience through live broadcast, display the product production process, mobilize the audience's interest, attract traffic, help the company to increase its popularity, and promote product sales;

4. "Brand + event + live broadcast", the brand party invites anchors that match the theme of the event, and uses live broadcast to play games, sports, etc. to attract traffic and conduct brand-related product marketing.

5. "Live broadcast + Internet celebrity + marketing" This is one of the most common and typical forms of live broadcast. (Chen Chunqin 2019)

## **2.5 Features of Live Streaming**

The diversification of online shopping has given birth to the live streaming industry. Compared with traditional online shopping, live streaming has its own new characteristics.

(1) Socialization of shopping: the interaction between the anchor and the user, and between the user and the user in the live broadcast; the anchor answers the consumer questions in real time through the bullet screen in the live broadcast room, and users can also interact in real time. Users gather together because of the anchor's selection to create a virtual community. In this community, users can speak freely; the live broadcast will give users a virtual illusion of presence and feel accompanied and happy. At this time, the live broadcast of goods not only satisfies the user's shopping desire, but also becomes

the entertainment and pastime of consumers. Therefore, the current live broadcast has a social attribute. (Deng Yanling 2020)

(2) Simplification of shopping methods: In traditional online shopping, users generally search for product information, while the anchors in live broadcasts will directly recommend products to users; the user shopping logic in the live broadcast room directly changes from self-service search to The anchor's recommendation, the anchor's orientation and detailed introduction saves the trouble of choosing when shopping online. (Luo Ying 2021)

(3) High-quality communication content: The high-quality delivery of live streaming is mainly reflected in two aspects: on the one hand, compared with the display of pictures and texts in traditional online shopping, the output of live streaming is more detailed and comprehensive in terms of product information; on the other hand, it is At the psychological level, in the process of live streaming, some anchors create a "face-to-face" virtual social relationship by telling stories, some anchors show their talents, and some anchors create a "face-to-face" virtual social relationship and express emotional output. (Jin Tiantian 2021 ) ( 4) Diversified shopping experience. From the perspective of discounts, live streaming has more traffic, bringing consumers greater discounts, and users will enjoy more favorable prices. From the perspective of the content and method of dissemination, traditional online shopping can only rely on pictures, texts, short video introductions and other channels to obtain relevant product information; while in live broadcast with goods, the anchor adopts an interactive method in real time to display products from all angles; compared with traditional online shopping Distinguish by text. The shopping experience of real-time communication enables consumers to have a stronger sense of participation. Live streaming enables users to build sensory, intellectual and psychological awareness. (Shen Baosteel 2020)

(5) Product subject diversification. Different from shopping programs such as traditional online shopping and TV shopping, commodity sales are often only dedicated hosts; after the rise of live broadcasts, Internet celebrities, stars, entrepreneurs, etc. have joined the ranks of live broadcasts, making live broadcasts more diversified. The products sold by live broadcasts include everything from ordinary snacks, beauty makeup, large cars, commercial housing, and even rockets.

(6) Has a "fan economy". The anchors who lead the live broadcasts as "KOLs" (key opinion leaders) exist in the live broadcast, and the drama also has the absolute right to guide; they influence the decisions of fans and are accepted and trusted by fans. (Wang Huifang 2018) In the live broadcast, the "fans" of the anchor will take the initiative to buy the products recommended by the anchor out of trust in the anchor; the number of fans and activity of the anchor will become the anchor's right to speak to the brand to strive for greater interests. The discounts in this regard are fed back to "fans" through live broadcasts. The "fan economy" has achieved a win-win situation for live broadcasters, fans, platforms, and brands. (Yan Mi 2020)

## **2.6 Related Theories**

"Opinion leaders (KOLs), in consumer behavior, specifically refer to people who filter, interpret or provide information for others, because they will continue to pay attention to such information, so they have more knowledge and experience about a certain type of product or service. In addition, opinion leaders will be the first or more in the crowd to come into contact with mass media information, which can influence the

attitudes of others, speed up the speed of information dissemination and expand their influence” (Yang Cui 2020)

"Emile Durkheim proposed in his book "Basic Forms of Religion" that belief and ritual are the two core parts of religion, and ritual is the code of conduct that arises from groups. Later, Goffman in the former's On this basis, he puts forward the "drama theory", which regards the interactive behavior of people's daily life as a kind of "self-presentation" performance. Collins regards this interaction as a "ritual", he believes that "interactive ritual is a kind of "self-presentation". A process in which participants form a common focus and feel each other's micro-rhythms and emotions." With the support of technologies such as the new media and the Internet, communication between people has already broken through the limitations of geographical space. Interactive communication can be implemented. Collins also discussed the necessity of "personal presence", and he pointed out that if the nervous system can directly and remotely produce a joint effect, then the effect is the same as the physical presence. It is an interactive form based on the Internet. Relevant research points out that online live broadcasts have the characteristics of "immersion", and "when everyone is "I" in the live broadcast is an "immersive experience" for the audience. The virtual me is far together" is integrated, and users experience the real behavior of "Dasein" through the interactive feedback of "remote presence" acting on the anchor. (Jiang Rui 2020) The instant and intuitive two-way interaction has formed a high sense of integration for fans to deeply participate in the live broadcast. The barrage interactive system has created a sense of participation and atmosphere on the spot, and finally formed a carnival-style collective participation. (Wang Chunzhi 2017)



From the perspective of interaction, the online communication experience is an immersive sense of investment that consumers generate when they completely immerse themselves in online activities and interact with others. In this state, there seems to be an inherent Logic, it pulls the various behaviors of consumers, and consumers often enjoy it. This paper argues that the hosts and consumers are in a state of mutual instant feedback communication when they are completely immersed in live shopping activities, and consumers enjoy the process so that they cannot feel the passage of time. (Li Xuying 2021)

## **2.7 Increase user viscosity**

E-commerce live broadcast platforms have been widely used in the era of big data. Big data can accurately differentiate potential audiences. This refinement can facilitate the accurate delivery of different types of anchor live broadcasts and find more suitable target audiences. (Wu Jiabao 2020)

the traditional mode of product sales, the product market is not subdivided enough, but it is only established in a fixed area (such as TV advertising) consumer groups, the informatization efficiency is low, and the cost is high. Now the "Internet celebrity + live broadcast + e-commerce" model not only has low cost, but also has high informatization efficiency and stronger interaction. The time saved for shopping, for young audiences in the fast-paced environment, is the use of fragmented time to meet the needs of most consumers and help consumers quickly select satisfactory products. In this sales model, anchors play a leading role in consumer behavior. They can build relationships, generate trust, and continuously improve user stickiness through interaction with fans in live broadcasts and daily sharing on Weibo and Xiaohongshu social platforms. (Ding Meiling 2018)

Internet celebrity Li Jiaqi is very good at operating his own social platform and live broadcast room. In fact, the two are inseparable. Li Jiaqi is a rare male beauty blogger and has attracted a large number of fans on Weibo. Weibo platform to interact with fans, gain fans' psychological trust, enhance fans' stickiness, and slowly divert traffic to their own Taobao store to realize fans' monetization.

## **2.8 Compensatory behavior and reflection in live broadcast**

The shopping behavior in the live broadcast room is understood as a kind of interactive reward, which is embodied by the host showing the private life as a medium, and the user forming empathy and establishing a connection relationship in the live broadcast room. The shopping behavior in the live broadcast room may stem from a compensatory behavior that cannot establish intimacy in real life. (Sun Xinru 2020)

recent years, the research direction has been more on the governance of webcasting. Among them, "Rethinking of webcasting based on "audience labor" theory" expounds that "audience labor theory" consumers will gradually become the school of communication political economy in the new media environment. The latest paradigm of research, and users may also face invisible passive propaganda and time occupation in the behavior of watching, and may even lose their own judgment and subjective thinking.

# **CONCLUSION**

## **3.1 Research results**

Many consumers have formed the habit of purchasing goods in the live broadcast room, so more and more industries will deploy the live broadcast industry. The interactive ceremony of e-commerce live broadcast will prompt users to establish a relationship with the host, and promote users to form sticky viewing of e-commerce live broadcast, while the consumer culture generated under "immersive interaction" may have some negative effects on viewing users.

### 3.2 Recommendations

Create a community space based on the live broadcast platform to cultivate users' sense of belonging. Continuously screen customers through big data, optimize consumer interactive experience, strengthen the emotional link between anchors and consumers, and enhance consumers' stickiness to the platform.

Cultivate excellent anchors. At present, the anchor level of e-commerce live broadcasts presents a "dumbbell-shaped" differentiation: the head anchors have many fans, great influence, and strong ability to carry goods, while the growing KOL anchors at the waist are relatively scarce. Therefore, it should be standardized to cultivate more high-quality professional anchors. Enhance the core competitiveness of the platform.

### REFERENCES

- Qin Jiayi. Research on e-commerce live broadcast marketing communication mode——Taking Taobao live broadcast as an example [D]. 2020: 3
- Liu Zhuyu. Research on the problems and countermeasures of webcasting [D]. 2018: 11
- Zhang Yimeng. Online live streaming: "Li Jiaqi"'s communication strategy - Taking Blogger Li Jiaqi as an example [J]. Southeast Communication, 2020, (04): 88-91
- Shen Guoliang. Live e-commerce: from eyeball show to new value delivery [J]. China Advertising, 2020, (01), 95-9
- Weng Yi. E-commerce live broadcast leads the new consumption era [J], China Business News, 2019-12-23 A11 Global Economic Review
- Chen Chunqin. Research on the current situation and countermeasures of online celebrity live broadcast marketing [J]. New Media Research, 2019,5(19):10-13
- Deng Yanling, Gao Guiwu. What does live streaming bring? Opportunities and reflections on online live streaming [J]. News and Writing, 2020, (07): 95-99
- Luo Ying. Research on the innovation of consumer experience model under the background of live broadcast with goods - taking Weiya live broadcast as an example [D]. 2021: 9
- Jin Tiantian. Analysis of live broadcast delivery from three important dimensions of communication form [J]. Media Forum, 2021, 4(02): 154-155
- Shen Baogang. Analysis and standardized development of the business model of live streaming and delivery [J]. Theory Monthly, 2020(10):59-6
- Wang Huifang. Ways to improve the KOL literacy of college students in the era of social media [J]. Publishing Wide Angle, 2018(13):83-85
- Yan Mi. Comparison between users in the era of social media and audiences in the era of mass media—taking e-commerce live broadcast as an example [J]. Media Forum, 2020,3(05):133+135
- Yang Cui. A new model of e-commerce marketing under the background of the Internet celebrity economy - live streaming [D]. 2020: 11
- Jiang Rui. Research on the interaction of e-commerce live broadcast platforms—Taking Taobao live broadcast as an example [D]. 2020: 6
- Wang Chunzhi. The carnival of participatory culture: analysis of the boom of online live broadcast [J]. Television Research, 2017(1): 83-85.

- Li Xuying. Research on the influence of online celebrity online live broadcast on consumers' impulse purchase intention [D]. 20 21: 12
- Wu Jiabao. Research on the influence of online celebrity live broadcast on the audience's irrational consumption behavior [D]. 20 20: 6-7
- Ding Meiling. Research on the influence of consumer purchasing behavior under the "Internet celebrity + live broadcast + e-commerce" model [J]. China Market, 2018(16):148-149
- Sun Xinru, Gan Qingchao. "Familiar Strangers": A Study of Gifts and Intimate Relationships in Webcasting [J]. Journalists, 2020, (5): 25-35.
- Pei Jun. Reflection on webcasting based on the theory of "audience labor " [J]. Media, 2020, (2): 91-93.

# THE INFLUENCE OF MENTORING SYSTEM ON TACIT KNOWLEDGE MANAGEMENT

YAN TIANHENG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: Barry2640416852@163.com*

## ABSTRACT

We are in the fourth industrial Revolution, in which knowledge plays an increasingly important role. Enterprises want to obtain competitive advantages, constantly acquiring and innovating knowledge is the basis of development. Tacit knowledge sharing is through the establishment of a sound enterprise knowledge base, so that employees can easily learn the knowledge they need, so as to improve the innovation ability of enterprises and promote the development of enterprises.

This paper briefly describes the development process of mentoring system and the definition of mentoring system by Chinese and Western scholars through literature review. Through the analysis of tacit knowledge, it is found that it is not easy to spread and important to organization development. The establishment of the mentoring system is of great help to the sharing of tacit knowledge within the organization.

**Keywords:** Mentoring, Tacit knowledge management

## INTRODUCTION

### 1.1 Background of the study

With continuous innovation in information technology and sustained industrial development, informatization has become a prominent feature of global economic and social development. At this stage, in addition to land, labor, capital and natural resources, information and knowledge also began to become important factors of production, and the innovation, dissemination and use of knowledge played a more significant role in promoting economic development than in traditional industrial society. In the macro view of market economy, the construction of business strength of enterprises should strengthen the management of human resources, and implement the management of human resources from the aspects of professional talent introduction and practical training of skilled talents, so as to obtain higher competitiveness of enterprises. (Liu, 2021)

Knowledge management as the core of enterprise management and development strategy has become the consensus of theory and enterprise management circles, and also become the hot spot and focus of western enterprise management, government agencies and other management. As early as 2000, more than 60 percent of large enterprises in the United States, and as many as 70 percent of large enterprises in some European Union countries and the United Kingdom have introduced or are introducing knowledge management, according to a survey report by KPMG, a consulting firm. The specific benefits obtained by enterprises after the introduction of knowledge management are as follows: it can help enterprises make better decisions (71%), have a better grasp of

customers (64%), reduce costs (57%) and increase profits (52%).It can be seen that knowledge management not only enables enterprises to obtain information, but also helps enterprises optimize the information obtained, and enables enterprises to obtain competitive advantages compared with other enterprises.(Liao,Li,Liu,2007)

In the traditional knowledge management in the past, people only pay attention to explicit knowledge, so they often put more emphasis on the collection and sharing of explicit knowledge. However, in fact, most organizational knowledge is tacit knowledge hidden in employees' experience or behavior, which enterprises cannot directly or forcibly acquire. Therefore, when employees resign, their tacit knowledge will also leave. Therefore, how to efficiently spread tacit knowledge has become the key of knowledge management.

### **1.2Problem statement**

Tacit knowledge is not encoded like explicit knowledge and cannot be passed on in a regular form. Therefore, it can not be explained logically through language, and it is difficult to express, spread and communicate, and it is also difficult to share, which causes the particularity of tacit knowledge learning methods. The important methods of learning tacit knowledge are understanding and learning. (Chen, Xu,2007)

Tacit knowledge is generally what we receive from life experience, so it is difficult for us to express it in words and can only be analyzed logically with the knowledge we understand. Therefore, tacit knowledge is used unconsciously and unconsciously, such as a certain mental model. (Tan,2007)

Tacit knowledge is associated with specific environment and background, inlaid in the corporate culture, communication mode, work process and position of the enterprise, it is difficult to separate these backgrounds and separate transfer. Once separated from the specific environment and background, tacit knowledge will lose the basis of existence or change. For individuals, tacit knowledge is gradually accumulated in the long-term practice process, and it is a kind of knowledge that cannot be separated from individuals.

To sum up, any explicit knowledge of human beings expressed through language and other forms of expression depends on the existence of tacit knowledge. As content, tacit knowledge can exist without any other means of expression. So tacit knowledge on the one hand limits the social diffusion of knowledge, and is considered as an important factor hindering the diffusion of science and technology. On the other hand, tacit knowledge advantage is the immune system of an enterprise, which makes it difficult for an enterprise to be successfully imitated by its competitors and other social systems.

### **1.3Research Question**

As the core part of knowledge management, knowledge sharing is an important factor to determine the level of knowledge management, so the study of knowledge sharing is important. Nowadays, the firepower and competitiveness of enterprise development are increasingly determined by the ability of acquiring, storing, transforming, disseminating and developing knowledge. The full and effective sharing of internal resources can avoid repeated research, reduce resource waste, improve knowledge utilization rate and work efficiency, expand the effectiveness of knowledge transmission, and avoid or reduce the loss caused by employee turnover. Therefore, it is of great significance to study the internal knowledge sharing in enterprises. (Bao, Xu,2007)

### **1.4Research objective**

In China's five thousand years of history, the mentoring system has played an indelible role in promoting industrial development. In the early days, it was mainly a way for fathers to teach skills to their children, but as some of the family-owned businesses grew, they had to recruit migrant apprentices to cope with the labor shortage. As the main way of technology inheritance, mentoring system began to decline in the 1970s.However,

the rise of knowledge economy makes the demand for mentoring system expand again. On the one hand, enterprises have found in practice that relying only on the theory brought by the school vocational education model will sometimes be seriously divorced from reality. , on the other hand, the arrival of the era of knowledge economy makes many enterprises already has raised the issue of how to carry on the knowledge management effectively, and tacit knowledge as the important part of knowledge, has the blur and difficult to express, so you need to apprentice in practice constantly observation, imitation, feeling can effectively control the enterprise tacit knowledge.

Tacit knowledge sharing under the mentoring mode refers to the part of knowledge that is difficult to be accurately expressed by words, language and mathematical formulas that the master imparts to his apprentices through his own experience accumulation, nested in personal views, behaviors or work communities. It is the most common tacit knowledge sharing mode. For tacit knowledge sharing, most Enterprises in China still mainly rely on the knowledge sharing mode of mentoring system, that is, apprentices are led by masters to work together and impart and share tacit knowledge in the process of work. It is a typical tacit knowledge sharing mode of "learning from work" and "work to learning". (Zhao, Du, Jiao,2006)

### **1.5 Significance of Research**

In enterprises, the high mobility of knowledge workers makes a lot of important tacit knowledge taken away or disappear with the loss of employees without being sorted out and utilized by enterprises. Therefore, tacit knowledge sharing can effectively prevent the great knowledge loss caused by the dimission of knowledge workers or technicians.

An enterprise is a collection of knowledge, and each person in the enterprise has unique knowledge, which together constitute the intellectual capital of the enterprise. Tacit knowledge sharing makes people synthesize, arrange, spread and innovate all kinds of knowledge resources purposefully, which can promote the reform of employees' thoughts and concepts, enhance their cognitive ability and stimulate their innovative spirit. In an enterprise, selecting the right subject and recipient of tacit knowledge transfer will not only improve the performance of knowledge transfer, but also promote the apprentices to better integrate, absorb and innovate the tacit knowledge they receive, thus realizing the increase of enterprise knowledge assets. (Li, Guo, 2017)

Tacit knowledge sharing advocates direct information exchange among knowledge sharing subjects, so that people can obtain continuous and fast work flow and reduce information search time. Second tacit knowledge sharing can prevent repeatability errors and repetitive labor, by sharing others' experiences, lessons and best practices, future generations can no longer have to make the mistakes that predecessors had, beginners can cut from the cradle to the practice of training costs, organizations can avoid more department post cross do meaningless repetitive work. Tacit knowledge sharing enables people to concentrate on the most valuable labor, which is conducive to broadening communication surface and reducing communication channels, so as to realize cross-department communication and collaboration and improve communication efficiency. (Qi, 2021)

Tacit knowledge determines the ability of employees to find and solve problems. By making use of the tacit knowledge inherent in the mind, processing and analyzing the original information, making the original information value-added, and on this basis, carrying on the exchange and collision of ideas, tacit knowledge sharing, and then generating new knowledge. Therefore, the role of tacit knowledge sharing in the innovation process can not be ignored. The more tacit knowledge is invested in the information analysis, the closer the processed information is to the needs of users, and the greater the value-added of information. (Huang, Zhong, Mei, 2007)

## LITERATURE REVIEW

The academic study of mentoring relationships began in 1976, when Sheehy published an article in New York Magazine titled "The Mentor Connection: The Secret Link in The Successful Woman's Life." In 1978, Levinson further proposed the concept of Mentor and took 40 middle-aged men as the research objects to discover the importance of the existence of Mentor. This study attracted wide attention in the academic world, thus launching in-depth discussions on mentoring relationship. In 1985, Kram published the book "Mentoring at Work". Based on the conclusion of long-term observation of 36 senior and junior managers, she believed that such relationship was conducive to individual growth and career promotion.

In the 1990s, many European and American developed countries began to explore and implement the modern mentoring system and trained a large number of high-quality employees. The successful implementation of mentoring system has brought great results to the economic development of these countries. (Huang,2021)

Among them, MA (the Modern Apprenticeship) in the UK (He,2001), CBE (Competency. Based Education) in Canada, Australia's TAFE (Technical and Further Education) (Tang, Wu,2004) and Germany's dual system (Dou, Fu,2004) are both successful examples.

The following table is the definition of mentoring system by some scholars:

Scholars	Age	Definition of mentoring system
Kram	1985	Mentoring is a relationship between the senior and junior in an organization, or between peers. This relationship can provide a variety of developmental functions and help junior employees to advance and develop within the organization.
Ragins and Scandura	1994	Mentoring is a process of interaction and exchange with the expectation that the system will encourage both parties.
Fisher	1994	The mentoring system is a specific communication system that utilizes special skills or knowledge and is arranged between the master and apprentice of an enterprise. Its value lies in the fact that both organizations and individuals can grow and improve through its implementation.
Aryee	1996	Mentoring system is a mechanism of information exchange and knowledge acquisition, which can meet the personal functional goals of employees.
Russel and Adams	1997	Mentors can provide support, direction and advice on career planning and personal development.
Wickman	1997	Mentoring system is the beginning and maintenance of socialization of employees in the organization.
Newell and Swan	2000	Mentoring is the process by which senior students guide junior students in their career development through teaching, counseling and psychological counseling.

## CONCLUSION

The 21st century is the era of knowledge economy, for enterprises, employees' experience, know-how, judgment, thinking mode and other tacit knowledge is the source of enterprise innovation, is the foundation of the core competitiveness of enterprises. Innovation research on enterprise knowledge management service platform and the formation of enterprise intelligence cycle can help enterprises timely respond to the constantly changing market environment, keep a steady pace of development, and provide innovative theoretical basis for the sustainable innovation and development of enterprises. (Hou, Yu, 2021)

Through the review of a large number of literature, the mentoring system is widely believed by scholars to play a positive and effective role in the dissemination and sharing of tacit knowledge within organizations. However, there is no in-depth discussion of the mentoring system in the article, such as the comparison of different characteristics between Chinese and Western mentoring system, the obstacles and solutions to tacit knowledge sharing under the mentoring system, and the details of the implementation of the mentoring system. I hope to continue to improve the article in the following study.

## REFERENCES

- Liu Yaqin. (2021). Research on the application and development of human resource economy. *National Circulation Economy* (7), 3.
- Liao Kaiji. (2010). *Principles and Applications of Knowledge Management*. Tsinghua University Press.
- Chen zhijun, & Xu Song. (2007). On tacit Knowledge Sharing in Enterprises. *Productivity Research* (22), 3.
- Tan Kexin. (2007). Review of enterprise tacit Knowledge management research. *Journal of Economics and Management*, 2000 (005), 74-77.
- Bao Gongmin, & Xu Bixiang. (2007). Review of Foreign Knowledge Sharing Theory. *Journal of Chongqing University (Social Science Edition)*, 13(002), 43-49.
- Zhao xuesong, Du Rong, & Jiao Han. (2006). Motivation and Constraint analysis of Tacit knowledge sharing under mentoring Model. *Research in Science of Science*, 24(5), 5.
- Li Wei, & Guo Dongqiang. (2017). Research on the evaluation mechanism of fit degree of tacit knowledge transfer in mentoring system. *Information Theory and Practice*, 40(2), 5.
- Qi Chongjiang. (2021). On tacit Knowledge management. *Xinjiang Nonferrous Metals*, 44(1), 3.
- Huang jianguo, Zhong Weijun, & Mei Shue. (2007). Tacit Knowledge Management in Enterprises. *Modern Management Science* (6), 2.
- Dou Xinshun, & Fu Junwei. (2004). Analysis of German "dual system" core Ladder Curriculum Model. *Metallurgical Education in China* (6), 4.
- Tang Baizhi, & Wu Lixun. (2004). The establishment and implementation of new apprenticeship system in Australia. *Vocational Education Forum* (12S), 2.
- He Xiaoyu. (2001). Modern Apprenticeship in Britain. *Chinese Training* (3), 2.
- Kram, K. E. & Isabella, L. A. (1985). Mentoring alternatives: The role of peer relationship in career development. *Academy of Management Journal*, 28(10) : 110-132.

- Ragins B. R. & Scandura, T. A. (1994). Gender differences in expected outcomes of mentoring relationships. *Academy of Management Journal*, 37(4) : 957-971.
- Fisher, B. (1994). *Mentoring* London: library Association Publishing Ltd.
- Aryee, S, Chay, Y, W. & Chew, J. (1996). The motivation to mentor among managerial employees: An interactions approach *Group & Organization Management*, (21):261-277.
- Russell, J.E.A. & Adams. D. M. (1997). The changing nature of mentor in organizations: An introduction to the special issue on mentoring in organizations. *Journal of Vocational Behavior*. (51): 1-14.
- Wickman, F. (1997). *Mentoring*. New York: Irwin Professional Group.
- Newell, S & Swan, J. (2000). Trust and inter-organizational networking. *Human Relation* :50(10): 1287-1327.
- Hou Jie, & Yu Shulan. (2021). Research on innovation of Enterprise Knowledge Management Service Platform. *Art Science and Technology*, 34(6), 2.

# 120 RESEARCH ON HUMAN CAPITAL MANAGEMENT OF CHINESE ENTERPRISES

**ZHENG KAI CHEN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1714119515@qq.com*

## ABSTRACT

Now, the development of our enterprises is also very important. Among them, small and medium- sized science and technology enterprises have the largest number in the science and technology industry, are the main force of development, and occupy a certain position in economic development. The characteristics of human capital in small and medium-sized science and technology enterprises also show that human capital plays an important role in the establishment and development of enterprises. On the other hand, in the development of the enterprise, this type of enterprise has the characteristics of strong uncertainty, strong team combination, strong initiative, timeliness and accumulated a lot of knowledge. Most of the holders of this type of enterprise have received excellent education and are a group of young fighters. For this type of enterprise, it is nothing more than strengthening the requirements for the enterprise, the difference is that such enterprises pay more attention to science and technology education and enterprise system. Of course, there will also be some constraints. There are many different places. With the characteristics of their own enterprises, they will face various problems in the process. Many enterprises will encounter personnel loss or complex training process, which will cause unnecessary problems, it will also cause unnecessary troubles to human resources. For excellent people, such enterprises will be different. As just mentioned, this kind of situation will affect the development of an enterprise.

Although there may be some difficulties, it is good to find a way to solve them.

**Keywords:** human capital, management, small and medium-sized science and technology enterprises, incentive system

## INTRODUCTION

### 1. Introduction

The main body of economic development is human, the goal of economic development is also human, management is human management, to a large extent is the management of human. With the advent of the era of knowledge economy, the human factor has been unprecedentedly valued. Not only has man himself achieved unprecedented development, but the role of man in economic development has also reached the highest level in history. People's needs are more colorful, their personalities are more fully developed, and their dominant position in economic development and

enterprise management is more prominent. This has put forward higher requirements to enterprise human capital management, but also put forward new challenges to enterprise governance structure.

In many years of enterprise management, I deeply realize that this type of enterprise faces many practical difficulties in human capital management. Of course, studying here is also to increase one's basic ability. The hope is to use the knowledge learned to solve the problems encountered in enterprise human capital management, but also to try to explore this type of enterprise human capital management. The implications of this exploration are not limited to individuals or some companies. At the time of study, there may be a lot of research in the domestic and foreign human capital, in which involve and many books in human resources management research provides us with a number of different perspectives and profound theoretical knowledge, had a deep understanding of the human capital to human capital management and guide us as we did, but these studies tend to which human capital management. Most of the research on human capital focuses on the investment and income of human capital and the distribution of related income. With other companies to compare some involves the growth of the environment, and some aspects are analyzed about personnel, in the case of contrast change, combine different places to explore, to set some rules system, to motivate employees, to choose a different way to go to develop together, each other in different ways in different ways or development.

## **LITERATURE REVIEW**

### **2. The problem of human capital management in enterprises**

As some problems in the enterprise, especially in the development of human capital in the different characteristics of decision factors will affect the enterprise development, that is more prominent for communication, of course, also will limit some aspects, but the problem is always a solution, the problems encountered in the development of the road to solve the problem of moving forward.

#### **2.1 Frequent flow of talent people**

Enterprise personnel arrangement, as this type of enterprise, for staff arrangement there will be some simple forms, may involve a involve more than one job in the job, of course also upon some personnel loss, temporarily can lead to the phenomenon of openings, usually to have someone at this moment, to make up for the vacancy positions, however, There will also be a certain loss if staff turnover is made up, and the loss will be greater than the cost of staff turnover, which is relatively uneconomical.

And finally, as the loss of personnel, in the process of enterprise training before his time, manpower, etc are close not to come back, the cost of lost is necessary, of course this is just said is the loss of ordinary workers, if the enterprise's core loss, this is not like ordinary employees, this involved the loss is bigger, Can cause lost halfway to work, and enterprise's competition also has a certain influence, not only for the loss of the enterprise itself, even if in a timely manner by the empty the position, it is also a beginning with team persevered, could not have said a come up very tacit understanding, is certainly a so-called transition, normal staff turnover is still good, If is for enterprise staff dissatisfaction and

loss, will also affect the staff's speculation that the enterprise image, and the evaluation of different aspects will have a more depth, this will affect the enterprise, also can let a part of the loss of customers, whatever the cost, he has a certain influence, is not conducive to the development of the enterprise.

## **2.2 Weak attraction to excellent talents**

According to a report in the before can see a speak of is a survey to this type enterprise research analysis report, all of the above said is right region for an investigation and study of this type of business of this type of enterprise of the said development environment is not so easy, because some small and medium-sized enterprises are: leading, some social impact is not big, Some of their own propaganda is insufficient, or not as formal as large enterprises, or the treatment is not high, often difficult to attract excellent talents. China's transition from planned economy is not a long time, some job seekers still have a strong sense of unit and ownership discrimination, and most small and medium-sized enterprises belong to private enterprises. In addition, due to their own size and strength constraints, small and medium-sized enterprises generally do not like large enterprises to launch a strong propaganda offensive, large-scale recruitment of talents across the country. In this way, adverse selection will occur. What small and medium-sized enterprises can recruit are often the talents eliminated by other enterprises, and enterprises have to make sub-optimal choices in many cases. If companies want to recruit really good people, they will have to offer better terms.

In addition, due to the favorable entrepreneurial environment and strong entrepreneurship atmosphere, some talents with entrepreneurial spirit, after accumulating certain knowledge and experience, see the time is ripe, they will start their own enterprises. Make the enterprise become "Huangpu Military Academy".

## **2.3 Training Dilemma**

Many researchers cite "little training" as one of the reasons why small and medium tech companies fail to retain talent, but companies have their own reasons. On the one hand, the average cost of training provided by small enterprises is higher than that of large enterprises. For example, if an expert is hired to give a lecture, the cost per person is higher for small businesses than for large ones. On the other hand, because small enterprises are less attractive to talent and employees stay in the enterprise for a short time, training costs will not be recovered as employees leave. Small and medium-sized enterprises are also faced with the dilemma of whether to train themselves or outsource training. Their own training can be combined with the actual situation of the enterprise, but the enterprise often does not have professional training personnel, the training level is low. However, if the training is outsourced, the training level is relatively high, but due to the lack of familiarity with the enterprise, the training cannot be combined with the actual situation of the enterprise, and the due effect cannot be achieved.

## **2.4 incentive dilemma.**

So now, in terms of the development of enterprises, there are still many problems that are not conducive to the development of this type of enterprises on the road of development, and many enterprises are still in a rising stage at the present stage. at the

same time of development, there is also a way to speed up the development of enterprises, so as to further expand to show the development scale of enterprises, which require long-term accumulation, can not be said to be in place in one step.

For example, the lower salary system of some companies may lead to the loss of personnel, thus affecting the existence of outstanding talents, because people all want to develop in a good direction, so it is necessary to properly retain outstanding talents. it will reduce the great loss, which will reduce the extent of non-development of the enterprise, will retain the talents needed by the residence, and of course, it is necessary to encourage the outstanding talents from time to time in this process.

Let him unconsciously show his ability to solve problems and complete the work, so as to be conducive to the development of the enterprise.

### **Summary for 2<sup>nd</sup>**

From the point of view of the reasons for the establishment of this type of enterprises, they are all led by some capable and outstanding talents, and many of them are targeted at a certain degree. Slowly, they will form a system, there will be managers and be managed, and the scale will also be gradually expanded. In this process, there must be a certain amount of resources spent on manpower, because those people cannot always be the people that an enterprise wants to develop.

He certainly needs to increase the size of personnel in order to achieve better development. when all personnel have given full play, this enterprise must have made some progress and development, and some are science and technology companies. this is often due to the lack of technical personnel will also limit the development, this kind of basically in a short period of time, in addition, a large part of them are familial, although this kind of time is relatively long.

However, the affirmative scale is also constantly expanding over a long period of time, and some new ideas are difficult to break the original company philosophy, so it is not easy to innovate, and with the influence of family relations, many things are not easy to deal with. If there are new people to join in, it is not easy to fit together, of course, some enterprises will say that for the development of personnel.

Everyone is encouraged to take part in big entrepreneurship, but once the technical personnel of the enterprise really join the ranks of entrepreneurship, it will have a great impact on the original enterprise. in addition, this type of enterprises is generally dominated by young people, especially most of the managers are young people.

## **3.Human Capital Management Strategy of small and medium-sized Science and Technology Enterprises**

### **3.1 principles of human capital management in small and medium-sized science and technology enterprises.**

As mentioned earlier, small and medium-sized high-tech enterprises face many difficulties in human capital management, but small and medium-sized enterprises also have their own advantages, such as flexible mechanism, low psychological pressure for employees, and a sense of atmosphere. This type of enterprise is to give full play to its

own half-body advantages and then aim at the actual situation and find a good solution to the problems encountered.

To achieve their own advantages and make up for the shortcomings and then achieve common development, so for enterprises will be the most efficient, do a good way.

### **3.1.1 the principle of human capital management serving enterprise development strategy.**

This principle requires enterprises to have a clear development strategy, what types of talents to introduce, how to match the number of talents, and how to form an efficient team, all of which need to be carried out around the development strategy of the enterprise. If the enterprise itself does not have a clear development strategy, then the enterprise's human capital management must have a lot of arbitrariness, easy to fall into several misunderstandings.

One kind of misunderstanding is that the more talents, the better, to introduce a large number of talents, but there are not so many affairs, we have to set up posts because of people, and the talents can not be brought into full play, which not only causes a waste of talents, but also reduces work efficiency and increases the management cost of the enterprise.

Second, the higher the educational background of talents, the better. Although a high educational background means a high level of professional knowledge and professional skills, it needs to be matched with the corresponding positions, not only the professional matching, but also the knowledge level and ability.

If the majors do not match, the higher education of other majors is precisely a low level for a certain position.

For example, a doctoral student learning Chinese may not be as good as a junior college student in computer maintenance services.

### **3.1.2 the principle of matching between human capital management and the stage of enterprise development.**

In any case, no matter what kind of enterprise, there is a certain cycle, this cycle is an enterprise from the beginning to a little improvement, and then to the continuous development of the final to a certain and scale, can be very good to develop, basically a cycle, of course, according to its own characteristics and the form of that enterprise, to find the best needs to develop. Realize the expansion of the enterprise scale.

In addition, due to the entry of social capital or the entry of external authoritative talents, it will often break the original interest or power pattern within the enterprise and cause the shock of the enterprise. the human capital management in this period needs to be based on the changes of the enterprise. do a good job in the distribution of income among all kinds of human capital and between material capital and human capital.

### **3.1.3 the principle of human capital management respecting the characteristics of enterprise human capital.**

In what we said earlier, like the management aspects of some enterprises or the analysis of the management level of different enterprises, it is not difficult to see that enterprises are divided into management enterprises and non-management enterprises. both have their own advantages and have different effects on different development directions, and then there is the above analysis.

How to say that although these two types of talents have different knowledge and skills, this management needs both material and spiritual incentives. In terms of material incentives, it is necessary to design a certain salary system to link its efforts with the operating benefits of enterprises.

In terms of spiritual motivation, we need to give full respect to their personality and autonomy, increase communication and exchange, create a relaxed atmosphere, arrange appropriate posts, and stipulate the corresponding scope of power, so that they can give full play to their talents.

To sum up, only in this way can we say how long-term the development of an enterprise is, and the forward development will be smooth.

### **3.2 Design of incentive and restraint mechanism**

#### **3.2.1 the premise of the design of incentive and restraint system-- the change of concept.**

When it comes to the change of this concept, what we are talking about is separation. for the owners of human capital in scientific and technological enterprises, employees are the combination of human capital and material capital investment. and then work together to create value and share value together. "it's like saying that the greatest feature of traditional enterprises is the capitalization of production, that is to say, material capital invests a certain status in the process of the establishment and development of enterprises.

To far exceed the input of human capital, human capital may belong to material capital in form, and it will also be in accordance with the needs of material capital. Therefore, the relationship between material capital and human capital is embodied in the relationship between capital and labor. "the general human capital in enterprises is mainly reflected in physical strength and some labor skills with low knowledge content, and its labor results are easy to measure.

However, in scientific and technological enterprises, the establishment of scientific and technological enterprises mainly depends on human capital, or researchers start their own businesses on their own, or researchers and owners of material capital cooperate with each other to establish and operate enterprises together. The contractual relationship of the enterprise shows that it is a cooperative relationship from the very beginning.

#### **3.2.2 material incentives.**

Salary is the compensation for employees to pay physical and mental work, if the design is reasonable, it will become a basic incentive means. The incentive salary needs to open the gap and give reasonable returns to the employees who really contribute to the enterprise. The premise of opening the gap is a fair and reasonable evaluation of

performance and post work. On this point, previous studies have been more in-depth, and I will not repeat them here. The value creation of high-tech enterprises mainly comes from human capital, and one of the characteristics of human capital is group value-added, so it is difficult to quantify the value created by individuals. At the same time, the value creation of high-tech enterprises has the characteristics of high risk, and senior managers are also prone to moral hazard. Therefore, it is necessary to give long-term expectations to human capital owners in order to form effective incentives and constraints.

You may know that stock options came into being in the United States in the 1980s, and they are mainly aimed at the senior personnel of the enterprise, as well as the senior managers and core technical personnel of the enterprise. What we can do specifically is to give employees the right to buy a certain number of shares of the company at an agreed price within a certain period of time in the future. Then, prior to the exercise (that is, the whole process of buying shares of the company at an originally predetermined price within the agreed period), the holder of the stock option will not have any cash gains and, of course, will not affect the amount and structure of the company's share capital. After this exercise, the said personal income is the difference between the exercise price and the market price on the exercise date. It can promote the combination of human capital and high-tech enterprises, encourage senior personnel to add value for the enterprise so as to gain more benefits, and effectively encourage the exertion of human capital through the establishment of long-term institutional arrangements. Employee stock ownership plan and stock option have achieved considerable success in the West, and gradually promoted. It is worth noting that the implementation of these practices is based on the listing of enterprises and the normal operation of the stock market.

But at present, in China, these conditions are not sufficient.

The domestic stock market has not been established for a long time, and the stock price is often affected by speculative and political factors, which can not truly reflect the performance of listed companies.

### **3.2.3 spiritual motivation.**

In addition to material incentives for human capital owners in small and medium-sized science and technology enterprises, spiritual incentives are also needed. In the survival and development of science and technology enterprises, it is the enterprise-type human capital and technology-based human capital that plays a decisive role, and this part of human capital has a high degree of uncertainty. Even for ordinary employees, the role of human capital is mainly reflected in the labor skills with high knowledge content. Moreover, human capital is invisible and cannot exist without its owners. although enterprises pay wages for their employees as in the past, they can not buy all their human capital. In high-tech enterprises, the value created by human capital is difficult to measure. In the same working time, the role of human capital depends on the enthusiasm of its owners. It also shows that human capital is the source of added value for this type of enterprise in the future, and it will also be the most fundamental reason for enterprise technology in innovation. Then it is said that there will be a large amount of human capital investment in products and services that may bring profits to science and technology enterprises, and the innovation on which enterprises depend will also be inseparable from

human capital. The rise of a group also fully illustrates the important role of the so-called human capital in the establishment and development of this type of enterprises under the new technological and economic conditions.

### **3.3 Human capital investment in small and medium-sized technology enterprises.**

Human capital investment is a difficult problem in small and medium-sized science and technology enterprises. The so-called human capital investment means that through a certain amount of time, energy and financial investment, human capital will be reflected in the human knowledge and skills. According to Schultz, the means of investment in human capital will include health care, formal education and relocation of on-the-job personnel training, and so on. In this type of enterprises, due to the limitations of their own resources, the main body of human capital investment and the way of human capital investment are faced with a dilemma. As discussed in the third chapter, "iron-made soldiers in the camp" has become a common phenomenon in small and medium-sized enterprises, and the outflows are often outstanding talents and business experts, while whether the novice is excellent or not needs to be examined over time. Training novices into business elites also requires a lot of investment. If all employees are trained, then due to the frequent staff mobility, the enterprise faces the risk that the training cost can not be recovered. If the training is not carried out, it will reduce the operational efficiency of the enterprise.

Then it is said that it is to let employees invest on their own or enterprises to invest and entrust outsiders to carry out training, all of which are also problems that enterprises have to face. However, in order to solve these problems, it is necessary for the enterprise to re-examine the manpower investment in the enterprise. Or for individuals, the several means mentioned by Schultz of the relevant information are all the investment of human capital, or for enterprises, it needs to be considered more carefully. determine whether the enterprise's human capital investment should increase the level of human capital that the enterprise now has or optimize the structure of human capital. Because this type of enterprise also has some advantages of its own, such as the flexibility of the operating mechanism, as well as the rapid decision-making, are more atmosphere.

This type of enterprise can rely on these advantages to formulate the corresponding human capital management strategy, to take appropriate incentive and restraint measures, and then enable the enterprise and the owners of human capital to achieve the interaction of advantages and common development. Well, whether the recruitment and selection expenses of enterprises are regarded as human capital investment in small and medium-sized enterprises will be faced with a choice. The means of investment include many, from recruitment to selection, are all the same, and generally speaking, the ratio is the same. But in my opinion, this obviously does not count, really because it may not increase the level of human capital, from the point of view of the enterprise. It may be the cost that enterprises pay to increase the capital stock of human resources. To sum up, the human capital investment of enterprises, of course, has already started from the recruitment.

## CONCLUSION

At present, this type of enterprise is born under the background of the rise of knowledge economy and the reform of education and economic system in our country. Of course, this is the survival rule of an enterprise or a group. Let this type of enterprises on the basis of high investment, high risk, high income, and then say that it is the speed of development with the increasing improvement of supporting facilities and the return of a large number of overseas students to start their own businesses.

Because this type of enterprise is a large number of enterprises in the industry, but also a very dynamic part.

However, these enterprises of this type occupy a certain position in the national economy, just like some enterprises that have made great efforts to expand their scale in the process of growth, if they are compared with the traditional model, it will also be found that different management methods and different models have increased innovation on the original basis, and the model has changed accordingly, because they are the vanguard of scientific and technological innovation.

Perhaps it is really because this type of enterprise has the carrier of human capital, it will be said that it has a certain amount of manpower in some aspects.

## REFERENCES

- An Yingmin. Enterprise human capital investment and management. *Beijing: people's Publishing House*, 2013, 45,277.
- Peter Shengji. The fifth practice. *Shanghai: Shanghai Sanlian Bookstore*, 2016.
- Chen Linsheng. Technology-based small and medium-sized Enterprises and Regional Innovation System Construction-- based on a case study of Pudong New area. *Industry. Technical economy*. Volume 25, issue 1, January 2016.
- Edited by Cui Yumin. Small company disease. *Heilongjiang Science and Technology Press*, 2019, p. 17.
- Demsetz. The theory of property and institutional changes. *Shanghai: Shanghai Sanlian Bookstore*, 2018.
- Square bamboo orchid. It is a trend that the owner of human capital owns the enterprise. *Economic research*. 2017.6.
- Feng Zibiao is waiting. Human capital participates in the research of enterprise income distribution. *Beijing: economic Science Press*, 2018257.
- Flemholtz (Flamholtz ·E ·C). Human resources Accounting, Pickenson,2015. By Francis Heribe, translated by Zheng Xiaoming, etc. Manage knowledge workers. (Managing Knowledge Workers). *Machinery Industry Press*, 2018, pp. 1,2,141,146147,156157.
- LV Jiulong (2017). Research on human capital management of Chinese enterprises *Economic and Trade Practice (24), 1*
- Zhang Chunyu (2016). On the research of enterprise human capital management in China *China Science and technology investment (18)*
- Ding Yibing, & Liu Ziwei (2020). The global flow of human capital in China and the micro performance of "going global" of enterprises *China's industrial economy (3), 18*

# INNOVATIVE COMPENSATION METHOD FOR TALENT RETENTION IN COVID-19 SITUATION

**LIYAN GAO**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 775795495@qq.com*

## ABSTRACT

Due to the global sudden outbreak of COVID-19, countries applied various control and restriction measures, leading to difficult management and even layoffs to companies. The repeated occurrence of the epidemic has directly led to a sharp rise in the overall global unemployment rate. The complex epidemic situation is a difficult and new challenge for enterprise human capital management. Traditional human capital management and evaluation methods can not fulfil this globally influential public health emergency. The global economy decreased and government restriction seriously caused overall output production to go downward. Organizations are founded by people. How to excite people within the organization could be a big topic for every organization. As long as people release their willpower, the organization could have a competitive advantage in the industry, we have to find the method for talent retention in the Covid-19 situation (Xiaoping Chen 2019). We are looking back to our traditional human capital management solutions and trying to find the solution to change it, this article combined with the global background for the outbreak of the global economy, employees, also with the analysis of the original human capitals management, put forward the epidemic with compensation incentive as the core solution of human capitals management innovative measures, hope to be able to provide the theoretical reference for enterprises to adjust human resource management in response to the epidemic.

**Keywords:** epidemic situation, compensation incentive, human capitals, management measures

## INTRODUCTION

Since March 2020, there has been a global-wide coronavirus outbreak, which is a very typical and globally influential public health emergency. The outbreak has had a significant impact on the development of various global industries, by September 2020, the coronavirus epidemic has been under control around the world, but the outbreak has brought a very great impact on enterprises. Enterprises responded to the national requirement to delay the resumption of work, closed-off management, shutdown and other measures. Countries around the world have launched a series of epidemic prevention policies. This is indeed effective in controlling the spread of the virus, but it also has a certain negative impact on economic growth and business income. Both supply and demand showed a downward trend, among which the growth rate of the Chinese service industry production index decreased by 11.7% in 2020 compared with 2019. With the

continuous development of the economy, the importance of human capital performance assessment in enterprises is also gradually shown. Human capital performance appraisal management is to make a scientific and reasonable expression of the daily work performance of the enterprise staff through the evaluation way, to continuously promote the enthusiasm and initiative of the staff. Performance management is a very important sector in modern enterprise management. Its scientific and reasonable personnel value evaluation system can effectively evaluate the contribution and value of workers, improve the personnel management efficiency of enterprises, and provide a guarantee for the development of enterprises (Hui Cai 2019)<sup>0</sup>. The fundamental work of human capital performance management is the system. Only when the system is strict and reasonable it can lead employees to pursue and strive for better aspects (Shangkui Luo 2019).

## **LITERATURE REVIEW**

### **1. The impact of the epidemic on the world economy, small and medium-sized enterprises, and enterprise employees**

#### **2.1 The impact of the pandemic on the global economy**

##### **2.1.1 Global economic situation**

Affected by this outbreak, the world economy got off to a bad start in 2020, and the estimation of the annual growth rate will slow further. The final impact will still depend on the scope and end of the epidemic and the effect of emergency measures for countries<sup>0</sup>. The United States and other countries are not completely over today. In some countries and regions, it is still very serious. At the same time, some developing economies and exporters of agricultural products have rising confirmed cases relatively quickly, as the overall improvement trend of the global epidemic is uncertain, future trends are highly uncertain, so blocking international trade will be a long-term situation. No fundamental improvement in the short term, External demand in the international market has continued to decline, making the export-focused enterprise orders reduced or even not, the impact was unprecedented.

##### **2.1.2 The impact of the economic trend on economic indicators such as price, cost of living index and employment rate**

Under the influence of the epidemic, the restriction of crowded places and traffic flow, such as shopping malls, restaurants and cinemas, have impacted the service industry, and the reduced demand of consumers has reduced the demand of enterprises for employees. Due to the reduction of demand indicators, the corresponding regulation of the market supply and demand relationship leads to the corresponding decline trend of enterprise productivity and operating income. According to the official data statistics and analysis, in China, for example, China's services growth index, GDP growth rate, total import and export value, industrial growth, real estate investment growth rate, employment rate, etc are the corresponding decline, this fully shows the outbreak for all walks of life have a certain degree of negative impact, no spared.

### **2.2 Impact of the epidemic on small and medium-sized enterprises**

#### **2.2.1 Enterprise income**

In some areas, the epidemic has spread seriously, and traffic circuit breakers were forced, which has had a certain impact on the production of enterprises, the flow of materials and people flow to a certain extent. Enterprise employees because of isolation policy, traffic difficulties and unable to return to their jobs, related management personnel and production personnel reduction, traditional industry enterprises cannot through online working recovery means that only can stop production, such as manufacturing, services, etc., which has caused a huge impact on the enterprise operating income. In addition, the

limited logistics and soaring costs for the development of enterprises are even worse. The factory materials of the enterprise itself are not sufficient, and the raw materials cannot be supplemented in time, resulting in difficult production and operation, and the turnover of products and capital also has problems, which has reduced the regular profit.

### **2.2.2 Enterprise Customers**

At the same time, according to the preliminary data survey, because of the reduced market demand, about 20% of enterprises orders were cancelled by customers; only 20% are not affected by any corresponding order cancellation, the impact of the epidemic on enterprise customers is relatively high, especially for hotel, catering, tourism and other related enterprises, and the type of customer orders reduction is mainly concentrated in manufacturing enterprises such as manufacturing and food. In the first quarter of 2020, 45% of the related enterprises saw their revenues decline by more than 50%, among which 24% saw their revenues decline by 80%. only about 13% of enterprises can maintain growth.

### **2.1.2 Change of working mode**

According to the survey, after the outbreak, in response to the government epidemic prevention policy, about 56% of enterprise employees have to work at home, and the corresponding online working, however, through the survey staff online working proportion is relatively less than 20%, although more than 75% of employees think that internet means is an effective way to deal with emergencies, however, due to the lack of training for online working ability and efficiency need to be improved. Secondly, on the surface view everyone began to return to work through telecommuting, but also creating a positive environment, but deep inside everyone knows that the people of the whole society are in a state of anxiety, especially in early February, the worst COVID-19 outbreak. According to a survey, more than 70% of people felt that they have to purchase protective materials and poor psychological tolerance, and nearly 40% believed that the epidemic has a huge impact on their life, work both for body and mind<sup>0</sup>.

### **2.2.4 Increasing the difficulty of employee management**

For employees who work at home, they have to reduce their wages and bonuses accordingly, which is bound to cause the loss of employees. It is difficult to retain employees, and they often choose to leave after receiving unfair treatment. Some employees will not be forced to leave them, leaving the enterprise in a dilemma for the management of employees. Improper organization adjustment will result in the lack of supplement of internal positions within the organization, and the layoffs in the process of post adjustment will also bring certain risks to the later operation.

## **2.3 The impact of the epidemic on employees in enterprises**

### **2.3.1 Employees change of working mode**

With the infiltration of the Internet, the development of business activities should not only stick to the development of offline channels but also tend to use online tools to achieve business development while ensuring security. With the occurrence of the epidemic, the way of doing online work without going out is more and more popular. For employees skilled in online working methods, they actively use various software for online working, use online tools to make up for the shortage of normal working mode, and achieve compensatory growth of business in this certain period.

### **2.3.2 Increasing cost of living**

Due to the impact of the epidemic, people's income decreases or tend to consume conservative consumption, resulting in reduced output to the economy, control costs and unnecessary expenditure, labours and raw materials, resulting in a rise in unemployment and production capacity in the industrial chain. In this case, people's income will be reduced, and then the consumption will decrease, and the epidemic has led to the forced

stagnation of various products, and the supply of goods is less than the demand, directly leading to the rising price of goods and the rising cost of living. For some laid-off workers, unemployed people and other social "vulnerable groups", life is more difficult.

### **2.3.3 Concerns about the overall economic situation**

To prevent the aggravated spread of the epidemic, China as an example has implemented the quarantine policy. In the areas where the epidemic occurs, the communities where positive cases live or indirectly contact cases should be closed management, and the number of access and exit of the relevant communities should be controlled. With the recurrence of the epidemic, government departments, enterprises and the people began to talk about the "epidemic". Epidemic makes the enterprise produced a certain operational risk, most of the Chinese small and medium-sized enterprises face the risk of capital chain break or even closure, return to work, production, problems become entrepreneurs and employees, the result of operating activities may be enterprise profit, may also be a loss, randomness and risk unpredictable. Many enterprises go bankrupt due to serious operational risks. Many large enterprise groups are in crisis, giving warning lights to enterprises.

## **3. Analysis of the issues in the human capital management under the epidemic situation**

### **3.1 The traditional human capital evaluation is unreasonable under the epidemic situation**

In the sudden outbreak of the epidemic, everyone was forced to adjust their management policies according to the current situation of enterprises. By establishing a reasonable human capital evaluation and ensuring a reasonable evaluation of employees, can the reasonable management of employees be realized and ensure that the negative impact will be minimized? Due to the outbreak, the original human capitals evaluation can not be according to the employee work content changes, no better stimulate the work enthusiasm, the original attendance, arrival work indicators in the epidemic special period can not fulfil constraint staff system, enterprises must improve and innovate performance management system, human capitals evaluation lack of rationality under the outbreak, will largely affect the mood of employees, reduce work efficiency, affect the normal operation of the enterprise.

### **3.2 The traditional human capitals management system has unclear job responsibilities, which affects the performance assessment of employees**

For the relatively large number of employees in the enterprise, the traditional human capital management system has unclear job responsibilities and has not realized flat and detailed management, so it is relatively difficult to carry out the performance assessment of employees<sup>0</sup>. Specifically, it is manifested as the manpower distribution of different positions in enterprises, the insufficient manpower in individual departments, and the concept of promoting performance appraisal is relatively not thorough enough and relatively not in place. It is difficult for employees to carry out the reform of the responsibility system so that employees do not implement their responsibilities comprehensively enough, and their will of responsibility is not strong. Therefore, the enterprise personnel management work should be further improved and standardized, clarify the post responsibilities in the post setting reform, carry out the extension of enterprise management, and implement the responsibility system, to ensure that every employee can perform their duties.

### **3.3 Employees lack the awareness of the compensation incentive system**

A reasonable motivation of the salary incentive system can enhance the work enthusiasm of employees. For employees, salary is the best way to effectively motivate

employees, but employees lack understanding of the salary incentive system, simply think the current salary, the bonus is proportional to pay, this for the outbreak, wages, bonus, will inevitably cause employees dissatisfaction. The establishment of salary incentive system is a long time to ensure that employees can get a reasonable and appropriate salary, bonus, can let employees in the enterprise is facing various difficulties, and enterprises to solve the problems in the process of operation, thus in help enterprises out of trouble, to realize their rights and interests. Through the salary incentive system, providing various preferential policies and supportive policies for employees can motivate employees to work actively and ensure that they can better adapt to the changes of the job.

### **3.4 The traditional compensation and incentive system has defective independent variables and dependent variables**

Build perfect the pattern and method of performance management, enable it to adapt to all kinds of emergency, is a long-term and complicated job, are faced with the problem, there are a lot of performance management can not happen overnight, because before the implementation of compensation incentive system, for the independent variable and dependent variable to be thoughtless, will affect the enterprise to determine the integrity of the system, Enterprise management is bound to appear instability, and some will directly affect the enthusiasm of employees. In this way, after evaluating the effect of performance management, enterprises find that the management situation of enterprises that are implemented in this mode is seriously inconsistent with the information collected in fact. After the statistics, it is found that there may be serious personnel management deviation after the implementation of performance management in all aspects of the operation of enterprises carrying out salary incentive systems. This will virtually bring huge economic losses to the enterprise. In the process of evaluating enterprise performance management, human subjectivity has a great impact on the implementation of the salary incentive system management, which increases the uncertain factors in the implementation of salary incentive system. Therefore, the implementation of the compensation incentive system must be combined with the changes of independent variables and dependent variables and implemented following the law of the market, rather than relying on unilateral reasons such as the preference of the enterprise and self-recognition, which directly affects the chaos of the internal management of the company.

## **4. Human capital management innovation with compensation incentive as the core solution under the epidemic situation**

The COVID-19 in 2020 was brought an impact on every enterprise, and the traditional management methods could not be applied to the current situation<sup>0</sup>. The enterprise human capitals management department, To meet the normal operation during the epidemic, overcome obstacles to complete production activities and tasks, achieve the goal of the enterprise, human capitals planning<sup>0</sup>, recruitment and configuration, training and development, performance management, compensation and welfare management and labour relations management etc. each link, should combine its development and the current epidemic situation and government policy, make innovative management model meet the sudden challenge<sup>0</sup>.

### **4.1 Strengthen the rationality of human capital evaluation**

Innovate the employee performance system, strengthen the rationality of human capital evaluation, and play the role of performance management. For enterprises, to achieve long-term development, the rationality of human capital evaluation should not be ignored. Enterprise human capital evaluation should be constantly adjusted according to the actual situation of the enterprise and the external environment. During the epidemic prevention and control, the maintenance of employee safety problems should become the

primary evaluation in the enterprise human capitals management. The enterprise should adjust the working mechanism according to the actual situation, according to the requirements of different departments arrange corresponding shifts, as far as possible to ensure the normal operation of reducing personnel aggregation, rather than blindly according to the original human capitals requirements for the management of employees. Enterprises should cooperate with government departments to carry out relevant test activities to ensure the basic safety of employees. In special circumstances, enterprises need to adopt the corresponding office mode adjustment and realize the normal operation of enterprises through online working forms. The establishment of a scientific human capital performance evaluation system is an important means to encourage enterprise employees, enhance their innovation awareness and stimulate their enthusiasm for work<sup>0</sup>.

#### **4.2 Clarify the job responsibilities and improve the employee performance assessment**

Guided by the responsibility system management, clear job responsibilities, Improve employee performance appraisal<sup>0</sup>. Establish a perfect post responsibility system, which mainly includes: work introduction, work content, work responsibilities, post qualification and work quality requirements, implements the same treatment system and standard management as the whole, In the specific implementation. Clarifying the work responsibilities and scope of work of each employee at all levels, an effective, scientific and reasonable corresponding work management mode for everyone's specific ability. To clarify the work nature and content of personnel at each level, thus to its work quality as the specific post-assessment standard to realize the embodiment, systematization and objectivity of the management system. Therefore, give full play to the competence of the personnel in the corresponding position to prevent the problems due to insufficient ability.

#### **4.2 Improve the understanding of the salary incentive system**

Compensation incentive mechanism is one of the main contents of human capital management topic in the modern market economy. Compensation incentive mechanism can mobilize human enthusiasm, initiative and creativity<sup>0</sup>.

At present, the development of enterprise employees should improve their understanding of the development of salary. The structure and system of a scientific and standardized salary incentive system established by the enterprise should also guide employees to recognize the advantages of the system. Enterprises by grasp the proportion in the distribution of remuneration, to ensure that the ability of workers and the proportion of income balance<sup>0</sup>, at the same time have relatively clear statistics for work efficiency, management costs. The establishment of a scientific and reasonable compensation incentive system is fundamentally necessary to straighten out the structural relationship between the work efficiency of the internal personnel and the remuneration and standardize the procedure and institutionalization of the remuneration. The adjustment of the salary system will inevitably cause questions or confusion from the employees, which requires the relevant person in charge to make timely explanations and coordination, to ensure that every employee can improve the understanding of the salary incentive system. Relatively reasonable and orderly answers according to different questions of different employees to ensure that every employee can understand the salary incentive system introduced by the enterprise. Only by letting employees truly understand their salary proportion can they devote themselves to work. On the one hand, raising the salary level of employees can improve the competitiveness of enterprises and motivate employees. On the other hand, of course, it will increase the labour cost of enterprises, thus raising the price of products and services. The lagging salary system will weaken the competitiveness of enterprises and produce negative working conditions for employees, and even increase the dismissal rate of employees. Therefore, the level of enterprise compensation can not

be influenced by the economy. However, when the enterprise inspects the labour cost, it should not only look at the salary level but also the performance level of the employee. However, the impact of employee performance level on product competitiveness is often greater than the impact of cost factors<sup>0</sup>.

#### **4.3 Establish a new enterprise internal competition environment**

The management is not only to conduct institutional constraints, but also to coordinate the relationship between employees and departments, and to mobilize the positive work mood of employees<sup>0</sup>. Through the establishment of a new internal competitive environment of the enterprise and facing the repeated epidemic situation, it can still stimulate employees to contribute to the enterprise. The construction of relevant systems of enterprises should more cater to the will of employees, to mobilize the enthusiasm of employees. The benign competition relationship can more realize the mobilization of employees, and through the creation of an internally competitive environment, it can more motivate employees, mobilize their enthusiasm, stimulate the development potential of employees, and ensure the loyalty of employees. The establishment of a new enterprise internal competitive environment is mainly to improve the quality and efficiency of the work. In addition, the promotion of the internal competitive environment of the enterprise makes the employees work conduct collective cooperative development, timely and effectively solve the work problems, realize the complementary and improvement of the employees' skills, give the enterprise employees greater space to play, and achieve the great improvement of the work efficiency<sup>0</sup>. With the correct and constantly innovative management concept, we can have the strongest competitiveness, to make the smooth implementation of the management concept, we must have a harmonious enterprise internal environment<sup>0</sup>.

#### **4.4 Strengthen fundamental management and innovation of human capitals**

Enterprises should develop and must-have talents as the premise and foundation, and human capital competition has also become the core and key of enterprise competition. Enterprise to develop, create good economic benefits need to actively introduce talents, strengthen human capitals management innovation management, this is an important factor of enterprise economic development, fully tap the potential of talent, lay the foundation for enterprise innovation and development, provide power, strengthen the enterprise strength and competitiveness, realize the stability of the enterprise, continuous progress<sup>0</sup>. Enterprises should make adjustments as soon as possible according to the actual situation, according to the requirements of epidemic prevention and control formulate corresponding policies, such as full adjustment salary, full rotation, full working hours, full labour, as far as possible to save all staff work opportunities, let it gain a sense of belonging, to ensure that employees can contribute to the enterprise during the outbreak. For those whose income generation ability is affected by the epidemic is limited and who can not temporarily pay their wages, they should negotiate with the employees and transfer the option through deferred payment, to reduce business risks as far as possible and protect the legitimate rights and interests of the employees.

#### **4.5 Create an effective performance evaluation system**

To realize the fair performance mechanism management, it is necessary to establish a key investigation system, a random selection of departments, irregular investigation, in the process of sampling inspection, to create a benign working environment of employee competition, always strict with their work<sup>0</sup>, which not only saves manpower but also can realize the effect of encouraging staff potential development. In the implementation of performance management, the combination of human capital management and enterprise management development strategy can make performance management be constantly improved in practice<sup>0</sup>. By analyzing the scientific data of the internal personnel within the

enterprise, the comprehensive and scientific performance management can be continuously improved and updated only in practice. Finally, a comprehensive performance assessment should be carried out for the evaluation of enterprise employees and departments.

### **5. Innovative human capital management**

Innovative human capital management has shown its importance in nowadays management system. As technology advancement rapidly, living and working have been changed with each passing day, management methods and fundamental theory should change accordingly to fulfil the new challenge. Manpower could be considered the most valuable and important asset. When we consider a valuable asset we should look at profitability, sustainability and non-replicability. People make value and create new value. It is a very simple concept human as a unique means of production it costs a lot. How to guide people to realize their value become a hot topic in modern management studies. Innovative human capital management could be a better solution from my point of view. Innovative human capital management maximizes the positivity of willing power and the determination to change.

## **CONCLUSION**

The establishment of an innovative new human capital management system with compensation and incentive as the core under the epidemic situation can more adapt to the development of enterprises during the epidemic period, and effectively adjust management measures during the epidemic period to release the vitality of enterprises. Based on the practice, this essay discusses the development of the management theory and practice method in performance management and analyzes the practical application of human capital management based on the epidemic, and the problems and methods of the enterprise performance management mode are analyzed. Combined with the impact of the epidemic on all aspects, the practical application of human resource management with compensation incentive as the core is analyzed, and the development of problems and methods of enterprise performance management model is scientifically analyzed. When the company implements the human resource management model with compensation incentive as the core, It must be constantly improved in practice, combined with the actual situation of its enterprise, and pay attention to the views of employees, Through the combination of advanced management theory and human resource management, to improve the construction of performance management model and methods.

## **REFERENCE**

- Xiaoping Chen (2019) Strategic human capital functions and performance and personnel HRM practices: trade union adjustment effect [J]. *China Labour*: 44-59.
- Long Cheng (2019) How the innovation of high-tech enterprises: a regulated mediation model [J]. *China Labour*: 54-68.
- David Ulrich (2019) Human capitals transformation: creating value and achieving results for the organization [M]. Beijing: Electronic Industry Press.
- Guolin Le & Fei Wang (2017) Comparison of human capital management model of the platform and traditional enterprises [J]. *Labour in China*: 54-57.
- LinkedIn (2020) The 2020 Talent Trends Report [R]. LinkedIn Talent Solutions.
- Ligang Bao (2020) Enterprise human resource management response measures from the perspective of public health emergencies: A case study of COVID-19 [J]. *Business Economy*: 21-26.

- Zuxu Jin (2017) Precision marketing strategy of "she economy" model in E-commerce market [J]. *Journal of Business Economics*: 59-61.
- Wenjian Ding (2018) Research on Innovation and Entrepreneurship Education in Higher Vocational College from the perspective of Synergy Theory [J]. *Education and Career*, 2018 (23): 64-68.
- Edward Hood (2019) Research on Enterprise Human Capital Management Innovation under Big Data Vision [J]. *The Mall is modernized*: 118-119
- Jingfang Li (2020) HR Management under COVID-19 [J].: 86-87
- Hui Cai (2019) Research on Enterprise HR Performance Management Based on Big Data [J]. *Enterprise reform and management*: 85 & 89.
- Shangkui Luo (2019) Research on the Innovation Points of Enterprise Human Capitals Performance Management in the Era of Big Data [J]. *Enterprise Reform and Management*: 90-91
- Weijie Bi (2017) How to strengthen human resource management and innovation. *Enterprise reform and management* (1), 2.
- Li Tian (2008) Builds a harmonious enterprise internal environment to enhance enterprise competitiveness. (18), 2.
- Wei Guan (2006) Improvement of enterprise compensation incentive mechanism. *Journal of Guangxi Normal University: Philosophy and Social Sciences*, 42 (3), 3.
- Shudian Liu 2014 Discuss the understanding of salary system and employee incentive. *Shandong Industrial Technology* (4), 2.
- Yanfen Liang (2020) Analysis of the impact of the COVID-19 epidemic on the world economy. *International Economic Cooperation* (2), 8.
- Jingxin Wang & Jingmiao Yu (2020) The economic impact of the COVID-19 pandemic on SMEs. *The China market* (31), 3.
- Yanchun Chen (2021) An Analysis on the Performance Evaluation of Enterprise Human capitals 125-125.
- Xianru Wang (2020) Explores the innovation of the human capital management mode of enterprises under the epidemic situation. (4), 2.

# THE INFLUENCE OF MODERN HUMAN RESOURCE MANAGEMENT ON STATE-OWNED ENTERPRISES

**DONGXIA MA**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 317277254@qq.com*

## ABSTRACT

State-owned enterprises are an important pillar of China's national economy and have made great contributions to the development of China's socialist market economy and the maintenance of socialist stability. The massive flow of talents from state-owned enterprises to private enterprises has brought huge loss of human resources to state-owned enterprises. With the introduction of modern human resource management ideas into our country, China's state-owned enterprises have also carried out corresponding human resource management reforms. However, due to the long-term influence of China's planned economy, state-owned enterprises are still greatly influenced by traditional human resource management and lack effective incentive mechanism. This paper analyzes the problems existing in human resource management of state-owned enterprises in China, and proposes countermeasures to strengthen human resource management of state-owned enterprises.

**Key words:** Influence, Human resource management, State-owned enterprises

## INTRODUCTION

With the acceleration of the global economic integration process, China's socialist market economy has also been accelerated, and the international competition is ultimately the competition of human resources. In the context of the new era, the competition among domestic enterprises in China has further intensified, and state-owned enterprises are facing pressures from many aspects. In this case, how to improve the comprehensive competitiveness of China's state-owned enterprises is the top priority.

The development of state-owned enterprises is affected and restricted by many factors. Human resources, as an important resource of state-owned enterprises, have a huge impact on state-owned enterprises (Geng, 2019). Now, state-owned enterprises are facing the transition stage from traditional personnel management to modern human resource management. In the actual development process, many state-owned enterprises gradually realize the importance of human resource management, and carry out corresponding human resource management system construction (Liu, 2020). However, due to the influence of China's long-term planned economy and traditional human resource management, there are certain problems in human resource management in China's state-owned enterprises, which seriously hinder the healthy and stable development of China's state-owned enterprises.

With the introduction of western modern human resource management ideas into China, it has had a huge impact on state-owned enterprises. Many state-owned enterprises

have explored new ideas and new ways of human resource management, and are committed to integrating human resource management with China's national conditions and state-owned enterprise development and management strategies (Liu, 2019). However, the exploration of many state-owned enterprises is not completely successful, which has a lot to do with the fact that state-owned enterprises have not completely emancipated their minds and changed their concepts in human resource management.

The main problem in the current research is that in the human resources management of state-owned enterprises, the concept of human resources management at the management and staff levels of many state-owned enterprises is still in the traditional personnel management stage, and the evaluation and incentive mechanisms for human resources have not been established. And the lack of scientific human resources assessment and incentive mechanism, coupled with the high turnover rate of personnel in state-owned enterprises, also has a great impact on the loss of human resources in state-owned enterprises.

## **LITERATURE REVIEW**

### **2 Overview of modern human resource management**

#### **2.1 The meaning of modern human resource management**

To put it simply, modern human resource management is the whole process of acquiring, integrating, motivating and controlling human resources. As the first factor in economic activities, human resources directly determine the economic growth of countries and enterprises (Boon, 2019). Modern human resource management is a concept introduced from the West. Compared with traditional personnel management, modern human resource management is more in-depth, detailed, comprehensive, and rich in content. Modern human resource management focuses on developing the enthusiasm and creativity of employees (Cooke, 2020).

##### **2.1.1 Modern human resource management innovation**

The core of modern human resource management lies in the innovation of traditional personnel management (Gallo, 2019). The innovation of modern human resource management is mainly reflected in the innovation of ideas.

First of all, in terms of employee management concept, it is no longer simply to manage employees, but to serve employees. It is also different from the rigid and institutionalized management of employees in traditional personnel management. Instead, it uses modern psychological management that combines rigidity and softness, and is based on motivation, care and understanding of employees.

In terms of management covenant innovation, traditional personnel management is mainly administrative management (Haneda, 2018). When employees enter the enterprise, it is a lifetime employment system, while modern human resources are covenant management. This is the most fundamental innovation of modern human resource management. Positions are established according to the needs of enterprises. The status of employees is no longer passively managed, but gradually reaches equality with the management. With the further development of modern human resource management, complete equality can be achieved between managers and employees in the future (Leutert, 2020).

In the innovation of management concept, modern human resource management has changed the concept of personnel management as the management center in the past, and no longer regards employees as a simple labor tool and a tool to create benefits for the enterprise. Instead, it regards people as the core resources of the enterprise, and emphasizes that while promoting the stable and healthy development of enterprises, it also

promotes the development of talents themselves, and maximizes the needs of talent development.

#### 2.1.2 Features of modern human resource management

Modern human resource management, through planned and scientific organization and command of human resources, gives full play to the potential of human resources, improves the contribution of human resources to the enterprise, and then achieves the purpose of realizing the strategic goals of enterprise development. As a new form of management, the main features of modern human resource management are as follows.

Modern human resource management has changed the traditional personnel management's view that people are the production tools of the enterprise, but regards people as an important resource of the enterprise, pays attention to the value created by the development of human resources, and brings huge economic benefits to the enterprise by developing the value of human resources.

Modern human resources management is based on people-centered management, paying attention to the active development and management of employees, maximizing the development of employees' potential through modern human resource management techniques such as recruitment, training, incentives, and assessments. While meeting the long-term strategic goals of enterprise development, it also meets the development of human resources.

Another feature of modern human resource management is to change the situation that traditional personnel management is only a matter of the personnel department (Ming, 2021). It incorporates human resource management into the decision-making and operation of the enterprise, and combines human resource management closely with the strategic goals of enterprise development, which becomes an important link in the realization of strategic goals. In terms of status, modern human resource management has been greatly improved, and the management department is the top of the enterprise.

#### 2.1.3 Significance of modern human resource management

Modern human resource management is richer and more scientific in terms of management methods, management methods and management planning (Jiang, 2018). In the process of the rapid development of China's current socialist market economy, the government urgently needs to reform the economic system of state-owned enterprises, and the implementation of modern human resource management can break the traditional personnel management. Human resource management is synchronized with the economic reform of enterprises, which can not only improve the management level of human resources of enterprises, but also ensure the sustainable development of enterprises.

Modern human resource management is more flexible. It can formulate corresponding personnel rules, rules and regulations in combination with the actual development of the enterprise, formulate human resource policies in combination with the enterprise situation, and establish a scientific human resource management system. Only then can the human resources of the enterprise be coordinated and promoted. The development of enterprise employees realizes the harmony of the production and operation environment of the enterprise, so that the relationship between enterprises and employees is no longer the traditional employment and employment relationship, which enhances the centripetal force and cohesion of employees.

#### 2.1.4 Modern human resource management process

Modern human resource management has a set of scientific processes as follows.

First, it should develop a human resource management plan. It fully considers and analyzes the company's development and long-term development strategic goals to evaluate the company's human resources status and development prospects, analyze the company's human resources needs and development trends based on a comprehensive and

accurate human resources situation, and formulate corresponding human resources management plans.

Then it carries out human resource cost accounting, establishes a human resource accounting system, and accounts for human resource management costs and outputs.

The third step is to analyze and design human resources positions. According to the actual needs of enterprise development, it analyzes each job position required by the enterprise, determines the requirements, rules and other aspects of the corresponding job positions, and forms written materials on the analysis of enterprise positions, which ensures that employees have rules to follow in their work in the future.

The fourth step is to carry out human resources recruitment. The company formulates corresponding job requirements for employee recruitment. After strict screening, talents suitable for the company's job needs are selected.

The fifth step is to plan the training and career development of employees, and carry out corresponding planning and training for each recruited employee according to their professional characteristics, so as to improve the working ability of employees. In addition, it plans the careers of employees, formulates employee development plans, and carries out effective supervision and management to ensure that employees develop in their professional positions and improve their work enthusiasm and creativity.

### **3 Problems in human resource management in Chinese enterprises**

With the process of global economic integration, China's state-owned enterprises are paying more and more attention to human resource management, and the human resources reform of state-owned enterprises is also gradually trying to develop, which has changed some problems of China's state-owned enterprises to a certain extent. However, compared with developed countries, there is still a big gap in the human resources management of state-owned enterprises in China, which is intricately connected with our deep-rooted ideas, concepts, understandings, methods, and systems. It hinders the human resources reform of state-owned enterprises in our country.

#### **3.1 The backward concept of human resource management**

For a long time, China's state-owned enterprises have been heavily influenced by bureaucracy (Shi, 2018). Under bureaucracy, the traditional personnel management of state-owned enterprises has been carried out step by step, providing employees of state-owned enterprises with a relatively stable and stable living and working environment, incentives, constraints, etc. The performance appraisal, incentive and restraint of employees are all affected by the traditional planned economy, and the lack of effective talent management mechanism has led to the long-term failure of China's state-owned enterprises to establish effective human resource management methods and systems.

Due to the backward concept and lack of deep understanding, most state-owned enterprises still ignore human resource planning involuntarily in their business strategic planning, and cannot upgrade human resource planning into the corporate development strategy plan.

Due to the backward concept of human resources, the human resources management level of state-owned enterprises is not high, resulting in a serious phenomenon of idle and waste of talents. Many state-owned enterprise talents cannot obtain sufficient career development within the enterprise, and their remuneration and benefits cannot be linked to their personal abilities (Xu, 2018). With the deepening of China's opening to the outside world in recent years and the increasing diversification of people's values, the independent awareness and concept of talents have become stronger and stronger. Facing the favorable treatment and corporate environment of other companies or multinational companies in the market, most senior talents will be attracted by private enterprises, foreign-funded

enterprises and multinational enterprises, causing serious brain drain in many state-owned enterprises. Moreover, the brain drain phenomenon of state-owned enterprises is not limited to a certain enterprise, but a comprehensive and large-scale brain drain. The investment cannot recover the cost, which increases the burden on state-owned enterprises and restricts the development of state-owned enterprises.

### **3.2 Lack of management**

At present, some state-owned enterprises in China have introduced modern human resource management, established salary systems and incentive systems within the enterprises, and some state-owned enterprises have established their own information databases. Most of the personnel in the human resource management department also lack the specialized background of human resource management, lack the knowledge, skills, methods and methods of modern human resource management, and still relatively lack in the theory and practice of modern human resource management. There is still a lack of scientific methods and standardized evaluation standards in the assessment and performance evaluation of talents (Yang, 2018). The evaluation is often affected by subjective factors. Human resource management carried out by these state-owned enterprises is still in its infancy.

With the opening of China's economy to the outside world, the lack of human resource management will seriously restrict the development of state-owned enterprises and affect the economic benefits of state-owned enterprises.

### **3.3 Lack of scientific planning for management**

State-owned enterprises are heavily influenced by the traditional planned economy (Yang, 2018). Under the traditional planned economy, the personnel management of state-owned enterprises is mainly unified management, unified allocation and coordination. State-owned enterprise personnel management is simple and does not require human resource management planning (Zhang, 2020). However, with the development of the market and the deepening of China's socialist economic reform, state-owned enterprises have a certain degree of autonomy. However, in human resource management, it is still heavily influenced by traditional bureaucratic thinking and personnel management thinking. They cannot understand the essence of human resources, lack a deep understanding of human resource management planning, and have no awareness of human capital. The lack of scientific and systematic human resource planning has seriously affected the development of state-owned enterprises.

## **4 Using modern human resource management to serve State-owned Enterprises**

### **4.1 Establishing the modern human resource management concept**

To establish a new concept of modern human resources development is to clearly understand the strategic and decisive significance of state-owned enterprise human resources management. As a huge and complex systematic project, human resource management of state-owned enterprises involves many actors with different cultural backgrounds, religious backgrounds and values. It is even more necessary to establish a new concept of modern human resources development and guide state-owned enterprises to formulate long-term human resources development planning and strategic goals, so as to better coordinate various departments of state-owned enterprises, gather the strength of all aspects of state-owned enterprises, and improve the quality of human resources management of state-owned enterprises, and comprehensively improve the quality of human resources of state-owned enterprises.

To establish a new concept of modern human resources development requires full consideration of the situation and development stage of China's state-owned enterprises, in order to promote human resources management around the development goals of state-

owned enterprises, and adjust the structure of human resources management to integrate it with the pace of development of state-owned enterprises.

#### **4.2 Improving human resource management level**

An important condition for state-owned enterprises to implement effective human resource management is to effectively improve the level of human resource management.

##### **4.2.1 Building an efficient management team**

An efficient management team can undertake the important task of human resource management in state-owned enterprises and improve the level of human resource management. An efficient management team can better grasp the new concepts and new development trends of human resource management, better grasp the new trends of human resource management, and comprehend the laws and regulations related to human resources faster and better, which is more conducive to good human resource management.

##### **4.2.2 Developing scientific human resource planning**

For state-owned enterprises to formulate scientific human resource planning, it needs to be carried out according to the enterprise's development strategic goals to ensure that human resource planning can meet the needs of enterprise development strategic goals for human resources. Before formulating human resource planning, it is necessary to objectively analyze the current advantages and problems encountered by state-owned enterprises in human resource management, formulate necessary human resource management policies and measures, and determine the functions of human resource planning. In the case of the general plan, it should formulate the allocation plan of human resources in different departments within the enterprise, including the recruitment, introduction, organization training, job promotion, personnel allocation, personnel use, personnel education, performance evaluation, incentives, labor relations, etc. When formulating human resource planning, attention should be paid to the systematic, advanced and creative planning, correct positioning of the human resource situation of the enterprise, and forward-looking analysis of the human resource demand of the enterprise.

### **CONCLUSION**

As an important support of China's socialist market economy, state-owned enterprises are now facing complex, ever-changing and fierce market competition. If they want to develop steadily in the fierce market competition, state-owned enterprises must pay attention to human resources management and establish a sound human resources mechanism. They should also use scientific and flexible management methods to manage human resources, optimize the allocation of human resources in state-owned enterprises, and ensure that state-owned enterprises can successfully achieve the strategic goals of enterprise development, and enhance the overall economic strength and comprehensive competitiveness of state-owned enterprises.

### **REFERENCES**

- Boon, C., Den Hartog, D. N., & Lepak, D. P. (2019). *A systematic review of human resource management systems and their measurement*. *Journal of management*, 45(6), 2498-2537.
- Cooke, F. L., Dickmann, M., & Parry, E. (2020). *Important issues in human resource management: introduction to the 2020 review issue*. *The International Journal of Human Resource Management*, 31(1), 1-5.

- Gallo, P., Mihalcova, B., Vegsoova, O., Dzurov-Vargova, T., & Busova, N. (2019). *Innovative trends in human resources management: Evidence for the health care system*.
- Geng Yueming. (2019). *Discussion on the Impact of Human Resource Management in State-owned Enterprises on Organizational Performance*. Modern Marketing (Information Edition), 11.
- Haneda, S., & Ito, K. (2018). *Organizational and human resource management and innovation: Which management practices are linked to product and/or process innovation*. Research Policy, 47(1), 194-208.
- Leutert, W. (2020). *State-Owned Enterprises in Contemporary China*. In The Routledge Handbook of State-Owned Enterprises (pp. 201-212). Routledge.
- Liu Feifei. (2018). *Exploring Performance Appraisal in Modern Human Resource Management*. Finance and Accounting Learning, (14), 203-203.
- Liu Kun. (2019). *Challenges and Development of Modern Human Resource Management Models*. Modern Economic Information, 15.
- Ming Gao. (2021). *The current situation and optimization countermeasures of human resources construction in state-owned enterprises in the new era*. Economic Management Research, 3(5).
- Jiang, K., & Messersmith, J. (2018). *On the shoulders of giants: A meta-review of strategic human resource management*. The International Journal of Human Resource Management, 29(1), 6-33.
- Opatha, H. H. D. N. P. (2019). *Sustainable human resource management*. Sri Lanka: Author.
- Shi Junmei. (2018). *A Brief Discussion on the Relationship between Traditional Personnel Management and Modern Human Resources*. Research Achievements of the National Special Fund for Teachers' Scientific Research 2018 (1).
- Shi Xiaofei. (2019). *Discussion on Performance Appraisal in Modern Human Resource Management*. Collection, 9.10-13.
- Stewart, G. L., & Brown, K. G. (2019). *Human resource management*. John Wiley & Sons.
- Wilkinson, A., & Dundon, T. (Eds.). (2021). *Contemporary human resource management: text and cases*. SAGE.
- Xu Lizhou. (2018). *On the Strategic Role of Modern Human Resource Management*. The Economist, (5), 248-248.
- Yang Jing. (2019). *Comparison of traditional personnel management and modern human resource management from the perspective of six major human resources*. China's Collective Economy, 31.
- Yang Ru. (2018). *Exploring Modern Human Resource Management Thinking*. Human Resource Management, (2018 08), 202-202.
- Zhang Kaijing. (2020). *The application of modern human resource management ideas in government departments*. Economic Research Guide.
- Zhang Yonghui. (2018). *On the application of modern human resource management concepts in state-owned enterprises*. Modern Economic Information, (6), 112-112.
- Zhao Lingyun. (2020). *Some Thoughts on Human Resource Management Level of State-owned Enterprises*. Quality and Market.

# THE DEVELOPMENT AND DIRECTION OF LOGISTICS INDUSTRY UNDER COVID-19

**ZHIHUI WANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wangzh5986@126.com*

## ABSTRACT

This paper takes the development of logistics industry under the COVID-19 as the analysis object. Firstly, it introduces the situation of logistics industry under the COVID-19, then analyzes the research done by scholars on the development of logistics industry under the COVID-19, then expounds the research methods and survey results of this paper, and finally gives the corresponding conclusions and suggestions, hoping to improve the development level of logistics industry under the COVID-19.

**Keywords:** COVID-19, Logistics and transportation industry, Innovation-driven development, information technology

## INTRODUCTION

In 2020, COVID-19 swept through the land of China, which caused great impact on China's logistics industry, and also seriously affected China's national economy. Many enterprises were faced with the risk of bankruptcy. Because many logistics enterprises are heavy asset enterprises, their operating costs are high, including a large number of asset depreciation expenses. At the same time, logistics enterprises have many trucks, which is easy to reduce the supply of goods, stop many trucks, and then lead to difficulties in enterprise site turnover. In addition, the epidemic also led to a sharp rise in the sales cost of enterprises, put pressure on the development of logistics enterprises and had a negative impact on the development of the whole logistics and transportation industry.

## LITERATURE REVIEW

Yunchun Cao and Alan Xie (2020) pointed out that under the influence of COVID-19, the development of China's civil aviation industry is full of variables. Therefore, China's civil aviation industry needs to constantly change its own transport strategy, optimize the shipping route, strengthen the organization capability of goods, improve the cargo evacuation and transportation system, and build a perfect cargo aviation platform for COVID-19. So as to promote the rapid development of China's aviation logistics industry.

Shuyuan Li, Jingheng Zheng, XingChen Yan (2020) pointed out that in the special period of COVID-19's prevention, China's logistics also assumed an important historical mission of national relief supplies scheduling, and the spread of the epidemic will also affect the normal development of the entire logistics industry, and impact on the normal logistics order. In order to provide high-quality logistics services for consumers more

efficiently, and to better win the epidemic prevention war, the logistics industry needs to actively take countermeasures to improve logistics transportation efficiency and logistics quality.

Zili Wang (2020) pointed out that in the process of COVID-19's spread, China's logistics industry suffered all kinds of impacts. For this reason, the logistics industry needed to actively raise the epidemic prevention and control supplies, and at the same time, we should vigorously publicize the epidemic prevention and control knowledge, reasonably promote the contactless distribution, and at the same time, we need to constantly improve the construction of emergency logistics network. To ensure the normal circulation of logistics and transportation industry in case of emergency.

Qi Shi (2020) pointed out that the e-commerce industry has driven the rapid development of the whole logistics industry. However, due to the impact of the relevant epidemic, the logistics cost of the logistics industry has risen sharply, its logistics operation efficiency is declining, and the logistics transportation cycle is growing, resulting in many logistics transportation enterprises facing various business pressures. Therefore, logistics and transportation enterprises need to constantly change their own logistics management mode and continuously improve the logistics mode in combination with the current epidemic situation, so as to continuously improve the efficiency of logistics and transportation in China.

From the research of the above scholars, it can be seen that scholars only analyze the problem from a single angle, the way of analysis is relatively single. This paper will analyze it from different angles, so as to improve the comprehensiveness of problem analysis.

## **RESEARCH METHODOLOGY**

The research method used in this paper is mainly the literature research method. By downloading the relevant literature on the development of logistics and transportation industry under the COVID-19 from major databases such as China HowNet, we can understand the research of different scholars in this regard, analyze the defects of scholars in the research, and point out their own understanding, so as to improve the development quality of logistics and transportation industry under the epidemic situation.

## **RESULTS AND FINDINGS**

Under the influence of the COVID-19, the development of the whole logistics and transportation industry has been seriously impacted. The results of this survey are as follows.

### **4.1 Current situation of logistics**

First, the impact on warehousing. After the outbreak of the COVID-19, due to various closure measures, an important problem faced by logistics warehousing is the inability to transport goods, which leads to the explosion of warehouse in many logistics transportation enterprises. Many small and medium-sized logistics enterprises are affected by factors such as technology and capital chain, and their warehousing management is greatly affected. For example, some fresh food enterprises have very high requirements for the freshness of their products, and logistics enterprises have reserved a lot of fresh food. However, under the influence of the COVID-19, except that some large logistics enterprises have intelligent warehousing, the warehousing of many small logistics enterprises are affected by the epidemic to varying degrees, which affect the quality of warehousing.

Second, the impact on distribution. Affected by the COVID-19, the whole society has

higher requirements for logistics distribution. Many supermarkets and neighborhoods are closed, and there is often only one person in the family to purchase daily necessities. In the vast rural areas, there are almost village and road closures, which will block the logistics transportation roads, affect the resumption of work and production of logistics workers, and more seriously affect the transportation power of logistics transportation enterprises.

Third, the impact on transportation management. Because COVID-19's infectivity is very strong, its dissemination effect is very fast, in a short period of time will have a great negative impact on all walks of life, the entire logistics link has been greatly affected. Under the influence of the COVID-19, many roads are under strict control, and the national transportation network is temporarily interrupted, which leads to the serious lag of logistics and transportation force.

#### 4.2 Challenges faced by logistics industry under COVID-19

Under the influence of COVID-19, the logistics industry is facing severe challenges.

First, the cost increases. Under the influence of COVID-19, the cost of the logistics industry remains high, and a large amount of funds are used to fight the epidemic, which seriously affects the profit cost of the logistics industry and brings challenges to the whole industry.

Second, the efficiency of logistics transportation has decreased. Under the influence of COVID-19, the overall transportation efficiency of the logistics industry has decreased. The whole logistics industry needs to complete the logistics transportation on the premise of safety, which affects the efficiency of logistics transportation. The transportation time limit of some arriving on the same day needs to be postponed to 3 days.

Third, the pressure of logistics and warehousing becomes greater. Under the influence of COVID-19, the storage pressure of the logistics industry has risen sharply, a large number of goods are piled up in the warehouse, and the accumulation of goods is very serious.

## CONCLUSIONS

It can be seen that the development of the whole logistics industry has been seriously impacted. Logistics warehousing, logistics distribution and logistics management have been challenged, which has a serious impact on the normal logistics order. It is necessary for the logistics industry to find new solutions to meet the actual needs of logistics and transportation under the background of the COVID-19.

First, promote technological innovation. After this COVID-19, logistics technology innovation will become a new direction of logistics development in the future. It has been widely recognized by the whole industry to establish a timely, accurate and high-speed information system and fully tap the efficiency of artificial intelligence and other information data in logistics transportation, so as to continuously improve the quality of logistics transportation under the background of epidemic prevention and control. During the epidemic period, whether for suspicious personnel or close contacts, people can quickly screen through big data. Therefore, logistics enterprises can also make full use of big data to do contactless distribution, fully promote the unmanned distribution mode through big data, and improve the pertinence of logistics transportation through artificial intelligence and AI algorithm, so as to realize point-to-point logistics transportation.

Second, continuously promote the intellectualization of logistics. In the COVID-19, many normal logistics activities are limited, which requires logistics enterprises to respond to customer needs as quickly as possible through intelligent logistics system and improve their ability to deal with emergencies. At present, many logistics enterprises already have a variety of information technologies such as intelligence, digitization and networking.

Logistics enterprises can realize the automatic management of the whole warehouse by describing networking and storage robots. At the same time, they can also use intelligent express cabinets and UAVs to complete logistics distribution. During the COVID-19, many large logistics enterprises in China have put unmanned distribution vehicles in the hardest hit areas, optimized the transportation route and improved the loading and transportation efficiency of unmanned distribution vehicles. It can be said that logistics intelligence is the general trend of logistics in the future.

Third, vigorously promote the contactless distribution mode. In the general environment of the COVID-19, many families are isolated at home, and personnel reduce the frequency of going out. In order to prevent the expansion of the epidemic and cut off the route of epidemic transmission, contactless distribution has also become a new model for the future development of logistics enterprises. Contactless distribution has been accepted by consumers and recognized by government departments. In January 2020, meituan takeout put forward the contactless distribution mode for the first time. Subsequently, major logistics enterprises also vigorously promoted the contactless distribution mode, so that customers can pick up their own packages by agreeing on a good location. At the same time, it can also alleviate the safety challenge of the last kilometer, ensure personnel life safety, and complete various material distribution tasks.

Fourth, continuously strengthen supply chain safety and health management. In the COVID-19 environment, logistics enterprises must continue to strengthen the safety and health management of the supply chain during logistics distribution. Supply chain safety and health management is mainly to ensure that the whole supply chain is in a safe and controllable range, which can ensure safe controllability at any time. Under the background of the COVID-19, the supply chain nodes of many enterprises have been impacted by all kinds. Therefore, logistics enterprises need to constantly strengthen their own supply chain safety and health management, so as to continuously improve the safety and quality of the supply chain and ensure the effective operation of the whole supply chain, so as to improve the quality of the development of logistics industry under the background of the COVID-19.

Fifth, ensure that enterprises have sufficient capital flow. In the COVID-19 environment, in order to ensure the normal operation of enterprises, logistics enterprises need to ensure sufficient cash flow. Therefore, it is very important to do a good job in enterprise cash flow management. To this end, logistics enterprises in the background of COVID-19 need to ensure their own cash flow balance. Enterprises need to turn their business to online, while building a perfect online logistics system, promoting the change of the logistics mode of operation, and promoting digital and online cross logistics mode. After the COVID-19, enterprises can continuously improve the supply chain online and offline, build a perfect supply chain, so as to usher in the reform and development of the whole industry, control the lifeline of cash flow and protect the development of logistics industry.

## REFERENCES

- Yunchun Cao, Allen Xie. Countermeasures for accelerating the development of China's aviation logistics industry under the epidemic situation [J] Logistics technology, 2020, 39 (7): 3
- Shuyuan Li, Jingheng Zheng, Xingchen Yan. The impact of COVID-19 epidemic on the recent development and direction of logistics industry [J]. Logistics engineering and management, 2020, 42 (4): 3
- Zili Wang. The development of logistics express industry under COVID-19 [J]. Logistics technology, 2020, 39 (12): 3

- Qi Shi . The analysis of logistics development under COVID-19 [J]. China logistics and procurement, 2020 (16): 2
- Lihong Cheng, Yuting Ma. The "danger" and "opportunity" of logistics under COVID-19 [J]. China logistics and procurement, 2021 (19): 2
- Shuang Yang, Ling Zhao, Ying Min, etc. Analysis on logistics transportation development strategy of production enterprises under epidemic prevention and control [J] Modern commerce and industry, 2020, 41 (25): 3
- Xiaodong Li. Study on the development countermeasures of logistics transportation industry under the epidemic situation [J]. Logistics and procurement in China, 2020,41(25):3
- Weili Tai, Xiquan Liu, Xue Liu. Research on the development countermeasures of aviation logistics in the post epidemic era [J] Foreign trade and economic cooperation, 2021 (4): 4
- Xiaojia Xie, Shuren Liu, Zhongyue Xu. Current situation and Countermeasures of logistics enterprises under COVID-19 [J] Logistics technology, 2020, 39 (9): 4
- Jing Ren. Chance and challenges of logistics development under COVID-19 [J]. China storage and transportation, 2021 (6): 2
- Yan Wang. Research on the development of logistics industry in the post epidemic development environment [J] Research on economic and social development, 2020 (15): 1
- Fang Liu, Xueying Yang. The new development scenario judgment and Countermeasures for transport after COVID-19 [J]. Transportation research, 2020, 6 (3): 9
- Wen Zhang, Lianhua Piao, Junkai Lin etc. Impact of COVID-19 on Guangzhou's modern logistics industry and Countermeasures [J]. Comprehensive transportation, 2021, 43 (3): 5.
- Yang Xue. Current situation, problems and Countermeasures of logistics industry development in Shaanxi Province under the background of normalization of epidemic prevention and control [J] Western finance, 2020 (5): 5
- Li Li. China's logistics industry under COVID-19: challenges and opportunities [J]. Logistics technology, 2020, 43 (5): 3
- Haodong Zhang. Research on the development strategy of fresh logistics in the post epidemic period [J] Logistics technology and application, 2020 (S02): 3
- Qiao Tian. Research on coping strategies of small and medium-sized logistics enterprises under the background of epidemic [J] SME management and technology, 2020 (4): 2
- Lijuan Que. Distribution problem and countermeasure analysis of city logistics terminal under COVID-19 [J]. China market, 2021 (8): 2
- Jiaxiang Yu, Yaofei Wang, Xin Suo etc. Emergency logistics development and Countermeasures in Wuhan under COVID-19 [J]. Comprehensive transportation, 2020, 42 (4): 4
- Lianhua Liu, Xiu Chen, Hai Ping. Impact of COVID-19 on logistics industry and its coping strategies [J]. Supply chain management, 2021, 2 (1): 10
- Jianlin Liu. Development of logistics industry under post epidemic digital economy [J] Shanghai logistics, 2020 (6): 7
- Ruyi Liu. Changes and development direction of real-time logistics industry under the influence of the epidemic [J] Journal of Nanchang Normal University, 2020, 41 (1): 6

# DEVELOPMENT TREND OF ECONOMIC MANAGEMENT IN THE ERA OF BIG DATA

ZHANG YUANQING

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wyr890531@163.com*

## ABSTRACT

In recent years, data technology has invested more funds in large enterprises, which has also had a certain impact on enterprise development and production management, and brought opportunities and challenges to enterprises. Under the management of the innovative enterprise economic model, all aspects have made continuous progress. Relying on data sharing and data collection, they can master more cutting-edge market information and win market competition. This paper briefly describes the development trend of economic management in the era of big data, points out the impact of big data on economic management, and puts forward the module optimization analysis of information technology on enterprise management, so as to further improve the level of enterprise management and play a positive role in improving the comprehensive competitiveness of enterprises.

**Keywords:** big data, economic management, human resources, development trend

## INTRODUCTION

### 1. Introduction

Big data refers to the huge amount of data involved, which cannot be retrieved, managed, processed and sorted into more active information through mainstream software tools to help enterprises make business decisions in a reasonable time. Big data is one of the most important technological innovations in the 21st century. It not only closely combines computer and Internet, but also infiltrates digital thinking into people's life. In recent years, many enterprises choose to invest more money in big data technology to obtain more data and support the production of more products. With the development of market economy, all industries have formed a sense of big data competition, and the enterprise economic model and management innovation have made continuous progress. This is the trend for enterprises to cope with the changes of the times. It represents the trust of all industries in big data and their outlook for the future.

In terms of data technology, the development of big data era depends on data sharing. The information sharing of network platform makes the collection, sorting and analysis of data easier. The popularity of smart phones makes the data in the era of big data grow explosively, and big data technology plays a more and more important role in our life. In the era of big data, enterprises start with the economic management mode and

constantly deepen the reform of enterprise management, so that enterprises can master more market information and better allocate human resources, so as to win in the market competition. This is the development trend of enterprise economic management

## **1.1 Connotation, characteristics and significance of economic management in the era of big data**

### **1.1.1 Connotation of economic management**

Economic management mainly studies some management problems in the economic field, and then discusses and analyzes effective solutions. With economic globalization, the rapid development of domestic economy has also had an important impact on economic management and promoted the continuous development and progress of economic management. As a comprehensive management activity, economic management itself develops with the development of the times and the progress of society. Economic management modernization originated in the era of big data and is also the only way for management development. It is a collection of advanced technologies related to science and technology, social science and management science gradually formed in combination with various economic activities in the current economic field

### **1.1.2 feature analysis**

Economic modernization in the era of big data is mainly reflected in the following aspects:

First, the artistry of economic management. In the era of big data, economic management is guided by good application, which can be better reflected in management technology.

Second, the specialization of economic management. The development of economic management activities needs to actively and scientifically use relevant theories and methods, comprehensively strengthen the in-depth research of system theory, and better realize professional management

Third, the initiative and creativity of economic management. In the current development situation of the big data era, with the promotion of economic modernization, it is necessary to conduct a comprehensive analysis of the market situation. At the same time, we should focus on the optimal allocation of resources in the management process, further strengthen the positive innovation of various elements, and better provide strong support for the organization.

### **1.1.3 Meaning analysis**

On the one hand, the exploration of strengthening the modernization of economic management is the result of the continuous development of science and technology in the era of big data. With the continuous progress of science and technology, management and practice are also making continuous progress. It has laid a solid foundation for the development of economic management and provided good development conditions for the development of economic management. On the other hand, it is also the inevitable result of social development. With the continuous development of economy and society, the continuous development of social productivity and the advent of the era of big data, in order to make the industry reform and innovation, optimize the social structure and strengthen the modern economic management mode, it is conducive to optimize and adjust labor relations, realize the effective allocation of resources and improve economic and social benefits.

## **1.2 Impact of big data on economic management**

The era of big data is a challenge for the development of enterprises. If enterprises can improve their management mode in time and correctly understand the important role of big data in economic management, they can seize the first opportunity in market competition and seize the good opportunity to expand the scale of enterprises. On the contrary, if they ignore the situation of big data and follow the traditional economic management mode, they will face bottlenecks, and finally abandoned by the times.

### **1.2.1 Explore the mode of human resource management**

Firstly, in the traditional human resource management, due to the inconvenience of data collection, the performance appraisal of employees often can not really reflect the value of human resources, resulting in a problem and difficulty in economic management, namely human resource management. However, in the era of big data, enterprises can truly, accurately, timely and comprehensively obtain the contribution data of all aspects of enterprise employees, which is more conducive to breaking the original salary boundary, further stimulating the work enthusiasm of enterprise employees, and then improving the efficiency of enterprise human resource management. With the support of big data, enterprises can better match talents and positions, expand at the same time, capture details that are easy to be ignored, and have a greater impact on enterprises.

Second, the selection and use of enterprise talents are related to the use value of human resources. In the past, the selection and use of talents only stayed in a basic framework. There are various uncertainties in the choice of human resources. Due to the preference of human resource managers, people suitable for enterprise development are often rejected, but for enterprises, this is a huge loss. In the era of big data, relying on data support, enterprises can further analyze employees who meet the needs of enterprises, establish big data models, and reduce the occurrence of events that affect decision-making due to external factors. At the same time, through the combination of big data and enterprise human resource management, according to the actual situation of the enterprise, for example, in the modern market, the original single talent can no longer meet the needs of the enterprise. Based on the era of big data, enterprises can better understand the importance of talent planning and guide enterprises to carry out talent strategic transformation.

Finally, because the development of enterprises is dynamic, the management of enterprise employees should not remain unchanged. Under the current big data background, enterprises can collect and analyze data at any time, and the real-time performance has been improved unprecedentedly. Many enterprise employees do not understand their own advantages and have a clear vision for the enterprise. Using big data can help them establish a career development curve, which is also an important opportunity for enterprises to tap the value of human resources. With the continuous improvement of personnel knowledge and skills, enterprises can use big data for personnel allocation, so as to maximize the value utilization of human resources and fully tap and utilize the maximum value of enterprise employees.

### **1.2.2 Upgrading enterprise information technology**

Influenced by the traditional management concept, some enterprise financial departments do not fully apply big data to their daily life, and enterprise managers do not fully understand the prospect of information technology, which makes the overall work efficiency of enterprises low. With the development of information technology and the advent of the era of big data, many departments, including the financial department, have

improved their information management ability and provided guarantee for data accuracy. At the same time, it also provides a new reference direction for business decision-making.

### **1.2.3 Integrating the economic management of enterprises**

The content of traditional enterprise economic management is complicated and the management efficiency is low. Management must fully cover all aspects of enterprise development, otherwise it is difficult to meet the requirements of all links of enterprise economic development and promote the economic reform of enterprises to meet the needs of society. In the context of the big data era, in order to realize the steady growth of enterprise economy, we need to explore new enterprise management modes to enable enterprises to occupy a dominant position in the market.

Moreover, for enterprises, the work in the economic management mode is cumbersome. Enterprise employees need to know every step of data sorting like the back of their hand, so as to minimize the errors in work and the final result errors. However, with the advent of the era of big data, the cost of talent training is gradually rising. The traditional data processing can not adapt to the current short-term talent training mode. At this time, the advanced information technology in the era of big data provides a new way for the economic management of enterprises. The integration, backup and analysis of all data is no longer a chain relationship, but can be carried out at the same time, so that the data processing is no longer as cumbersome and inefficient as before, making the mode of economic management unfold in an upright manner.

## **LITERATURE REVIEW**

### **2. Development trend and Countermeasures of economic management**

With the reform of modern market economic system in the context of big data, the development of economic management is also extending towards diversification.

First, economic management will more reflect the people-oriented management thought. The development of economic management is inseparable from the strong support of human resources. Therefore, the implementation of economic activities needs to be carried out by people as the main body. We should actively give full play to people's initiative and creativity, so as to better ensure the orderly development of economic management activities and create greater benefits for the organization. Therefore, in the future, we should pay more attention to the integration of humanistic management concept in the field of economic management and the implementation of activities. Only by actively building a people-oriented modern economic management model and system can we better promote the orderly development of various activities and ensure the effective achievement of organizational benefit objectives and strategic development plans.

Second, economic management advocates more innovative development. Establish a new model of enterprise economic management. Economic management is a complex activity and a continuous project. In the process of continuous development, enterprise managers should be aware of the important value of innovation. On the one hand, they should constantly improve their awareness of innovation, constantly adjust the industrial structure of enterprises, change management ideas and introduce more advanced economic management technology. On the other hand, we should actively encourage employees to carry out their own innovative thinking. According to the different situations of different departments, we should appropriately put forward some new ideas and

mechanisms to promote their continuous innovation in their work, encourage them to put forward new opinions and suggestions, and further develop the spirit of team cooperation. Under the condition of socialist market economy, enterprise culture and economic management will be deeply integrated, so as to better shape the organizational spirit, lead the organization to achieve scientific and sustainable development, and realize the most ideal state and effect of organizational economic management.

Third, economic management is developing and extending towards a more democratic and intelligent direction. On the one hand, economic management activities are becoming more and more frequent. Only by deeply analyzing and understanding the ideas, interests and needs of each employee of the organization, and constantly soliciting the opinions and suggestions of the majority of employees in combination with the actual situation of the organization, can we implement democratic management. Only in this way can we better ensure the achievement of economic management objectives, help to stabilize the workforce and provide reliable human resources support for organizational development. On the other hand, economic management will develop towards intelligence. In the process of organizing and carrying out economic management activities, with the advent of the information age and the continuous upgrading of science and technology, the organization's management means will also be continuously optimized. In the future, the organization will pay more attention to cost control and other work, so it will actively introduce advanced technology in the implementation of economic management activities.

### **3. Analysis of Countermeasures under the new development trend**

In the era of big data, we should make full use of the advantages of the times to establish and improve a new modern management system, so as to carry out efficient enterprise management and improve enterprise strength.

Enterprise human resource management is a long-term and complex work. We should actively establish a big data system to ensure the accuracy of data acquisition and processing based on big data. The establishment of a big data system can better pay attention to the work situation of enterprise employees, and then improve work efficiency, so as to make human resources targeted and clear objectives in the process of management. At the same time, better motivate the enthusiasm of employees, improve the objectivity of evaluation, and avoid temporary cramming for motivation. Help enterprises save the cost of human resource value mining, improve employee satisfaction and achieve a win-win situation.

For enterprises, appropriate economic management decisions can help enterprises adapt to market demand, effectively carry out economic activities, clarify development objectives and contribute to enterprise development. Therefore, suggestions on economic management decisions should be strengthened. At the same time, the audit should be strengthened. In the era of big data, the establishment of its corresponding data processing and audit system will help enterprises make more reasonable decisions, give full play to the advantages of enterprise audit and lay the foundation for the stable development of enterprises.

Under the background of introducing advanced ideas and promoting technological innovation, enterprises can make great progress in the process of economic development. Taking information technology as an example, the integration and storage of data will save more data security. At the same time, it will make the service more

convenient in the process of use, strengthen the sharing of data, break through the original boundaries, and finally improve the economic benefits of enterprises.

## CONCLUSION

In the era of big data, the economic management mode of enterprises is facing this new challenge, but it also inevitably provides new opportunities for enterprises. Enterprises should innovate and apply economic management according to the existing conditions, optimize the main body, give full play to the value of human resources, clearly understand today's modern characteristics and apply advanced technology, Then fully drive the management ability of enterprises, grasp the current new trend, and create a better environment for the improvement of economic benefits of enterprises. Economic management is the core of enterprise development. Only by fully understanding the connotation of the era of big data and making rational use of data can we improve the competitiveness of enterprises and calmly deal with challenges in the era of big data.

## REFERENCE

- Ding Miao, modernization of economic management and new development trend of economic management [J]. Modern marketing (Chuangfu information edition), 2018 (12): 156.
- Research on Jiang Mingdong's modernization of economic management and the new trend of economic management development [J]. Modern marketing (Information Edition), 2019 (04): 129
- Li Jinmei economic management modernization and new development direction analysis of economic management [J] China market, 2019 (02): 119-120
- Enterprise human resource management reform strategy in the era of high-dimensional big data [J] Consumption guide, 2020 (20): 163
- Wang Xuqing Discussion on enterprise human resources reform strategy in the era of big data [J] Financial circles, 2020 (19): 255-256
- He Xiao Discussion on human resource management innovation mode of design enterprises in the era of big data [J] Consumption guide, 2020 (39): 279
- Yu man, Liu Dongli, research on the modernization of economic management and the new trend of economic management development [J] China management informatization, 2021,24 (21): 135-136
- Yuan Jie, modernization of economic management and new development trend of economic management [J]. Hunan Social Sciences, 2014,0 (6): 186-188
- Cheng bianqin on economic management modernization and economic management development [J] China investment, 2013,0 (S1): 224-224
- Zhang Zehong on the modernization of economic management and the new trend of economic management development [J] economic and trade practice, 2017,0 (24): 130-130
- Yang Yong, analysis on the modernization of enterprise economic management and the development trend of economic management [J]. Economist, 2019 (8): 281-282
- Zhang Weiying, 1996: 5 ownerships, governance structure and principal-agent relationship 6, 5 economic research 6, Issue 9, 1996
- Zhou Qiren, 1996: five enterprises in the market: special contract between human capital and non-human capital, 6, 5 economic research, 6, 1996

- Liu Xiaoxuan, 1996:5 modern enterprise incentive mechanism: surplus control 6, 5  
economic research 61996, issue 5
- Cui Zhiyuan, 1996: 5 theoretical background of company law reform in 29 US states 6, 5  
economic research 6, 1996, issue 4
- Kenichi Imai and other editors: Modern Japanese enterprise system, Volume 5,  
Economic Science Press, 1995 edition
- Weng Junyi, 1996: 5 Comparison of salary system and sharing system 6, 5 Comparison  
of economic and social system 6, issue 5, 1996
- Fang Zhulan, 1997: it is a trend for human capital owners to own enterprise ownership,  
economic research, issue 6
- Zhang Weiyong, 1996: ownership, governance structure and principal-agent relationship,  
economic research, No. 9
- Zhou Qiren, 1996: enterprises in the market: special contract between human capital and  
non-human capital, economic research, No. 6

# RESEARCH ON EMPLOYEE INNOVATION BEHAVIOUR IN HRM INNOVATION STRATEGY

**HAISHAN SHEN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: irene.shan@hotmail.com*

## ABSTRACT

As we all know, with the integration of global economic development, operation and management has been difficult for traditional organizations to meet the competitive position of enterprises in the market. Most enterprises have already made great efforts to technological innovation, market innovation, and other aspects. With the development of enterprises, the innovation of human resource management is gradually valued by enterprises. According to a large number of literature summaries, the innovation and development of human resources have been an important strategic method for the innovation and development of enterprises. The construction of talents is the core subject of enterprises to gain a competitive advantage. In the human resource innovation strategy, employees' innovation behavior has become an important topic to promote human resource management. This study will explain how to promote employees' innovation behavior, and what links and factors are related to the enterprise. How to better improve the enterprise innovation management level, and enhance the internal competitiveness of enterprises.

**Key words:** innovation management, human resources, employees' innovation behavior.

## INTRODUCTION

In today's rapid development of the global economy, the product replacement cycle is fast, the research and development cycle is short, and the speed of technological innovation has fully reflected the arrival of the era of the knowledge economy, and the core of knowledge economy lies in- -people, the construction of talents has become an important topic of enterprise innovation management. Only by maintaining the stability and continuous development of talents can an enterprise maintain the continuous competitiveness of enterprises. The following are divided into three parts to introduce how to improve the value of talents through innovation management to improve the core competitiveness of enterprises. The three parts are the important significance of the enterprise innovation management strategy, the role of the human resource (capital) innovation in the enterprise innovation, and the core position of the employees' innovation behavior in the human resource innovation strategy. The three are layers of progressive relationship, but also mutual unity, mutual assistance relationship.

The first part: For enterprises to obtain a competitive advantage, they need to consider all aspects of the enterprise, such as human resource management, cost control

management, product development, quality management, etc. Assuming that all enterprises are at the same level, if they want to gain a competitive advantage, innovation management is particularly important. Innovation is the internal requirement and basic form of an enterprise's survival and development. It is also an inevitable process for an enterprise to constantly adapt to the environment and achieve self-transcendence. Due to the increasingly fierce market competition, innovation has penetrated every link and every corner of operation and management. The source of enterprise management thinking is innovative thinking, the strategic essence of the enterprise competition is the innovation management strategy, and the key to the competitiveness of the enterprise is innovation ability.

Part 2: As the provider and integrator of organizational resources, the human resources department obtains a competitive advantage for enterprises directly or indirectly. It plays an important intermediary role in the organization. Only when the human resources department and the strategic development of the enterprise adapt, can we improve the execution of the whole organization, strengthen the ability to adapt to changes, better meet the customer requirements, and improve the enterprise performance. In addition to matching with the organizational strategy, the human resources department of employee selection, training, and development should not be limited to the traditional simple recruitment, training, performance evaluation, and payroll payment. To create an excellent talent pool for the company, the investment of intellectual capital, the embedding of the network platform, and other behaviors can improve the innovation behavior of employees, and improve the construction of the company's human capital.

Part 3: Employee innovation behavior produces, promotes, and practices novel ideas, products, processes, services, or methods in the work. Encouraging employee innovation behavior will help enterprises to adjust their innovation support policies promptly to cope with the fierce competition in the global economy. In the Internet era, people are more dependent on online communication. Opening the network communication platform from inside the company can make the company's information transmission more convenient. Company employees through efficient and frequent communication and knowledge sharing. It can help employees get more resources and opportunities. Establish a long-term and stable trust and mutual benefit relationship with other employees in the company in the long-term and effective communication and sharing. This can both allow employees to obtain different invisible knowledge or information, and also enhance their reliance on the platform on the organization, thus stimulating their innovative behavior. HOME LINK, for example, as China's largest real estate brokerage platform, housing sharing system successfully broke the mode of real estate information island, brokers through sharing information on housing information (including housing prices, housing, housing, surrounding information, viewing requirements, etc.), customer information (including homeowners expectations, preferences, customer demand, etc.), they will note on the platform, clinch a deal or did not match the reasons for success and so on the information. This way, we can grasp the market dynamics, more accurately the evaluation of housing value. It is also because information sharing allows real estate brokers to provide more services to customers across regions. The formation of competition also stimulates the innovation ability of employees.

Promoting the innovative behavior of employees can improve the core competitiveness of enterprises and cultivate better human value for the enterprise. It also enhances the stickiness between employees and enterprises. However, to achieve the

above goals, the human resources departments also need to provide resources for optimizing the office environment and improving the incentive mechanism. These are the efforts and innovations that human resources departments need to make. From the perspective of enterprises, the innovation and adjustment of the human resources department are to save costs, improve enterprise performance and enhance the competitiveness of enterprises. In practice, it is difficult to achieve the goals in the short term, so it is necessary to make reasonable and effective plans to formulate short-term goals and long-term goals respectively. Gradually adjust and plan, and constantly improve the strategic goals. In the long run, improving the innovative behavior of employees can improve the competitive advantage of enterprises.

## LITERATURE REVIEW

After entering the era of the knowledge economy, creativity and innovation have become the core strategic direction of enterprises. 1: The innovation speed of enterprise products and services is accelerated. Computers, for example, Moore's Law, says chip integration doubles every 18 months, only a few months into the age of the knowledge economy (Gordon Moore, 1965). The rapid development of science and technology has driven the speed of change in various fields. 2. The research and development ability of enterprises has become the core competitiveness. Under the condition of the knowledge economy, the competitiveness of the enterprise is reflected in the research and development ability and independent technology innovation. Strong enterprises are investing more and more in research and development. 3. Transformation of enterprises from manufacturing to the service industry. Providing new products and services is more conducive to enterprises to obtain customer recognition. 4. The enterprise employee structure has changed. Informatization, automation, and digitization are replacing people's mental power and physical strength. The innovation and cultivation of enterprise human capital have become the most important link. 5. Enterprise production has changed from standard to non-standard. More and more customized products occupy the main market, which requires enterprises to conduct non-standardized production. [1][5]

Rothwell R. believes that the successful innovation process has three characteristics: success is multi-factorial, success is universal, and success is "human" - centered. More and more scholars in the study of history support this. Since the 1980s, the human resource management structure has changed significantly. Corporate competition changes from the competition for natural resources and real capital to the competition for knowledge and intellectual capital. Human values tend to be diversified, and human resource management is more complex. Effective adjustment of organizational strategy to maintain and enhance organizational human capital has become an important strategic function.

In the first half of the 19th century, under the guidance of scientific management theory represented by Taylor, modern personnel management theory formed the basic framework. As an auxiliary function, the scope of activities is mainly in the administrative aspects, completing the tasks of the organization. Little involvement in high-level strategic decisions. In the 1950s, Peter Drucker proposed the concept of human resources, noting that "the traditional personnel management is becoming the past, and a new human resource development-oriented personnel revolution is coming." Devana's Human Resource Management: A Strategic View in 1981, and The Manager's Capital by Beer et

al. in 1984. Promote human resources management to the strategic level of enterprises. According to CAI Fan (2007), see Table (1 similarity and differences between strategic human resource management and traditional human resource management). [5]

	Traditional HRM	Strategic HRM
Responsibility	HR department	Top manager
Main work content	Routine management	Strategic decision
Relationship with the company strategic	Implement function strategy	Implement company's strategy
Relationship with the external environment	Limited contact	Intimate contact
Main management skills	Technical skills and interpersonal skills	Concept skills and interpersonal skills
The status of change	Passive adaptation	Leadership change

Theodore Schultz and Gary Becker et al. Human resources and human knowledge and skills are a form of capital. The level of human capital investment determines the level of social and economic development, and the return rate of human capital investment is much higher than that of material capital investment. The competitive advantage of human capital in human resource innovation is the source of enterprise competitive advantage.

In addition to management, research is in the field of economics, because people themselves are complex and difficult to control. Li Jingzhi and Li Yongzhou (2022) have also introduced organizational psychology in their research on employee innovation. Their research believes that building an organizational innovation atmosphere is conducive to employees' innovative behavior, which is the key to enterprises gaining a competitive advantage. In addition, resource provisioning and teamwork can promote innovative behavior among employees. [21]

Through research and analysis, employees can improve their innovation ability and stimulate their innovation motivation. In the practice process of providing employees with innovation opportunities, enterprise training, salary assessment, reward mechanism, communication and decision-making, and other aspects are needed as support and have a significant impact.

According to the development of the Internet and the era of big data, the innovative management of human resources is also receiving the baptism of big data. Through the analysis of the basic data, capability data, efficiency data, and potential data application. It is easier for enterprises to make decisions on innovation and changes in all aspects of human resource management through accurate numbers. Further, tap the potential of the enterprise. [4]

## RESEARCH METHODOLOGY

This paper mainly adopts the literature research method to summarize relevant theories and research status in this field at home and abroad in ten years. Includes important journals, doctoral and master's theses. From the establishment of the original theory to the application of new management involved in the sustainable development of the enterprise. The core literature of innovation management, human resource management, and innovation-related fields is summarized to reflect the current situation and development trend of the research topic and establish a foundation for subsequent research.

## CONCLUSION AND DISCUSSION

Research on innovation and management of human resources has aroused great attention and wide interest all over the world. The scope of research is expanding and the research content is also deepening. In this context, it is discussed that human resources are the reason for maintaining the competitive advantage of enterprises. Talent capital is the core of human resource innovation. Through the in-depth study of human resource innovation management, it expands the important role of innovation ability that employees can play in enterprises. From another point of view, this paper studies the innovation management of the human resource department in many aspects that can promote the generation of employee innovation behavior.

Enterprises should provide efficient working systems and incentive mechanisms for employees, improve the motivation of employees' innovative activities, create a good working environment for employees, provide necessary resources and information, and give material recognition and reward to employees who have made innovations. Through the embedding of the network platform, the innovation atmosphere is built for employees, so that employees can give full play to their knowledge and ability of human capital and promote innovative behavior.

The limitation of this article lies in that it does not discuss whether the innovative behavior of employees in different corporate cultural backgrounds can achieve the results presented by scholars. On the other hand, how many innovative behaviors of employees can affect the enterprise and its core competitiveness.

In the following research, the innovation behavior of employees can be further combined with the corporate culture of different industries to analyze whether it can still achieve the purpose of enhancing the competitiveness of enterprises.

## REFERENCES

- Xu Luyao Research on the innovation of human resource management in Chinese enterprises [J] Industry and Technology Forum, 2022,21 (02): 191-192.
- Chen Yang Research on business model innovation management of business enterprises based on e-commerce environment [D] Harbin University of technology, 2020 DOI: 10.27063/d.cnki. ghlg. 2020.000010.
- Li Fenglian Research on the impact of HRM system on employees' innovation behavior in high-tech enterprises [D] Liaoning University, 2016

- Tang Ye On the innovative path of enterprise human resource management in the era of digital economy [J] *Business news*, 2021, No. 262 (36): 191-193
- Cai fan Research on strategic human resource management of innovative enterprises [D] Xiamen University, 2007
- Wang Xuejun, Chen Wu, Peng Kaiyu Research on the role of human capital in enterprise technological innovation [J] *Technical economy*, 2004, (12): 15-18
- Xu Cen Enhanced brainstorming [J] *Invention and innovation*, 2003, (11): 10-11
- Zhou Xin The impact of executive oriented strategic human resource management on Enterprise Innovation: the regulatory role of market dynamics [D] Xiamen University, 2019
- Guo, Hai; Tang, Jintong; Su, Zhongfeng; Katz, Jerome A. (2016). *Opportunity recognition and SME performance: the mediating effect of business model innovation*. *R&D Management*, (), -. doi:10.1111/radm.12219
- Shi Shengli Research on the impact of human resource management intensity on employees' innovative behavior [D] Xi'an University of petroleum, 2020 DOI: 10.27400/d.cnki.gxasc.2020.000334.
- [J]. Raquel Sanz-Valle, Daniel Jiménez-Jiménez. *Management Decision*. 2018
- [J]. Roy Shanker, Ramudu Bhanugopan, Beatrice I.J.M. van der Heijden, Mark Farrell. *Journal of Vocational Behavior*. 2017
- Chen Lifan, Jin can The impact of high-performance human resource practice on task performance and innovation behavior: the role of Organizational Psychological Ownership and interactive equity [J] *China human resources development*, 2018,35 (06): 144-155 DOI: 10.16471/j.cnki.11-2822/c.2018.06.014.
- Upamali Amarakoon, Jay Weerawardena, Martie-Louise Verreynne. Learning capabilities, human resource management innovation and competitive advantage[J]. *The International Journal of Human Resource Management*,2018,29(10):
- Wang Fang. Research on Enterprise Human Resource Management Innovation in Big Data Era[J]. *Journal of Physics: Conference Series*,2021,1881(4):
- Kossek, E. E. (1987). Human resource management innovation. *Human Resource Management Journal*, 6, 71-92.
- Chen Yu Research on the value and Management Countermeasures of human resources in enterprise management [J] *Business news*, 2021, No. 260 (34): 176-178.
- Tong Che, Zijing Wu, Yaoyu Wang & Rui Yang. (2019). Impacts of knowledge sourcing on employee innovation: the moderating effect of information transparency. *Journal of Knowledge Management* (2)
- Yasin Kasib Kharasheh & Hasan Zidan Abu-Elzeet. (2018). The Impact of Organizational Knowledge Management on Employees' Innovation. *European Journal of Management* (1), doi:10.18374/EJM-18-1.5.
- Zhou Yumei (2020). The development of market economy and the innovation of human resource management *Human resources* (16), 61-62.
- Li Jingzhi, Li Yongzhou The influence of organizational innovation atmosphere and network embedding on employees' innovation behavior [J / OL] *Scientific and technological progress and Countermeasures*: 1-9 [2022-01-18] doi: 10.6049/kjbydc C202107288.

# RESEARCH ON STATE-OWNED ENTERPRISES' HUMAN RESOURCES RISK AND INTERNAL CONTROL

**JUN WANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 178055505@qq.com*

## ABSTRACT

The goal of an enterprise's human resource policy is to improve human resource management. The biggest problem faced by human resource management is to avoid the risks generated in each process. Human resource risk still contains too much content, so the premise of avoiding human resource risk in state-owned enterprises is to screen out the key risk categories in human resource process management, and then determine the risk control point, and grasp the overall risk control by controlling the key risk. The greatest significance of this study is that it can provide suggestions for the internal control of human resources in state-owned enterprises. In a broad sense, studies can be conducted from the internal environment, risk assessment, control activities, information and communication, and internal monitoring. In a narrow sense, it can focus on the study of human resource risks, and achieve internal control goals by avoiding risks. Research results shows that the control of the entire human resources risk process can be achieved through the control of key human resources risks of state-owned enterprises, and the control of the entire risk system can be completed through the control of the risk process.

**Key Words:** Human resources risk, internal control, State-owned enterprises

## INTRODUCTION

### 1. Introduction

As an important measure to internalize external governance, internal control has significant advantages in improving governance structure and internalizing external governance requirements into its own value-added activities. The main purpose of this paper is to study the internal control of human resource risks in state-owned enterprises. To put it simply, it is to ensure that the way people work is consistent with the growth and development of the company, and that they have clear goals and then work hard to achieve them, so that they are neither random nor too mechanical.

#### 1.1. Research background

In the past 30 years, conflicts in the theoretical direction of SOE restructuring and the drawing of reform blueprints have emerged one after another. In practice, exploratory rules and regulations have been promulgated with each passing day. However, the reform effect has not been satisfactory. In this context, a new round of mixed-ownership reform has taken off, and the legal person feature of state-owned enterprises has become more and more obvious. Improving the level of profits through the reform of state-owned enterprises has become the main goal of most state-owned enterprises.

Under the background of modern social economy, the competition among enterprises is the competition of talents in the final analysis. Reasonable allocation, effective development and full use of human resources are the key to the success of an enterprise's operation and the magic weapon for an enterprise to win in the competition. For state-owned enterprises to realize their profit growth, they must first ensure normal operation. The normal operation of the enterprise must first ensure the smooth management of human resources. The smooth management of human resources must first ensure that human resources risks are reasonably controlled.

Under the above background, it seems more valuable to study the representative human resource risks in state-owned enterprises and reasonably avoid human resource risks from the perspective of internal control. This value can also be reflected in non-state-owned enterprises. The greatest significance of this study is that it can provide suggestions on the internal control of human resources in state-owned enterprises. The research content of this paper is based on the existing state-owned human resources process risks, as well as literature summary, theoretical analysis and questionnaire survey to identify the three most important types of risks in the human resources management of state-owned enterprises, which are recruitment risk, promotion risk, and salary risk.

## **1.2. Research methods**

In the process of literature writing, it makes full use of library collections and online databases to find books, use search engines to browse Chinese and foreign web pages related to human resources internal control and risk management of state-owned enterprises, and help learn about monographs and articles. It analyzes and organizes through reading to understand the materials and related information required for this article. With the reference of the existing domestic and foreign related materials, this paper can grasp the direction and focus of the research at the theoretical level.

Theoretical analysis method is mainly used to describe the existing theoretical status of this research and its identification of the main risks facing human resources in state-owned enterprises in the contemporary environment. Theoretical analysis method provides important evidence for the key step of risk selection in this paper.

## **RETERATURE REVIEW**

### **2. Review of research on human resources risk and internal control in state-owned enterprises**

#### **2.1.Literature research on the restructuring of state-owned enterprises**

Regarding the restructuring of state-owned enterprises, a large number of empirical studies have emerged in China in recent years to confirm their enthusiasm for enterprises. Complete privatization is better than partial privatization in terms of firm performance. Liu Jialin (2018) also researched and showed the conclusion that the economic and social benefits of state-owned enterprises have been significantly improved after the restructuring.

The impact of SOE restructuring on human resources can be described as mixed. The good news is that after years of hard work, the level of separation between government and enterprise has been significantly improved. Contributions such as the accelerated pace of shareholding reform have made significant contributions to the progress of human resources in state-owned enterprises. But beyond the achievements, there are more problems that breed. Liu Yujun (2019) pointed out that it is more and more urgent to solve the problem of employee incentives under the restructuring of state-owned enterprises. Gu Mengya (2020) pointed out that after the restructuring of state-owned enterprises, there

are still problems such as, the need to optimize the structure, and the lack of personnel channels.

## **2.2. Development history of internal control**

### **2.2.1. Development history of internal control abroad**

Internal control in the modern sense arose during the first industrial revolution. It was not until the 1930s that internal control emerged as a full management term. The major achievement of the internal control structure phase was the success in attracting the attention of the federal government, centering on the Watergate scandal and the bankruptcy of a large number of US companies. The concept of internal control structure was first proposed by the Announcement on Auditing Standards No. 55, which pointed out that the accounting control and management control were no longer distinguished, and the control environment, control procedures and accounting system were regarded as the constituent elements of the internal control structure.

### **2.2.2. Practice and development of domestic internal control**

The internal control of Chinese national enterprises is determined by the inert nature of its horizontal and vertical production as well as service links. Therefore, internal control is not outside the scope of business management activities. In 1996, the Ministry of Finance issued the Accounting Basic Work Specification, specifying that enterprises must implement internal control with clear regulations. Since then, China has entered 10 years of internal control exploration. The five ministries and commissions including the Ministry of Finance and the National Audit Office enforce internal control through relevant regulations in the fields of auditing, accounting, financial institutions, commercial banks, securities companies, and commercial insurance. Different departments and units, including the Ministry of Finance, the China Securities Regulatory Commission, the People's Bank of China, and stock exchanges, have made specific regulations on internal control norms. In terms of time dimension, these documents show that the scope of internal control regulation is gradually broadening, the concept of risk management is gradually infiltrating, and the evaluation system of internal control is gradually improving. It is the gradual penetration of this risk management concept into internal control that forms the prototype of the main idea of this study.

## **2.3. Review of research on human resource risk at home and abroad**

### **2.3.1. A Summary of foreign research on human resource risk**

Kraev (2019) believed that the essence of the enterprise lies in the rights to plan and employ relationships, and to control employees through the rights to avoid control losses to the greatest extent, that is, to reduce the distortion of information or decision-making in the transmission of the enterprise, and to strive to perfectly monitor the behavior of subordinates. At the same time, Knight made a more rational and meticulous answer to the occurrence of human resource risks. Knight pointed out that it is precisely because of the existence of uncertainty that the benchmark for management's actions is how to make decisions and control. According to Williamson's theory, the higher the specificity of human resources, the higher the degree of risk, and the higher the level of compensation incentives that need to be paid.

In real life, there are extensive exchanges and cooperation among human resources. However, human resources are completely independent resources. A range of predictable and unpredictable HR risks also arise in collaboration. In recent years, the scope and methods of human resource risk research have appeared in various branches and have the characteristics of blooming flowers.

### **2.3.2. The research status of human resource risk in China**

There are many domestic literatures on human resource risk research, which can be roughly divided into the following aspects: First, the concept, classification and exploration of human resource risk. The basic idea is to define human resource risk from the selected perspective, refine the risk, and finally propose a preventive method. Second, it analyzes the causes of human resource risks. Third, it uses various quantitative methods or mathematical models to avoid human resource risks. Fourth, it adopts human resource risk analysis for a certain industry or enterprise. Fifth, it is human resources outsourcing risk. Human resource outsourcing is a form of contemporary network organization that allows companies to concentrate on what the organization is best at doing.

## **3. An overview of the theory of human resource risk and internal control in state-owned enterprises**

### **3.1.State-owned enterprises and their characteristics**

State-owned enterprises have obvious Chinese characteristics. In terms of organization, it includes wholly state-owned enterprises, wholly state-owned companies, and state-owned capital holding companies and shareholding companies. In terms of organizational function, it has both economic and social functions, and has two identities of profit legal person and public interest legal person. In terms of jurisdiction, the State-owned Assets Supervision and Administration Commission of the State Council are in charge of assets, the Organization Department is in charge of human resources, and the State-owned Assets Supervision and Administration Commission of the State Council is in charge of operations.

### **3.2.An overview of human resources and human resource management in state-owned enterprises**

The concept describes human resources as a general term that can bring economic benefits to enterprises and promote the sustainable development of enterprise production and operation. If combined with the particularity of state-owned enterprises, human resources of state-owned enterprises refer to the general term of human resource capabilities that can bring economic benefits to enterprises from the two dimensions of quantity and quality, promote the sustainable development of their production and operation, and achieve value preservation and appreciation.

In a broad sense, human resources are always classified as idle enterprise resources, which do not have the organizational normative and disciplined rigor to bring benefits to the enterprise. The process is human resource management. HRM can be measured from both macro and micro perspectives. On the macro level, it refers to the management of all human resources, while on the micro level, it only refers to the management of enterprises and institutions. According to the research object and research content of this paper, human resource management of state-owned enterprises refers to the process of realizing the operating goals of state-owned enterprises by planning, organizing, leading, controlling and motivating the subordinate human resources. Among them, the operating objectives include not only the operating performance of state-owned enterprises, but also the performance of employees, so as to promote the dual development of employees and enterprises.

### **3.3.Internal control of human resources in state-owned enterprises**

Combined with the strong social and public characteristics of state-owned enterprises, the internal control of human resources in state-owned enterprises refers to the process of adjusting human resources management policies in real time and ensuring the goals of

human resources management with the SASAC, higher-level group companies, the management of state-owned enterprises, employees of state-owned enterprises and external investors of state-owned enterprises as the background system, the internal administrative leaders of state-owned enterprises, functional departments and their related personnel as the main body of implementation, and the internal economic and business management activities of state-owned enterprises as the background system.

### **3.4.State-owned enterprise human resource risk**

Human resource risk is the research topic of scholars engaged in scientific research. Yang Naiding pointed out that the occurrence of human resource risk is related to the complexity of human physiology and psychology, the dynamics of quality and behavior, cognitive dissonance, and the possibility of disasters in life. The division of risks can be divided according to the stage of the risk, motivation, the number of human resources involved, and the human resources function. Among them, the most commonly used division method is the division according to the human resource management process, which includes human resource planning risk, employment risk, selection risk, training risk, performance appraisal risk, promotion risk, compensation risk, incentive risk, exit risk, and Labor relationship risk.

Human resource risks of state-owned enterprises refer to the conventional and unconventional possibilities that may hinder the realization of their expected goals during the process of implementing human resource internal control. Avoiding human resource risks is the risk management of human resources. The same is true for state-owned enterprises. However, due to the existence of its special features, in the implementation process, it is often necessary to focus on some factors.

## **4. Risk analysis of human resources in state-owned enterprises**

### **4.1. HR recruitment risk analysis**

Recruitment is the process of dynamic matching between enterprises and candidates. Recruitment risk refers to the uncertainty in day-to-day operations caused by the inability of an enterprise to recruit suitable employees. The recruitment risk of an enterprise is not groundless which has many sources, such as a weak recruitment environment, deviation in recruitment design, wrong selection of recruitment channels, and imperfect recruitment mechanism. The source of recruitment risk lies in the asymmetry of information on both sides. In recruitment, the most basic unit is the information game between the recruiter and the candidate. Since the information is asymmetric for both parties, the party with the information advantage can deceive the party with the information disadvantage in order to sign a labor contract and obtain a salary that does not match its own ability, which leads to the problem of adverse selection. The reason for the poor recruitment results of state-owned enterprises is the adverse selection behavior of candidates hiding information, because state-owned enterprises are different from other enterprises, and state-owned enterprises have their own special historical foundation. It has always been synonymous with high wages and a bright future, and it is the object that many job seekers are scrambling for. Therefore, in terms of the source of candidates, most state-owned enterprises can even far exceed the number of candidates they plan to recruit. Second, in recent years, state-owned enterprises have all required the recruitment of fresh graduates from 985 or 211 colleges and universities. The quality of the applicant source is also far superior to other enterprises. As for special jobs that require advanced vocational skills, state-owned enterprises usually hire employees with expected high income. Under the temptation of state-owned enterprises, candidates are prone to adverse selection behavior. The particularity of adverse selection is that as long as there are adverse risks that state-

owned enterprises cannot identify, it will inevitably lead to recruitment failure. However, the company's own recruitment preparation is not sufficient, but there may be successful recruitment results. There are two types of adverse selection, one is a low-energy person disguising as a high-energy person, and one is a high-energy person disguising as a low-energy person. The former situation is very common. A large number of candidates try their best to stand out in the recruitment of state-owned enterprises with huge competition pressure. Although the latter situation is not as common as the former, when the incentive compatibility constraints of the high-energy and the low-energy are equal, the situation of the high-energy pretending to be the low-energy one will appear. This behavior is also one of the causes of the inefficiency of state-owned enterprises.

#### **4.2. HR promotion risk analysis**

Promotion refers to the dynamic flow of human resources based on the relative performance evaluation results of existing employees in order to reasonably motivate and allocate human resources. Promotion risk is the situation in which the promotion results of human resources in the enterprise cannot improve the existing situation. According to the human resource management process, the prelude to promotion is usually the personnel evaluation and performance appraisal of the enterprise. For grass-roots employees, performance appraisal is relatively easy. However, this is not the case for administrative personnel and managers above junior, middle and high levels. Studies have shown that it is very difficult to objectively evaluate the performance of management, knowledge and higher-level jobs in the enterprise. When performance is difficult to measure, non-performance factors will greatly affect employees' performance in the enterprise. In addition, when state-owned enterprises are promoted in human resources, especially when managers above the middle level are promoted, the so-called education, training, seniority, length of service, age, and even gender have become important factors that affect whether or not to be promoted. The existence of personal bias, in particular, poses a challenge to managing the diverse workforce of companies today. Top managers usually hold certain preconceived ideas about candidate employees, such as rigid traits of ethnicity, gender, age, disability, and religion. The upper management will also judge whether the candidate has promotion potential based on the impression of the type of group to which the candidate belongs, which is mainly manifested in flexible characteristics, such as marital status, hair color, etc. In the above two cases, the former is called prejudice and the latter is called stereotype. The existence of these two kinds of personal biases will lead to the discrimination of top employees against subordinate employees. Therefore, this paper believes that the analysis of human resources promotion risk should be attributed to the analysis of the promotion system, that is, to develop a promotion system that can abandon seniority, length of service, age, and gender.

#### **4.3. HR compensation risk analysis**

Compensation is the most important factor for corporate employees. Poor management and distribution of compensation can lead to work fatigue and boredom due to wages that do not meet their expectations, resulting in low productivity, poor output quality, and even higher absenteeism and resignation rates. These scenarios fall under the category of HR compensation risk.

After the introduction of information asymmetry, the behavior of employees is no longer directly known by managers. Therefore, the amount of labor that the employee must pay cannot be written into the wage contract in the wage contract. At this time, the manager can only infer the labor level of the employees based on the performance of the employees after the performance appraisal. However, the performance of employees is not

only positively related to the level of labor, but also affected by many unknown external factors. Therefore, when an employee is lazy, which leads to a low performance appraisal result, he can completely blame the external cause and continue to ask the manager for a high salary. Similarly, when an employee's performance increases due to external factors, he can also attribute it to the internal factors of his own labor to demand higher wages. When these situations arise, the moral hazard problem arises.

## **5. Human resource risk and internal control in state-owned enterprises**

From the analysis of HR recruitment risk, promotion risk and salary risk of state-owned enterprises, it can be seen that in order to avoid these heavyweight risks, it is necessary to locate the risk control points that can restrain them. The factors that fail to achieve the expected goals in the process of internal control of human resources form human resources risks, and the risks themselves are an important part of internal control. The existence of risks requires enterprises to avoid risks. Therefore, the process of human resource risk management is also the process of achieving HRM goals through internal control. The relationship between the internal control of human resources and the HRM process should be a kind of interlocking and integrated relationship, and the internal control of human resources should run through all links, not outside the HRM process. That is to say, the internal human resources pulling should run through the whole process of human resources risk avoidance, not outside the risk. Therefore, avoiding human resource risks from the perspective of internal control is a natural result of HRM.

### **5.1. Internal environmental control**

The internal environment of human resource risk in state-owned enterprises can be understood from two aspects: on the one hand, it is the internal environment created by the enterprise itself or the government from a macro perspective. On the other hand, it is the micro internal environment created by the enterprise to deal with internal control groups. From a macro perspective, the internal control environment is the national policy created by the government for state-owned enterprises. The control of human resources risk in state-owned enterprises should be reformed on the basis of acknowledging the existing defects in the operation of state-owned enterprises, rather than starting from the root at the beginning of the reform. State-owned enterprises have huge roots and branches, and the tactic of internal control should be to nibble from the periphery and penetrate in a little bit, instead of going straight to the center. From a microscopic point of view, the internal control environment of state-owned enterprises includes the management philosophy of managers, the competency of employees, ethics, morality and other factors. In the process of managing the internal control environment from a micro perspective, special attention should be paid to the changes in the age group of employees in the enterprise compared with the previous reforms of state-owned enterprises.

### **5.2. State-owned enterprise human resources salary risk control activities**

Human resource salary risk originates from moral hazard, and the control activity point of salary risk lies in how to prevent moral hazard. Under the traditional state-owned enterprise system, because the employees of the enterprise have achieved information symmetry with the enterprise under the basic hard conditions, the information asymmetry is only the characteristics that cannot be intuitively understood by the superiors, such as personality, work ability, interpersonal relationship, attentiveness, etc. The control of moral hazard must start with employee incentives, and employees must have a passionate attitude towards work. Even if there is no passionate work enthusiasm, it should be able to force them to stop from the company's salary incentives. First of all, we should make it

clear that the minimum salary design of state-owned enterprises is to satisfy the participation constraints and incentive compatibility constraints of employees. The participation constraint here means that the salary contract we design should give employees at least the opportunity income when they compete in the external market. And the incentive compatibility constraint means that employees can get more salary when they put in more labor efforts. The above two conditions are the bottom line of salary design, otherwise employees will inevitably have moral hazard, and even employees will quit.

Secondly, according to the incentive method, we divide the incentive method into two types: explicit and implicit. In explicit incentives, due to the existence of the moral hazard problem, a feasible compensation system is to introduce more and more easily measurable indicators to more accurately judge the behavior of employees, so as to eliminate the uncertainty loss caused by as much as possible. As for the hidden incentives of salary, we also believe that to avoid moral hazard, we should first start from the hearts of employees, and this kind of psychological control should cover employees of all levels within the state-owned enterprise.

## CONCLUSION

Broadly speaking, state-owned enterprises can study the human resource risks generated in the process of human resource management from the perspectives of internal environment, risk assessment, control activities, information and communication, and internal supervision, which are detailed and comprehensive. In other words, it is possible to focus solely on the study of human resource risks, and to achieve internal control objectives through risk aversion. Sources of recruitment risk, promotion risk, and salary risk were identified through risk analysis.

## REFERENCES

- Aref Nezhad, M., Shariat Nezhad, A., & Omid Zadeh Monfared, M. (2019). Analysis of the Dominance of Human Resource Risks in Weakening Human Capital in Sports and Youth Organization Using the Interpretative Ranking Process. *Sport Management Studies*, 11(56), 17-42.
- Chen Zhida. (2019). Research on Enterprise Human Resource Risk Management. *Enterprise Reform and Management*, 17.
- Deng Hui. (2018). Some thoughts on human resource risk. *Collection*, 19.
- Farndale, E., Horak, S., Phillips, J., & Beamond, M. (2019). Facing complexity, crisis, and risk: Opportunities and challenges in international human resource management. *Thunderbird International Business Review*, 61(3), 465-470.
- Golsaran Kermani, A., Beheshtifar, M., Montazeri, M., & Arabpour, H. (2020). Qualitative analysis of human resource risks using Fuzzy dematel method (Case study: Islamic Azad University). *Journal of Human Capital Empowerment*, 3(2), 73-94.
- Gu Mengya. (2020). Research on the Construction of Human Resource Risk Management System of Group Companies. *Chinese Management Informatization*, 6.
- Hasanpur, A., Yusefi Zenuz, R., Safari, H., & Ghujali, T. (2021). Identifying and Prioritizing Human Resource Risks in the Iranian Insurance Industry Using Fuzzy Delphi and ANP. *The Journal of Planning and Budgeting*, 119-146.
- Liu Haoli. (2019). Effectively Prevent Enterprise Human Resource Risks. *Collection*, 20.

- Liu Jialin. (2018). Discussion on Human Resource Risk after Enterprise Transformation. *China Business Review*, (20), 66-67.
- Liu Yujun. (2019). Analysis of Human Resource Management Risks and Control Measures in Enterprise Internal Control Environment. *China Standardization*, 22.
- Kraev, V. M., & Tikhonov, A. I. (2019). Risk management in human resource management. *TEM Journal*, 8(4), 1185.
- Kermani, A. G., Beheshtifar, M., Montazery, M., & Arabpour, A. (2021). Human Resource Risk Management Framework and Factors Influencing It. *Propósitos y Representaciones*, 9(SPE1), 902.
- Weiwei, H. (2018). Human Resource Risk Identification and Prevention. *Control and Systems Engineering*, 1(1).
- Shahhoseini, M. A., Keimasi, M., Fayyazi, B. M., & Khodadadian, M. (2020). Presenting Human Resource Risk Management Model in the Banking Industry Based on Grounded Theory (Case Study: Mellat Banks of Tehran). *Journal of Public Administration*, 12(2), 346-376.
- Shi Jun, & Guan Jingzhu. (2020). Risk Management and Measures in Human Resource Management. *Economic Management Digest*.
- Shi Yunyun, & Gao Fei. (2019). Competition Restriction Based on Human Resource Risk Control. *Chinese and Foreign Entrepreneurs*, 7.
- Yan, X., Deng, X., & Sun, S. (2020). Analysis and Simulation of the Early Warning Model for Human Resource Management Risk Based on the BP Neural Network. *Complexity*, 2020.
- Yang Fen. (2019). Analysis of Enterprise Human Resource Risk Management. *Economist*, 10.
- Xue Feng. (2020). Human Resource Management Risks and Preventive Measures. *Human Resources*.
- Zuo Hui. (2018). A Review of Human Resource Risk Management Related Research. *Reporter Observation*, 27.

# RESEARCH ON HUMAN RESOURCE MANAGEMENT OUTSOURCING AND RISK MANAGEMENT OF SMALL AND MEDIUM ENTERPRISES

**WEIXING SHI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wfy\_2011@126.com*

## ABSTRACT

With the development of science and technology and economic globalization, the competition faced by enterprises has become more and more fierce, which has prompted great changes in the operation and management methods of enterprises. The rise of business outsourcing is one of these changes, and human resource management outsourcing is another one of the fastest growing areas of all types of business outsourcing. Due to the limitations of small and medium-sized enterprises in terms of capital and scale, their human resource management level is limited, and human resource management outsourcing can solve this problem well. Therefore, the research on human resource management outsourcing and risk management of small and medium-sized enterprises has certain practical significance.

**Key Words:** Human resource management, outsourcing, small and medium enterprises

## INTRODUCTION

### 1 Introduction

With the advent of the era of knowledge economy, the importance of human resources to organizations has become increasingly prominent. In modern enterprise management, the importance of human resource management has increased significantly, and human resource management has gradually become a key part of the overall strategy of the enterprise, and the concept of strategic human resource management has also emerged. Strategic human resource management means that the human resource management of an enterprise must be implemented according to the strategic goals of the enterprise (Baginska, 2018). Strategic human resource management will bring about the transformation of human resource management functions, and low-level, procedural personnel work is no longer the focus of human resource management. Human resource managers need to devote more time and energy to key human resource management business related to corporate strategy in order to achieve corporate strategic goals (Ganebnykh, 2021). Therefore, it has become a top priority for enterprises to free the human resource management department from general affairs. The current method adopted by most enterprises is to outsource part of the functions of human resources.

In recent years, human resource management outsourcing has received extensive attention and development in developed countries such as Europe and the United States (Gottardello, 2018). On the one hand, there are a large number of professional service

organizations in these countries, such as Accenture, Hewitt and other technologically advanced companies. These organizations specialize in providing human resource management services for enterprises, especially providing human resource management outsourcing services for small and medium-sized enterprises. On the other hand, the number of companies in Europe and the United States that choose to outsource some or even all of their human resource management activities is increasing year by year. A study by the American Management Association showed that more than 90 percent of companies have implemented outsourcing, and more than half of them plan to outsource more human resource management functions in the next few years. According to the survey data of Yanke Group, the scale of human resource outsourcing in the global market has exceeded 80 billion US dollars. The successful cases of some well-known enterprises' human resource management outsourcing also prompt more and more enterprises to choose human resource management outsourcing (Bautisa, 2019). The company entrusted a series of human resource management tasks such as new employee recruitment, training and development, and salary and salary to outsourcing service providers. The company itself is only responsible for strategic human resource management decisions. Recent data also show that human resource management outsourcing in Europe and the United States is constantly expanding in both the scope of outsourcing and the total amount of business (Irwin 2018).

In recent years, Chinese small and medium-sized enterprises have begun to pay more attention to human resources management, and their human resources staffs have also begun to learn human resources management knowledge (Hu, 2018). Therefore, in order to improve the situation of human resource management in small and medium-sized enterprises, it is necessary to find professional and high-level human resource management personnel for small and medium-sized enterprises to assist enterprises in human resource management. Human resource management outsourcing is such an auxiliary method.

However, China's human resource management outsourcing market is still not perfect, mainly reflected in the lack of uniform standards for service quality and charges, and the level of suppliers is uneven, and there is still a certain gap with the development of foreign human resource management outsourcing. At the same time, many managers are not very accepting of human resource management outsourcing. The main reason is that the various risks existing in the process of human resource management outsourcing make managers concerned. In order to ensure that human resource management outsourcing can produce positive effects and achieve its fundamental purpose, it is necessary to find ways to reduce outsourcing risks. Therefore, it is very necessary to study the human resource management outsourcing risks of small and medium-sized enterprises.

## **LITERATURE REVIEW**

### **2. Analysis of business types and risk characteristics of human resource management outsourcing in small and medium-sized enterprises**

In China's economic development, small and medium-sized enterprises have greatly promoted the development of the national economy, and people have paid more and more attention to small and medium-sized enterprises. Due to the limitations of their own funds and resources, SMEs can only adopt a differentiated strategy and use their core competitiveness to compete with large enterprises in market segments, so SMEs choose to outsource non-core businesses. Human resource management is a non-core business for many small and medium-sized enterprises, so some functions of human resource management in small and medium-sized enterprises have the possibility of outsourcing

(Li, 2020).

### **2.1 Analysis of the advantages and possible risks of recruitment outsourcing**

In the fierce competition, SMEs must have high-quality human resources in order to remain competitive. But the current situation is that it is difficult for small and medium-sized enterprises to recruit suitable talents, and the brain drain of small and medium-sized enterprises is serious. It is difficult for SMEs to recruit suitable talents mainly because the attractiveness of SMEs to talents cannot keep up with the attraction of large state-owned enterprises and multinational companies to talents, and most applicants will not include SMEs as part of their careers (Liang, 2021). In addition, because employee recruitment requires that the company's recruiters must have good professional knowledge and skills, and can adapt to the complex human resource needs of the company, it is difficult to recruit employees only through the internal human resources department of small and medium-sized enterprises. With these requirements, it is difficult to recruit the required employees for the enterprise. In addition, due to the increasingly strict constraints on human resources protection in China's labor regulations, the external market environment faced by small and medium-sized enterprises is changing rapidly, which makes the recruitment work of small and medium-sized enterprises more and more difficult to grasp, and the risks faced in the recruitment process are becoming more and more serious. Therefore, more and more SMEs choose to outsource the recruitment work.

### **2.2 Analysis of different types and hidden risks of training outsourcing**

With the development of small and medium-sized enterprises, their requirements for employees' skills and quality are getting higher and higher, which not only requires employees to have a strong sense of active learning, but also constantly accept various skills training from enterprises (Patel, 2019). Effective training can improve employees' knowledge and skills, and stimulate employees' innovation and enthusiasm. However, SMEs are limited by various resources (including financial constraints, scarcity of venues and insufficient training resources, etc.), and they do not have the ability to train employees. This kind of ability makes it difficult for the training work to reach the level of specialization and formalization. Therefore, it is very likely that SMEs will outsource training.

However, compared with some HR functions with low strategic value and uniqueness, employee training has the characteristics of increasing enterprise value and building competitive advantage. Therefore, its value characteristics determine that there will be certain risks in the process of enterprises implementing training outsourcing.

1. Security risk. In the process of outsourcing, the enterprise will provide some internal information for the training service provider, resulting in a semi-public state of the internal information of the enterprise. If these materials involve the business secrets or core competitiveness of the enterprise, the enterprise may face the risk of leakage of business secrets and imitation of its competitiveness by rivals, which will eventually lead to the loss of the core competitiveness of the enterprise. Therefore, security is also a very big issue in training outsourcing activities.
2. Special investment risk. When outsourcing service providers provide training services, they will inevitably formulate targeted service plans for enterprises according to their actual conditions and unique needs. In order to obtain such specialized services, enterprises must make specialized investments, and the value of these specialized investments can only be fully manifested in the

cooperative relationship with outsourcing service providers. In cooperation with a specific outsourcing service provider, once a special investment is made, if the outsourcer engages in opportunistic behavior, it will cause serious losses to the enterprise, and the cost of withdrawing from the partnership will be very high.

3. Management control risk. In the process of training outsourcing, the company entrusts all the content of training to the outsourcing service provider, which makes the company lose the management and control of the training content and lack of communication and interaction with employees. In addition, if the outsourcing service provider engages in opportunistic behaviors in the process of training outsourcing, the enterprise is likely to be unable to accurately identify and estimate the risks of these behaviors, and thus cannot effectively control the outsourcer, resulting in conflicts between the enterprise and the outsourcer.

While outsourcing of training business brings advantages to enterprises, it also produces certain risks and challenges. Effective management and control of the risks arising from the training outsourcing process has become the key for enterprises to conduct training outsourcing.

### **2.3 Human resource management information system outsourcing and risk source control**

Human resource management information system has brought great changes to human resource management. Human resource managers use advanced information systems and human resource management software (such as SAP, People Soft, etc.) to handle most of the structured human resource management work. The time spent in transactional business is greatly shortened, so that it can have more time to think about the human resources strategic planning of the enterprise, which is a very direct benefit for small and medium-sized enterprises. For small and medium-sized enterprises, if the computer information system is not their core business, it is not economical to develop computer systems and maintain information management systems independently (Mansor, 2018). If an enterprise only relies on its own strength to build and maintain the company's software system, the cost is so high that the average small and medium-sized enterprises cannot afford it. However, outsourcing all or part of this work to a special company, the overhead is only four to one-fifth of the cost of its own development and maintenance, which saves most of the development and maintenance costs of the human resource management information system of small and medium-sized enterprises. In addition, outsourcing it can also help enterprises to obtain the support of professional technology and professional talents and help enterprises to develop a complete human resource management decision-making system. And enterprises can also save various expenses of technical personnel and information system expenses. Therefore, the human resource management information system of the outsourcing company can simplify the human resource management workflow of small and medium-sized enterprises, reduce the cost of human resource management in small and medium-sized enterprises, and improve the efficiency of human resource management in small and medium-sized enterprises.

### **3 Response measures for human resource management outsourcing risk sources**

It is a good strategy for enterprises to formulate corresponding risk response measures from the risk sources identified in the risk chain of human resource management outsourcing of small and medium-sized enterprises.

### **3.1 Measures to address risks from outsourced service providers**

In order to better avoid risks from outsourcing service providers and realize the significance of outsourcing, SMEs must rely on their own strength to deal with the risks caused by the ability and ethics of outsourcing service providers (Lawler, 2020). Therefore, signing a complete human resource management outsourcing contract and establishing an incentive mechanism for human resource management outsourcing is an important means to resolve risks.

First, companies should sign a complete human resource management external contract. At present, the most effective way to restrict SMEs and external service providers is to sign outsourcing contracts. A complete outsourcing contract can greatly reduce or even eliminate the principal-agent risk in the outsourcing process.

The second is to establish an incentive mechanism for human resource management outsourcing. There are two types of incentives: material incentives and non-material incentives. ① Material incentives, in the process of human resource management outsourcing, in order to motivate service providers, companies should give service providers attractive remuneration, which should be enough for service providers to pay for their own operating costs and retain a portion of their profits. ② non-material incentives. In addition to material incentives, SMEs can also manage outsourcing service providers through some non-material incentives. First, incentives for long-term cooperative relationships are important. In general, outsourcing service providers hope to establish long-term cooperative relationships with outsourcing companies, because this will bring long-term and stable benefits to them. Third, it is reputation incentive, which is an inherent incentive method. At present, China's human resource management outsourcing market is not perfect and the legal system is not perfect. Therefore, outsourcing service providers rely more on their own reputation to attract outsourcing companies and their reputation mainly comes from the evaluation of the outsourcing companies and customers they have served. Therefore, in order to obtain more outsourcing tasks, outsourcing service providers will choose to complete outsourcing tasks conscientiously and actively improve their reputation. Fourth, it is the new outsourcing content incentives. If the outsourcing service provider can successfully complete the outsourcing task, the outsourcing company will continue to entrust the outsourcing service provider with other tasks on the basis of the original cooperation. This incentive method not only enables outsourcing service providers to obtain further benefits, but also enables outsourcing enterprises to obtain more specialized outsourcing services.

In a word, human resource management outsourcing contract and incentive mechanism play an important role in promoting the smooth implementation of outsourcing business. The huge potential of the human resource management outsourcing market provides a broader space for cooperation between enterprises and suppliers. At the same time, with the continuous development of outsourcing business, it also puts forward newer and higher requirements for both parties. On the basis that China's human resource management outsourcing market has not been fully regulated, and the corresponding laws and regulations are not yet sound, the constraints of human resource management outsourcing contracts and incentive mechanisms can regulate the behavior of suppliers and enterprises, and achieve risk sharing and benefit sharing.

### **3.2 Measures to address outsourcing risks from employees**

Before making human resource management outsourcing decisions, small and medium-sized enterprises must fully consider the resistance and resistance of employees, and formulate a sound conflict management plan to solve the problem of placement of

redundant employees. Specifically, SMEs can try various communication methods to convey the benefits of human resource management outsourcing to SMEs and employees themselves, so that employees can psychologically accept the management method of outsourcing. In addition, in the process of human resource management outsourcing, it is necessary to help employees plan their future career development direction, and properly handle and arrange redundant employees in the organization. For example, enterprises can consider recommending redundant employees to outsourcing service providers to solve the stability problem of the enterprise.

## CONCLUSION

With the development of science and technology and economic globalization, the competition faced by enterprises has become more and more fierce, which has prompted great changes in the operation and management methods of enterprises. The rise of business outsourcing is one of these changes, and human resource management outsourcing is another one of the fastest growing areas of all types of business outsourcing. Due to the limitations of small and medium-sized enterprises in terms of capital and scale, their human resource management level is limited, and human resource management outsourcing can solve this problem well. Therefore, the research on human resource management outsourcing and risk management of small and medium-sized enterprises has certain practical significance. The influence of human resource management outsourcing in the international scope continues to expand, and China's human resource management outsourcing will usher in a rapid stage. The status of SMEs in China's economic development is becoming more and more important, coupled with the characteristics of human resource management of SMEs. These indicate that the human resource management outsourcing of SMEs has become an important research content in the field of human resource management.

## REFERENCES

- Bagińska, I. (2018). *Business management using HR outsourcing*. World Scientific News, 104, 68-77.
- Bautista, A., León, A., Rojas, J., & Raymundo, C. (2019). *Strategic planning model to increase the profitability of an HR outsourcing SME through digital transformation*. In International Conference on Human Interaction and Emerging Technologies (pp. 856-862). Springer, Cham.
- Ganebnykh, E., Kozlova, L., & Stativa, E. (2021). *HR-outsourcing in Natural resources sector*. In E3S Web of Conferences (Vol. 244, p. 11026). EDP Sciences.
- Gottardello, D., & Valverde, M. (2018). *Human resource management outsourcing in Spanish firms: Evolution over time and implication for devolution*. Intangible Capital, 14(1), 56-73.
- Hu Pingbin. (2018). *Discussion on Human Resource Outsourcing of Small and Medium Enterprises*. Southern Entrepreneurs, 4.
- Irwin, K. C., Landay, K. M., Aaron, J. R., McDowell, W. C., Marino, L. D., & Geho, P. R. (2018). *Entrepreneurial orientation (EO) and human resources outsourcing (HRO): A "HERO" combination for SME performance*. Journal of Business Research, 90, 134-140.
- Lawler, E. E., & Boudreau, J. W. (2020). *Outsourcing HR*. In *Global Trends in Human Resource Management* (pp. 94-100). Stanford University Press.

- Li Yanyan. (2020). *Research on outsourcing risks and preventive measures of enterprise human resource management*. Value Engineering, 39(2), 32-33.
- Liang Weijia. (2021). *Research on Risk Control of Human Resource Outsourcing in Small and Medium Enterprises*. Economist.
- Mansor, M. F., Abu, N. H., Abashah, A. N., & Mohd Kassim, M. A. (2018). *Cost reduction and business strategy matters to human resource outsourcing? a validation by HR experts from Government Link Companies (GLC's)*. In MATEC Web of Conferences (Vol. 150, pp. 1-7). EDP Sciences.
- Patel, C., Budhwar, P., Witzemann, A., & Katou, A. (2019). *HR outsourcing: The impact on HR's strategic role and remaining in-house HR function*. Journal of Business Research, 103, 397-406.
- Potapiuk, I., & Diukariev, D. *Hr-Outsourcing: Modern Approach to Enterprise Management*. Moderní věda, 12.
- Putha, A. K. *Assessment of Risks Associated with HR Outsourcing in Pharmacy and Information Technology—An Empirical Study*.
- Sharma, H. (2019). *Influence of HR Outsourcing Decisions on Employees' Attitude and Firms' Performance*. Abhigyan, 37(3), 54-63.
- Shen Hengxiao. (2018). *The Problems and Solution Strategies of H Company Human Resource Outsourcing Business* (Shanghai International Studies University).
- Sim, S. C., Kaliannan, M., & Avvari, M. (2021). *Conceptualising HR outsourcing effectiveness and scale development of Hroservperf using PLS-SEM*. Benchmarking: An International Journal.
- Szierbowski-Seibel, K., & Kabst, R. (2018). *The impact of HR outsourcing and strategic HR integration on the HR-to-employee ratio: An empirical evaluation of the HR function over the last decade*. International Journal of Manpower.
- Vyas, L. (2019). *Customization in civil service training: Implications for outsourcing human resources management*. International Journal of Public Administration, 42(1), 41-54.
- Wallo, A., & Kock, H. (2018). *HR outsourcing in small and medium-sized enterprises: Exploring the role of human resource intermediaries*. Personnel Review.
- Xin Mengzhu. (2020). *Risks and preventive measures of human resources outsourcing in small and medium-sized enterprises*. Chinese and foreign entrepreneurs, 3.

# RESEARCH ON STRATEGICALLY-ORIENTED COST MANAGEMENT OF HUMAN RESOURCES

**SAINAN WANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 413449644@qq.com*

## ABSTRACT

Enterprise human resource cost management has become an important part of enterprise management. With the changes in the internal and external environment of enterprises, new challenges are brought forward to the management of human resources cost in enterprises. Enterprise human resource cost management is an important part of the management control system, which means that the optimal design of a company's enterprise human resource cost management system depends on its corporate strategy. Therefore, enterprise human resource cost management should be a kind of enterprise human resource cost management that adapts to the enterprise strategy. How to carry out dynamic enterprise human resource cost management according to its own different enterprise strategies becomes a strategically-oriented human resource cost management that needs to be solved. This paper focuses on discussing the cost of strategic human resources, in order to shed some light on the cost management of human resources in Chinese enterprises.

**Key Words:** Cost management, human resources, strategically-oriented

## INTRODUCTION

### 1 Introduction

An enterprise is the main body of the market economy, and its survival and development depend on its own competitiveness. In the 21st century of knowledge economy, the enhancement of enterprise competitiveness and the formation of competitive advantage are realized through the living carrier of knowledge-human resources. Not all the resources of an enterprise can create a sustainable competitive advantage for the enterprise. The competitive advantage obtained through human resources is more durable than that obtained through other means. Human resources are increasingly emerging as an important strategic resource for enterprises. Numerous practices of domestic and foreign enterprises have also proved that only human resources are the source of enterprises' competitive advantage.

It is of great significance to strengthen the cost management of enterprise human resources at this stage, and it is particularly important to strengthen the management of human resources cost of strategically oriented enterprises. Strategically oriented human resource cost management is an important part of modern enterprise strategic cost management, and its composition can be reflected in various aspects such as individuals, enterprises, and society. As an emerging field, strategic-oriented human resource cost

management has not yet unified its connotation and thought. In the competitive strategic environment, enterprise human resource cost management presents strategic features such as comprehensiveness and adaptability, and has the basis for applying strategic cost management methods. The theory and method of strategic cost management are applied to enterprise human resource cost management for strategic orientation. Human resource cost management becomes inevitable. This paper argues that strategically oriented human resource cost management and strategic cost management has commonalities in strategic connotation, that is, the core of both is to obtain competitive advantage. Therefore, strategic cost management and enterprise human resource cost management can merge into a new field of strategically oriented human resource cost management on the basis of competitive advantages, so that enterprise human resource cost management must logically extend to the competitive strategy, and derive different enterprise strategy-oriented human resource cost management systems under competitive strategy.

## **LITERATURE REVIEW**

### **2 Strategically-oriented human resource cost management**

#### **2.1 Strategically-oriented human resource cost management goals**

##### **1. Strategically-oriented human resource cost management goals**

The goal of strategically-oriented human resource cost management is to guide the direction of enterprise strategically-oriented human resource cost management and to evaluate whether the enterprise strategically-oriented human resource cost management is reasonable and effective. It refers to how to use strategically-oriented human resource cost information to make strategic choices, and how to organize enterprise human resource cost management under different strategic choices. It includes the costs incurred by all human resource development activities planned to help achieve its strategic goals, and all human resource operations in the organization must be designed and implemented in a systematic and cooperative manner in accordance with the overall competitive strategy and situation of the enterprise. However, the goals and objectives of strategically-oriented human resource cost management are also different from those of enterprise human resource cost management. Its objective has two notable characteristics: First, the objective under the strategy-oriented human resource cost management paradigm emphasizes the combination of customer's value proposition and corporate strategy. The second is that the goal of strategically-oriented human resource cost management is more long-term and holistic.

##### **2. Strategically-oriented human resource cost management goal formulation**

The strategically-oriented human resource cost management goal is the functional strategic goal of the enterprise, and it is to clarify the role that the enterprise human resource cost management should play in the implementation of the overall strategy of the enterprise. Although the strategies of different organizations are different, organizations ultimately achieve long-term competitive advantage through strategy, so as to maximize organizational value.

Enterprise strategically-oriented human resource cost management objectives should be formulated according to the overall strategy of the enterprise and the needs of the internal and external environment of the enterprise. The most important link is to find out the relationship between enterprise value and human resources that can create value. Human capital is a variety of knowledge and capabilities embodied in people, which can be used to provide future income and are the main factor in forming enterprise value. The external value created by human resources, that is, the value of human capital, can be measured.

To achieve the goal of strategically-oriented human resource cost management, there are two main ways: one is to improve the utilization rate of human resources in the enterprise, through the use of effective incentive means, such as increasing material incentives, broadening promotion channels, optimizing existing Human resources position structure and other measures to tap the potential of existing human resources, and ultimately maximize the utilization of human resources and maximize the value of human capital. The second is to focus on increasing investment in human resources, mainly through recruitment and selection to attract high-quality human resources inflow.

The improvement of enterprise human resource utilization requires enterprises to formulate reasonable and forward-looking human resource development, recruitment and training target programs. To formulate this strategic plan, the enterprise must analyze the current situation of human resources and the changes in the internal and external human resources environment of the enterprise in the future, such as: the development of the labor market, the development of human resources of competitors, etc. The implementation of the enterprise human resources investment strategy must design the incentive evaluation mechanism and organizational structure in line with the future human resources development of the enterprise.

## **2.2 Basic procedures for strategically-oriented human resource cost management**

The first is the strategy formation stage. (1) The mission should be determined. In the strategically-oriented human resource cost management, the main body of the enterprise human resource cost management strategy formulation needs to fully understand the organizational mission and employee mission, and the strategically-oriented human resource cost management plan. (2) Ideal goals should be created. Enterprises should allocate human resources according to long-term profit plan, market strategy price and consideration of realistic competitive environment. From the two standpoints of meeting customer needs and participating in international market competition, it conducts target cost analysis on the structure of human resource costs, and sets ideal goals. (3) The purpose of performing external and internal analysis is to identify opportunities that can benefit the business as well as threats that the business should avoid. Through internal analysis, it can be clear that the company has strengths and weaknesses in the field of human resources. Implementing external and internal analysis is an important part of strategically oriented human resource cost management. The analysis method mainly adopts SWOT and value chain analysis method. (4) It is strategic choice. The choice of enterprise human resource cost management strategy must fully consider the customer's characteristics, needs and services in the market, so as to determine the strategic basis for obtaining competitive advantages. It also determines the overall goal of strategically-oriented human resources cost management and the specific cost goals of each management module of human resources.

The second is strategically-oriented human resource cost management strategy execution stage. Successful strategy formulation does not guarantee successful strategy execution. Strategy execution is primarily a process of action. Managing and using power in action requires human resources with the ability to execute strategy. It optimizes human resource allocation and improves efficiency through strategically- oriented human resource cost management. Through human resource planning, budgeting, and process development, the strategically-oriented human resource cost management war is transformed into action.

### **2.3 The enlightenment of strategically-oriented human resource cost management to Chinese enterprises**

The thought and method of strategically-oriented human resource cost management are almost blank in the current enterprise management practice in China. In order to cope with the fierce competition under the conditions of global economic integration, enterprises should implement strategically-oriented human resource cost management, and introduce, absorb and innovate strategically-oriented human resource cost management methods.

- (1) The first is to renew the concept of enterprise human resource cost management. In order to fully introduce the concept of strategically-oriented human resource cost management, enterprises must adopt appropriate methods and approaches, such as consulting, learning, training, publicity and other means to make all employees realize the necessity and importance of strategically-oriented human resource cost management. Strengthening the concept and awareness of human resource cost strategy is the premise to play the role of strategically-oriented human resource cost management. The vast majority of enterprises in China regard human resources as costs in the management of human resources costs. The primary task for Chinese enterprises to implement strategic-oriented human resources cost management is to update their concepts and establish strategic-oriented human resources cost management ideas. Only in this way can they use thinking to guide the cost management of the enterprise, thereby improving the performance of the enterprise and obtaining the competitive advantage of the enterprise.
- (2) Strategically-oriented human resource cost management should adopt continuous improvement strategy. Any management practice or management theory is produced under certain circumstances and environmental backgrounds. The theory and practice of strategically-oriented human resource cost management should consider its applicable background and meaning, and take timely solutions in combination with the problems that arise in the actual application of enterprises. Of course, it is important to constantly sum up experience in order to facilitate the practice of enterprise human resource cost management in the future.
- (3) The key to the implementation of China's enterprise strategically-oriented human resource cost management is information technology and human resource cost information system. Enterprises must establish a networked and interactive human resource cost information system. The strategic awareness and quality of enterprise human resource managers should be improved. In the strategically-oriented human resource cost management, the human resource department plays the role of strategic decision-making and strategic partner. Enterprise human resource managers should timely learn to improve their own quality to meet the needs of enterprise strategic management.

### **3 Enterprise strategy and strategically-oriented human resource cost management choice**

#### **1. Enterprise competitive strategy choice**

Competitive strategies are specifically divided into ① low-cost matching with large markets-cost leadership strategy orientation, ② low-cost matching with small markets-cost-focused strategic orientation, ③ differentiated matching with large markets-generalized and differentiated strategic orientation, ④ differentiated matching with small

markets-focusing Differentiation strategy orientation.

## 2. Strategic orientation of strategically-oriented human resource cost management

Strategic positioning is the selection of appropriate competitive weapons to fight against competitors on the basis of an analysis of their own internal and external environment. Porter proposed that the general competitive strategies include cost leadership strategy, differentiation strategy and target agglomeration strategy. The primary problem facing the strategically-oriented human resource cost management is how to combine the cost management ideas, methods and measures with the human resource strategy of the enterprise and support the overall strategy of the enterprise.

One is cost leadership strategy and strategically-oriented human resource cost management. The goal of the cost leadership strategy is to become a low-cost enterprise in the industry through all possible means and methods. Enterprises based on the cost leadership target competition strategy will seek large-scale and standardized production of products to reduce the requirements for the quality of human resources, so as to obtain sufficient labor force in the labor market with a lower salary level. At the same time, the highly standardized production requires lower skills for employees. Therefore, companies do not have to make high human capital investments in employees. Under the guidance of this strategy, the enterprise human resource cost management as human resource allocation and organization should highlight the requirements of the enterprise strategy, which is embodied in: strictly controlling the cost and strengthening the budget, conducting frequent and detailed human resource cost statistics and accounting, building structured organization and low-cost human resource allocation system form clear job responsibilities and procedural work tasks, emphasizing the effectiveness of human resource investment.

The second is differentiated strategy and strategically-oriented human resource cost management. A differentiation strategy requires a company to be unique in the industry in some aspects that are widely valued by customers. Enterprise human resource cost management under the differentiation strategy does not aim to reduce human resource costs blindly, but transforms cost reduction into cost optimization. Enterprises must have sufficient high-quality human resources to meet the requirements of differentiated competition strategies. In this way, in order to acquire, motivate and retain a sufficient number of high-quality talents, enterprises will pay relatively high human resource costs. First of all, in the recruitment process, enterprises need to develop a relatively systematic and accurate human resource quality model in order to effectively identify the professionals needed by the enterprise. Secondly, in the labor market, companies must provide highly competitive salary levels to win the joining of high-quality talents. Thirdly, continuous product or service innovation requires enterprises to make continuous human resource capital investment (such as training) to continuously improve the human capital of the enterprise, so as to ensure the human capital support of the enterprise's differentiated competitive strategy.

The third is target agglomeration strategy and strategically-oriented human resource cost management. The target agglomeration strategy is a strategic form in which an enterprise concentrates limited resources and targets a certain segment of the market, so that the enterprise excludes other competitors in a specific field and obtains its own competitive advantage. Target agglomeration strategy is further divided into cost agglomeration strategy and difference agglomeration strategy. According to different strategies in different market segments, different enterprise human resource cost management is adopted. The cost agglomeration strategy refers to the cost leadership strategy and guides the human resources cost management model. The difference agglomeration strategy refers to the enterprise human resource cost management model

under the differentiation strategy.

## **4 Implementation of strategically-oriented human resource cost management system**

### **4.1 Strategically-oriented human resource cost management goals**

In order to gain a competitive advantage and achieve sustainable development, an enterprise must achieve a win-win development between the enterprise and its employees. Therefore, it is the fundamental goal of enterprise strategically-oriented human resource cost management to ensure the profit of the enterprise and increase the income of employees.

In order to ensure the consistency and continuity of the whole process of the enterprise's strategically-oriented human resources cost management system, the selection of the management target subdivision indicators, the selection of process monitoring indicators and the selection of results evaluation indicators should be generally consistent. At the same time, in terms of various categories of indicators, if multiple indicators are selected for monitoring and evaluation, the comprehensiveness and accuracy of monitoring and evaluation will undoubtedly increase, but at the same time, management costs will also increase. There is a strong internal correlation, so the evaluation effect of the same category of indicators will show a larger phenomenon of diminishing marginal efficacy. Therefore, it is a better choice to select the most representative indicators for monitoring and evaluation among the indicators of the same category. In view of the above guiding ideology, companies select the labor distribution rate as the evaluation index in the evaluation indicators of employee income and distribution, select the unit human resource cost output rate as the evaluation index in the evaluation index of employee labor efficiency, and select the evaluation index in the enterprise management category. The human resource cost control rate is selected as the evaluation index.

### **4.2 The specific practice of strategically-oriented human resource cost management**

Enterprise human resource cost management is a systematic project involving all aspects of enterprise management. Therefore, in order to ensure the systematic and structural nature of the inspection of the enterprise's strategically-oriented human resources cost management practice, the company has established a relatively complete corporate strategically-oriented human resources cost management system based on modern human resources cost management, covering human assets, human resources acquisition cost, human resource development cost, human resource retention cost, human resource turnover cost, human asset expense, human asset amortization, human asset loss provision, and human asset profit and loss. By analyzing and optimizing the enterprise's strategically-oriented human resources cost management practice in each link, it can improve the effect of enterprise strategically-oriented human resources cost management. It should be pointed out that in the above-mentioned strategically-oriented human resource cost management practices, some management behaviors, no matter what kind of enterprise competition strategy and human resource cost management strategy are based on, the improvement direction of the enterprise is consistent. For some management practices, different competition strategies and strategically-oriented human resource cost management strategies show different management requirements.

## CONCLUSION

Strategically-oriented human resource cost management is a directional plan that explains the human-related business cost issues. Strategically-oriented human resource cost management is formed by the combination and mutual penetration of human resource strategic management and strategic cost management on the basis of the application of economics, organizational behavior, and corporate strategy principles, so as to improve business performance and promote development. By formulating and implementing effective strategically-oriented human resource cost management activities, managers and employees are clearly aware of the threats and opportunities they face, rely on their own advantages to eliminate their own disadvantages, and continuously improve the quality of corporate human resources.

## REFERENCES

- Apornak, A., Raissi, S., Keramati, A., & Khalili-Damghani, K. (2021). *Optimizing human resource cost of an emergency hospital using multi-objective Bat algorithm*. *International Journal of Healthcare Management*, 14(3), 873-879.
- Cao Qingrong. (2021). *Positive Significance of Human Resource Cost Control*. *Human Resources*.
- Cheng Yi. (2021). *Enterprise Human Resource Cost Management and Control Strategies*. *Human Resource Development*.
- Dissorn, A., & Suwanbamrung, P. (2019). *Designing Enterprise Architecture Principles Serve to Accomplish Human Resource Costs Management for Generation Agro-Food Entrepreneur in Tourism Business*. *PSAKU International Journal of Interdisciplinary Research*, 8(2), 88-98.
- ERDINA, A. E. (2019). *Human Resource Information System Design as Cost Control Effort For Bpjs Kesehatan* (Doctoral dissertation, Universitas Airlangga).
- Huda, R. N., Iqbal, R., & Islam, Q. T. (2019). *Spending on human resource: Cost or investment? -a developing country perspective*. *The Business & Management Review*, 10(5), 115-115.
- Ke Limin. (2019). *Research on Human Resource Cost Control* (University of International Business and Economics).
- Lv Zifa. (2019). *AB Design Company Strategic Human Resource Cost Management Research* (Master's thesis, Zhejiang University of Technology).
- Zhang Wenci. (2018). *Human resource cost management from a strategic perspective*. *Modern Economic Information*, 2.
- Liu Haien, & Zhang Min. (2018). *Discussing the problem of enterprise human resource cost control*. *Collection*, 8.
- Lv Yajing. (2018). *On the Cost Control of Human Resources in Enterprises*. *Office Business*, 10.
- Peng Qi, Liu Xi, & Wang Jingbing. (2019). *Problems and Countermeasures of Human Resource Cost Control in Enterprises*. *Collection*, 11.
- Sheikh, W. A. H. I. D. U. L., Islam, M. S., & Rahman, F. A. R. H. A. N. A. (2019). *Implementing Green Human Resource Management: Cost-Effective Strategies and Tools*. *Journal of Entrepreneurship Organization Management*, 8, 264.
- Sun Jie. (2018). *Research on Enterprise Human Resource Cost Control*. *Enterprise Reform and Management*, 4.

- Qin Lei. (2018). *How can enterprises strengthen human resource cost management?* Times Finance, 2.
- Wang Yuzheng. (2021). *Research on Strategy-Based Human Resource Management.* Modern Commerce and Industry.
- Yang Chunjuan. (2019). *Analysis of important strategies to reduce the cost of human resources in enterprises.* Collection, 26.
- Yang Xiuhua. (2019). *Research on Human Resource Cost Control and Innovation Management.* Farm Economic Management, 11.
- Zhong Shengling. (2018). *Theoretical Research on Human Resource Cost Budgeting and Control.* Times Economic and Trade, 21.

# TRANSFORMATION OF HUMAN CAPITAL MANAGEMENT FUNCTIONS IN THE INTERNET ERA

**YAPING LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 773950515@qq.com*

## ABSTRACT

The most important thing of the 21st century was talent. Human resource management is essentially the management of people. The Internet has brought changes to the human resource management functions, with both innovation and challenges. Human resource management function encounters some resistance and problems in the process of change. The generation of these problems is multifaceted. Through the literature analysis method, starting with the current situation of human resource management function, the causes of the problems are analyzed, and puts forward suggestions on the development direction of human resource management function in the background of the Internet.

**Key Words:** Human, resource, management, intelligent, change, Internet

## INTRODUCTION

### 1.1 Background

In recent years, with the rapid development of Internet technology, many aspects of social life have changed. Human resource management is a necessary condition for the existence and development of enterprises. At present, influenced by the fourth generation of scientific and technological revolution centered on the Internet, the Internet has an impact on enterprise human resource management in many fields. On the one hand, the popularity of the Internet leads to the increase of commercial platforms, the abundance of commodities, and the decline of consumer purchasing power to the market. On the other hand, the government policies supporting all kinds of enterprises have changed, and the corporate development prospects in the areas encouraged by the national policies are even more encouraging. These changes set higher requirements for the overall quality of corporate management and their employees. Therefore, the enterprises involved in human resources management can only follow the historical trend and help social development.

### 1.2 Significance

This study aims to analyze the problems in the Internet and propose corresponding solutions; confirming the analysis of several typical cases. Analyze the trend of human resource management, help enterprises to reduce the difficulties of human resources management, promote their own economic development, cultural construction, improve their own business benefits, and make contributions to the national social and economic development.

## LITERATURE REVIEW

### **2. Analysis of the problems in the transformation of human resource management function**

Since the Internet is not affected by geographical conditions, enterprises can use the Internet to expand their business, enterprise organizational forms and forms can be diversified, and it becomes easier for enterprises to go abroad to the world. Companies can use information technology to find their global managers, or to find the talent they want to find. On the one hand, it can give full play to the advantages of the cheap labor force where the enterprise is located, and on the other hand, it can reduce the liquidity cost of the enterprise employees, so as to produce corresponding changes to the human resource management function.

#### **2.1 Lack of planning**

The change in the Internet means that the Internet can help enterprises enter the market and other external environments in time, and analyze it. As said, "the only thing unchanged is change". A market economy means advantages and cruel competition, which means that if development opportunities are missed, it is likely to fall into the abyss. Information is of great significance to the development of enterprises. To rightly manage the market trend, grasp the current overall policy, and carry out business within the legal framework are the necessary conditions for their own development. HR functions must therefore also adapt to changing environments in order that the necessary decisions can be made.

In order to plan, "strategy" and "tactics" must be combined. "Strategy" refers to the long-term planning for enterprise development, remaining unchanged in terms of objectives and tasks for a period of time. "Tactical" is a flexible mode of operation that can help companies constantly adjust. However, due to some enterprises due to their own conditions, such as the slow update of enterprise personnel and the lack of qualified talents, the psychological rejection of new technologies may hinder the implementation of the policy. The defects of human resource planning are mainly manifested in the following aspects. First of all, the human resource management system within the organization is not clear enough. Unclear management systems may make the management process not procedural, lack of which leads to privileges and inefficiency and make HR management more difficult. The system would reduce unnecessary disputes in the HR management process, such as the performance appraisal system, such as the recruitment system. Second, planning does not have much scientific significance. Many schemes are accepted by managers based on their own management experience and previous data, and information technology is not or rarely used to improve the subjectivity of decision-making. The planning lacks scientific basis, and the Hui city planning reduces the buoyancy of water, which is difficult to implement as a plan conducive to the development of enterprises. Finally, the decision does not reflect the feelings of most people, which is more obvious in the joint stock companies. When major shareholders where certain businesses are entitled to make decisions, no consideration is usually given to the opinions of other shareholders, let alone the opinions of the employees. On the one hand, it is not conducive to the improvement of enterprise democratization, and on the other hand, it also makes the decision-making process more difficult.

#### **2.2 Lack of discourse power of employees**

In the Internet age, corporate employees will manage enterprises and businesses more clearly, while removing their views of the development of the company from decision-making. In some cases, the decision-making layer will merge its

legitimate corporate identity, resulting in bankruptcy or liability, not for the common interests of the business, but for the benefit of the few parties involved in the decision-making. On the other hand, this could lead to the loss of entrepreneurs. With the development of higher education in China, more and more people receive higher education. In addition, the speed of information dissemination through the Internet has been accelerated, it is easier for enterprise employees to obtain work information, have the opportunity to choose their favorite, convenient, leading to a regular "springboard", if there is no talent, how to support the survival and development of the enterprise. The personnel manager must consider how to limit the employee's right to express their opinions, which is what should be done and should be noted.

Human resource management cannot be separated from "people", in the Internet age, workers will have more and more knowledge, they will become great wealth, improve the knowledge level of workers mainly due to the availability of the Internet, increasing their opportunities for higher education and increasing their opportunities for self-study. This reduces the individual dependence of both workers and businesses. Their value. Their relationship with the enterprise is no longer interdependent, but develops into a platform that you give me. I help you make money on an interdependent basis. There was an employee who liked to work in the business, not as a position but as a professional, so the HR manager of the business adjusted the other employees in time and managed to keep them.

### **2.3 Management decisions are not scientific enough**

The scientific basis of human resource management decision-making is mainly technology. The Internet provides technical support for human resource management and reasonable and scientific support by collecting and analyzing information critical to the market for the decision-making process. This approach is more scientific than traditional human resource management methods, which consists only of manual investigation, statistical data analysis, and causal relationship analysis related to the long-term corporate interests. The ——— decision of the scientific departments lacking to participate in the traditional decision-making is mainly reflected in the mismatch between the development of the enterprise and its own business activities. There are many aspects. On the one hand, some small businesses. Exhausted, it is difficult to really solve the information problem, therefore, if enterprises do not use big data for analysis, it will bring great uncertainty to the enterprise's own development prospects.

Enterprise managers are the "leader", and if the enterprise manager cannot predict the development of the enterprise, it will lead to the "strategy" and "strategy" failure of the enterprise development. Marx Weber believes that business can be divided into three kinds: organization, traditional organization, and charm. Enterprises have little impact on the decision-making of the second enterprise. Their confidence in the development of the Internet also depends on the individual knowledge level, goal and ideal of the operators, and whether the enterprise operators can keep up with the pace of The Times. The ability to timely adapt to and gain awareness of a new environment over time. The various departments of leasing enterprises have different goals and tasks in the stage of enterprise development, but generally speaking, concentrating too much power in the hands of one or more enterprise personnel is a major obstacle to the transformation of management functions.

### **2.4 The internal mechanism is imperfect**

The so-called internal support mechanism mainly refers to a system that shows the management's attitude towards the reform of human resource management in the context of the Internet. Management's attitude towards HR management is mainly manifested in the decision-making level. The traditional enterprise model is a direct functional system,

at the top of the pyramid stands the decision makers, human resource management enterprise division. Management and HR management are responsible for reporting the acceptance of the download commands. This model is on the one hand costly in conveying the command and reflects decision makers' attitudes towards HM, rather than mechanisms providing equal connections or hierarchy. Therefore, the human resource management has received limited support from the enterprise management. The transformation of human resource management function must need the corresponding high-level funds and support. Therefore, many of the recommendations made by HR departments, because they have not completed. In short, "no right to perform the corresponding duties without the corresponding rights" is unnecessary.

The Internet has a two-phase communication mechanism that allows the two parties to communicate, reduce the time and personnel of information transmission, and provide reliable information reliability. Interoperability is conducive to the human resources management within the enterprise, so the employee feedback can be collected in time to improve the management efficiency. Rectualism is conducive to human resource management, mainly through timely feedback, enabling enterprises to operate globally and expand markets. HM can use Internet technology to recruit employees worldwide and find the people needed by the business. In addition, they can timely understand those who have accumulated experience in HR management in relevant areas of the world. Interchangeability also made it easier for companies to get timely employee information, and Suu Kyi was able to timely communicate with competent authorities about his work, helping with his stay in the city.

### **3 Countermeasures analysis of the transformation of human resource management function**

The personalization of the Internet means that under the influence of the Internet, the enterprise human resource management must be individualized. Using information technology and databases, companies can collect and process their employees' personal information to provide a more accurate assessment of their personal needs. Based on the data analysis, the same personnel management scheme can be proposed. The motivation of employees, starting from the needs, makes them become the motivation and behavior, and more widely explore the ulterior motives of employees, so as to achieve the incentive effect to achieve a win-win situation between the enterprise and employees.

#### **3.1 Adapt to the corporate culture in the Internet era**

Enterprises are organizations that pursue profits. Different types of enterprises have different development goals, but they are all profitable. For enterprises to continue to make profits, they must take the road of sustainable development. To take the road of sustainable development, enterprises must formulate their own development strategies and "strategies". The reform of [3] human resources strategic level is of great significance to the transformation of enterprise strategic structure.

Human resources management participates in the development of enterprises, namely, "selection", "training", "assessment" and "appointment" of qualified talents. The different HRM modules are not isolated, but rather an interacting whole. Therefore, functional modules must be merged with other modules and considered as a whole. HR management must be systemic and global. Second, for data analysis using information technology, the data obtained during the enterprise operation process should be recorded, plus larger data. Enterprises should generally abide by the requirements of "information", "professional" and "intelligent" human resources management, and increase the investment in human resource management technology in the process of enterprise development, so as to better adapt to and use the Internet.

Policywise, enterprises are organized for profit, but they must also act in accordance with laws and regulations. Now it is becoming more and more difficult to break through the gap of the enterprise system, so the development of enterprises must follow the policy direction of The Times, rather than breaking the law and discipline. For example, when China just implemented the market economy, many people privatized state-owned enterprises through the cracks of the system. With the improvement of the rule of law construction process in China, this phenomenon will be less and less.

In terms of culture, in the fierce market competition, enterprises must have their own entrepreneurial culture, so as not to lack of "spiritual nutrition". Economic market entrepreneurship culture is an obvious example of the enterprise, and also a key factor to improve the market status of enterprises

Human resource management is one of the most important channels for the communication and education of corporate culture. Businesses must recognize that businesses are striving to achieve value goals among their employees and other members of society. Corporate culture has a certain guiding role in the human resources management of enterprises, which can enhance the comprehensive development and cohesion of employees, ensure the reasonable organization of the development process of cultural quality, and ensure the reasonable guidance of personnel within the enterprise.

Enterprise management concept is the soul of the enterprise to guide the enterprise behavior. In the past two years, corporate culture has gradually attracted the attention of enterprises and appeared in the public eye. Corporate culture has strategic significance in the process of talent training. Enterprises should create a cultural atmosphere in enterprises and create a cultural environment for talent development. Technical-level training is relatively simple because the technical subjects are more often repeated and become more experienced. The difficulty is in helping employees realize the importance of corporate culture, but also in creating corporate culture, and more importantly, in making employees have a sense of belonging to corporate culture. Attach importance to the culture of "learning" organizations, not only because the "learning" culture can create value for enterprises, but also to help and jointly realize their own development. While the process of studying a case may not be too pleasant, the result is that if employees benefit, it can reduce psychological rejection, and other technical training, with a consistent purpose, and the training effect can be multiplied.

From a performance evaluation point of view, what kind of people top managers can appoint. Not only the technical level and business ability, but also the values of the employees must conform to the common values of the company. While the existence of "informal" organizations is inevitable, the advantages and disadvantages of informal organizations are also detrimental to the development of businesses, if they conflict with the values of the enterprise as a whole. Therefore, ideas should also be included in the evaluation section when evaluating performance. Different managers form different cultures, and the formation of subculture has a negative impact on the development prospects of enterprises. Therefore, when recruiting employees, special attention should be paid to cultivating employees with values corresponding to the values of the company, which is conducive to the formation of a unified culture within the enterprise and realizing the strategic goals of enterprise development.

Another important role of corporate culture is to " stabilize the people, create an entrepreneurial culture, help employees find some people and things, and pass on ideas to the daily boring daily work of the enterprise. Of course, enterprises should establish a "wheel" hoop " cultural tradition, so that the enterprise culture can be passed on from generation to generation. It is also the reality of many "century stores". Such as "Tongrentang", "Moutai liquor", etc.

## **3.2 Transformation of various functions of human resource management**

### **3.2.1 Talent recruitment and recruitment**

Talent is the key element of enterprise competition and the necessary element of human resource management. Adhering to the people-oriented approach is a necessary condition for the transformation of human resource management functions in the Internet era.

Recruitment is the initial stage of human resource management. In the Internet age, recruitment and recruitment must be transformed into gradual recruitment and recruitment. A step-by-step approach means that under the influence of the Internet, it may be difficult to find qualified people who are required to recruit for their own businesses due to a war with talents from other businesses. The Internet is a database that can help us learn and collect information, so that enterprises can start from the early stage, and the college joins forces together to implement the talent training plan, so that the recruitment base is directly located within the university. On the one hand, it reduces the cost of public assembly in finding employees in the area where the enterprise is located, and on the other hand, it jointly trains old students, so that they can more meet the requirements of the enterprise for employees, and can find less jobs after graduation. College graduates receive additional training within the business after employment. Companies can also put their recruitment plans in the school student QQ and WeChat group, and expand their existence in student towns, through publicity and education to students. This can attract the attention of those who are good at seizing the opportunity and retain the best cadres in the enterprise.

### **3.2.2 Performance appraisal and salary management**

Enterprise human resource management is a more comprehensive process, involving more processes and links. With the development of technology, more and more new and latest performance appraisal methods are being developed and applied.

The department uses information technology to demonstrate the work of the staff in real time, so that employees can clearly see the differences between themselves and others, and know who they can learn from, so as to improve their deficiencies in time. Staff can communicate with HR staff on performance tests to reduce disputes caused by performance assessment errors. Enterprises can provide successful cases with case analysis for employees, explore the performance appraisal results in the process of verification attention, and improve the performance certification information exchange of staff. Improve staff satisfaction with human resource management.

The performance appraisal system can help employees set their goals and complete their work, and the assessment of unqualified employees can pose a risk of unemployment. This can reduce the number of workers looking for fish in muddy waters. The social security system can motivate those employees who are highly motivated and contribute greatly to the enterprises.

In the Internet era, employees have many new characteristics, such as whether they are more concerned about whether their abilities are recognized and whether they can realize their value in the enterprise. This is because the knowledge and model of the staff have improved. Therefore, managers must provide their own technical support to create greater development space for working with Aung San Suu Kyi and encourage employees to build their own longsword project implementation team.

Must mobilize the enthusiasm and enthusiasm of the staff. Because the market environment is constantly changing, if employees can not improve their thinking in time, it is easy to lag behind the trend of The Times. Companies contribute to their work and constantly charge them. An increased sense of crisis forces employees to focus on performance appraisal. The Internet stimulates economic development, prices rise, and the wages of enterprise employees should also be raised according to their working

conditions. The HRM offered different incentives for staff of different age groups. For younger employees, they focus more on material consumption and entertainment, and they can encourage employees in some entertainment venues. As for the company's older employees, they can expand their contact with Angong, which faces "old and small difficulties". On the premise of not affecting the enterprise activities, to provide high-quality employees with paid leave, telecommuting.

### **3.2.3 Employee training and development**

After entering the company, the employees should be ready to understand the daily operation and work of the company as soon as possible, adapt to the work requirements as soon as possible, and strengthen the training. HRM.

Talent training must be scientific. The current use of Internet technology can improve the scientific level of talent training, on the one hand, due to past experience, on the other hand, the Internet provides employees with a large number of online learning resources for employees. In employee training, we can find a period of time, through centralized training, and thus shorten their working hours by training employees internally, buy external materials, distribute them to employees, and teach themselves at home.

In the Internet age, training employees must be professional and information flow faster and faster, while in a certain field, what celebrities say always has authority. On some questions. Second, businesses can invite professors and other faculty members to feature lectures at universities and colleges. Professional and efficiency is the goal pursued by enterprises. Most of them use this method of learning to improve their value.

Second, respect your employees. Foxconn is the world's largest manufacturing company and employees often kill suicide. In fact, employees work under great pressure, and companies do not give employees enough time to rest and emotional communication. According to the needs of talent training, to help them to establish a network teaching platform, to support the combination of network teaching and network teaching. Test their knowledge online, observe their learning background, and evaluate their performance. By building a chat room to train employees, employees can exchange experience and skills to help employees cooperate in a team and raise their awareness of collaboration. In addition, it can help employees learn, think, and give timely feedback. The Internet has a common feature. Through the combination of learning and development, their desire is to create a dynamic employee learning cycle that allows employees to timely share their work experience and community knowledge, while providing opportunities for other employees to learn and learn.

### **3.3 Pay great attention to the use of information technology**

With the popularity of information technology, IT can be used to manage employees easily and quickly, collect and manage personal information, employee rest and work arrangement, information collection is transition from the initial layout to 3 D. Do not need to communicate directly to collect data, such as through online files, employees can send data at the same time, which greatly improves the efficiency of the information collection, employees should not use a pencil and paper to correct, directly print fingerprints on the receipt, not only convenient and fast, but also can improve the efficiency of the signature, reduce fraud such as forgery

The purpose of the data collection is to use the data more effectively and promote the development of enterprises. With data analysis, you can create a relatively independent database for each employee that contains personal information about different employees. When HR managers need to ask for information, they can quickly do what they want by analyzing the information they provide. Improving data collection efficiency may lead to serious problems in HR management and improve its management efficiency.

Traditional methods of organizational decision-making are typically based on the

reports of department personnel, but with this the enterprise decision-making process may be more diverse, more scientific, and information technology has the function of data collection and storage. It allows businesses to use one of them to process cell phones. They solved previous major issues and built their own business databases. An important question that businesses need to address in the future is whether they are able to use big data to analyze whether they were able to find suitable solutions in previous situations and propose new solutions that combine solutions with current problems. For example, when predicting future labor demand, enterprises using information technology can collect more comprehensive HR information, analyze relevant factors, such as using data to predict future demand for the number and scope of healthcare professionals, and determine recruitment criteria.

More recent information is becoming more transparent. The Internet has leaked the company's information and weakened its image. "If you don't know, there is no reason to know what to do next." Raising awareness can help employees improve productivity and decision-making skills, and increase their engagement. Because the Internet not only improves the transparency and dissemination speed of information, but also simplifies the operation of enterprises, and transforms multi-level control models into plane control models.

### **3.4 Cultivate leaders who adapt to the Internet era**

Business managers play an important role in the shift in HR functions at the enterprise level, and only then can they continue them if they encourage and support shifts in HR functions. Understand the enterprise "strategy" and "strategy". As there are some new developments within the sector, active cooperation with different sectors is required. Through communication, to clarify the manpower needs and suggestions of each department, in the whole enterprise, we must form a spirit of innovation and innovation, and the enterprise managers should also play their role as the resources of the department and the common manpower of the department. The planning is carried out under the human resource management mode according to the needs of human resource development. It is necessary to promote comprehensive and sustainable innovation, promote healthy and sustainable enterprise development, and gradually improve the economic benefits of enterprises.

Without a harmonious and stable cadre team, it is impossible to start businesses and development. The contradiction between the work and life of enterprise employees is normal, but if the company is not handled properly, it may hurt the souls of some key cadres. The relationship between people is meant to understand where people think and argue. Conflicts can be easily resolved, or conflict resolution mechanisms can be established. In the workplace and in the environment, they are unhappy with the company's relationships. These modern Internet technologies can sustain and promote relationships between employees.

## **CONCLUSION**

Human resource management is a highly comprehensive work, involving all aspects of the survival and development of enterprises. The function of human resource management is constantly enriched and developed under the influence of the Internet, which is of great practical significance to the innovation of human resource management. The transformation of human resource management function will continue to change with the development of the society. In the new era, we should have the courage and be ready to change at any time. Functional change analysis of human resource management still has a long way to go.

## REFEREVCES

- Chen Haixia. The Exploration of the New Thinking of Human Resource Management Based on the Internet Era [J]. *Modern shopping mall*, 2017 (01): 122-123.
- Guo Shujun. The Trend of Human Resource Management in the Internet Era [J]. *Investment and Entrepreneurship*, 2016, (11): 95-97. DOI: 10.3969/j.issn.1672—3414.2016.11.040.
- Li Fen, Xu Huiqing, Qian Zhiwei. Human resource management reform of logistics companies under the Internet environment [J]. *China Markets*, 2019, (10): 80-81. DOI: 10.13939/j.cnki.zgsc.2019.10.080.
- Liu Juan. Strategic Human Resource Management from the perspective of Corporate Culture [J]. *China market*, 2020 (09): 120-121.
- Ju Meiyue, Chen Huiqin, Li Meiling, et al. Corporate Strategies for Enterprises Strengthening Human Resource Management [J]. *Goods and Quality*, 2015, (50): 66.
- Yuan Ying. Analysis of the Innovative Development strategy of Enterprise Human Resource Management [J]. *Chinese and foreign entrepreneurs*, 2020 (08): 126.
- Zhong Wenhao, Chen Shengjun. Human resource performance management innovation and development ways in the era of big data [J]. *China Business Theory*, 2020 (06): 23-24.
- Storage Sukai. New thinking on Human Resource Management Based on the Mobile Internet Era [J]. *Proceedings of Ningde Normal University (Philosophy and Social Sciences Edition)*, 2016, (2): 87-90. DOI: 10.3969/j.issn.2095-3682.2016.02.020.

# A BRIEF ANALYSIS OF CHINESE-STYLE MANAGEMENT

RUIYAN LIU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wq13263272613@163.com*

## ABSTRACT

Chinese-style management is a management model that combines China's long-standing management philosophy with Western modern management science, and fully considers the cultural traditions and psychological behavior characteristics of Chinese people to achieve better management effects. In fact, management is divided into two levels: management science and management philosophy. When management philosophy penetrates into management science, it makes management form a kind of "soft management". soft management takes "people" as the center and combines with culture to mobilize people's subjective initiative. When management is combined with Chinese culture, it becomes Chinese-style management.

**Keywords:** Chinese-style Management, enough face, people-oriented, Inaction process  
The art of consummate communication

## INTRODUCTION

**Way of thinking:** To give enough face, seek self-consciousness and reasoning; take the initiative to reason with oneself; the bottom line is to put the situation into the reason and the law as the bottom line, pay attention to softness and flexibility.

Use the concept of "integration" instead of "divide" to view and solve problems, all "comprehensive consideration", there are principles but do not need to be overly clear, specific, and superficially fair, and finally "settle people".

**Working method1:** Be humble, low-key, hide personal views, and guide others to think first and then do things; do not do what subordinates can do, and only deal with exceptions, emergencies or things that others cannot do.

Always show loyalty, selflessness, rationality and fairness; from the inside and outside, establish a differentiated soft order and soft incentives, and gradually make decisions and promote work accordingly. It is very important to the emotional management of the team and is the foundation of Anren.

**Working method2:** Give face in public, communicate in depth offline, communicate first, then decide and then implement.

It is not necessary to be overly constrained by the leadership's instructions, plans and rules, just be reasonable and fully communicated and the results meet the standards.

Moderate persistence, with a certain degree of certainty, do some persistence.

Give credit to others and admit fault actively.

**Self-cultivation:** Be tolerant, generous, and patient with others (leaders, colleagues, subordinates), and need to be calm and responsible, pay attention to work methods, have good self-control (overstepping authority, leading, revealing, expressing opinions too much), and bear pressure and misunderstandings. Stick to the above.

### (一) Basic Concepts of Management

1. Chinese-style management: in the end, it is for people, and when people are

settled, they are managed. Self-cultivation is the way, and it is easier to convince others through self-cultivation, and to make others agree with others. High pressure does not work well.

2. Self-cultivation should aim at self-consciousness. To be respected by others, one must consciously be reasonable, to respect others one should give enough face, and to improve one's own self-spontaneity, these are the three essentials of self-cultivation.

3. The process of Anren: from being happy to communicate with each other, to care for each other through communication, and then to have a concentricity. Anren is the result of "heart to heart".

4. It is important to protect yourself. From small letter to big letter to people, from sparse to close. Pushing, procrastinating, and pulling things are a means, one is to set aside time for thinking, the other is to give to the most reasonable person, and the third is to avoid misunderstandings by others and protect yourself.

5. Managers should make rational and reasonable solutions within the "permissible scope of the system". The Chinese people will also feel injustice if they just talk about the legal system, so they start with emotion, solve problems rationally, and take the law as the bottom line. Flexible and soft processing, easy to accept and support from the outside world.

#### **Notice:**

1. People say "it doesn't matter", most of them have a relationship. If others are polite and don't care, you must be alert first, and you must be concerned about yourself. You can't take the tolerance and politeness shown by others as a reason for not doing it;

2. When others make mistakes, don't accuse them directly, you must give face first, wake up with affection, and make them automatically reason;

3. Push, drag, and pull to the most reasonable person. When the boss assigns a new task, he will decline a little. One is to express that he has a lot of things to do, and the other is to not strive for credit. At the same time, think about who is the most reasonable to do? If you don't want to do it, you can accept it after a little resignation, otherwise it will become a price increase and embarrass your boss; if everyone wants to do it, you should resign several times, holding "I will never fight for someone who wants to do it, I really want to do it. The mentality of "I will inherit the next" - the core is to avoid misunderstandings and protect yourself.

#### **(二) Three main axes of Chinese-style management**

1. Three main axes of Chinese-style management: people-oriented, combined with Tao, and changed according to reason. Taking people as the center, people are the main body of management, and people are given ideas to combine, and respond according to the principles that people can accept.

2. Chinese-style management and ethics are closely related. A person's character is often the key to effective management.

3. People-oriented: It is advocated that only people can make things happen, and things are done by people. Only by people-oriented can there be a way to do things well. Chinese-style management can be said to be humanized management.

4. Combination of Taoism: It is believed that institutionalized management is not as good as combining like-minded people with ideas. Everyone has a consensus, and it is easier to work together to gather a plate of loose tea to exert great power.

5. Change according to reason: Reasonable solution is more reasonable than handling according to law.

#### **(三) Tree-like organization**

1. The boss should avoid the intrusion of the upper and lower positions, so as not to

cause waste of human resources. Employees should come to reassure their superiors, so that supervisors dare to let their subordinates do things.

2. Subordinates must have confidence in their superiors. The higher the position, the greater the flexibility of the superior. It is regarded as a privilege without checks and balances.

3. External strategic alliances should maintain the mentality of compromising and creating a relationship of sharing and cooperation.

4. View the organization as the cooperation of people and things. Since people are the main thing, things must be set for people.

#### **(四) The way of planning that can be adjusted at any time**

1. Modify while doing it, everyone decides together;

2. Acquire knowledge through ignorance, and induce ability through incompetence;

3. Self-cultivation is the starting point. With the process of "stopping, concentration, tranquility, safety, consideration, and gain", you can make decisions by adjusting yourself well;

4. Adhere to the plan moderately: fully communicate before proposing it, and insist on it appropriately when hearing objections - some degree of certainty and some persistence.

Notice:

1. When making plans: do not deviate from the organizational goals, do not deliberately cater to superiors, do not forge evidence to support (but should communicate fully and use cards to mark clearly), do not greedily accommodate all creative ideas (filter unnecessary ideas, make Simple and feasible plan), there can be no alternatives (multiple solutions are more like group decision-making, easy to accept), do drills in advance, credit others, and blame yourself.

2. When making a decision, the decision makers do not express their opinions for the time being, and convert them into questions to solicit opinions from everyone, and finally combine them together; it must be able to accommodate multiple viewpoints; extensive inquiry before making a decision, and decisive implementation after the decision.

3. The supervisor checks the opinions: put forward opposite opinions and see how the plan responds. "The director's contrary opinion does not mean that it does not support the plan."

#### **(五) Inaction process**

1. Respect the plan and the planner: Firmly implement it, but don't stick to the plan, regard difficulties as an opportunity to exert one's own strength, and avoid negative resistance; communicate closely with the planner; help to conceal the lack or weakness, solve it privately, and support the other party's opinion is more conducive to private negotiation.

2. The purpose and goal cannot be deviated from. Start from the easier part and gradually try it out. After most people accept it, it will be fully realized. Those who deviate too much from the main purpose should be strictly persuaded and punished.

3. Inaction is not not doing, but: not tossing to give full play to everyone's talents, not using cleverness to make everyone guess too much, and showing modesty to attract everyone's ideas.

4. There are different levels of induction inside and outside, and the intimacy is slightly different. First discuss privately with the most trusted tier, and then ask the second-tier opinion from the first-tier, make the main decision, and finally reach a decision based on the support of the outer-most staff - verbally, it must be treated equally!

Chinese society attaches great importance to ethics. If they are treated equally, first, others will not believe it, second, it will easily lead to the illusion of "no distinction between good and bad", and third, everyone will feel wronged, and no one will really give his life and have no expectations.

5. Chinese-style review: share the credit with everyone (especially to those who complain), and take responsibility for any shortcomings, first give credits, then find faults, and finally thank them (three procedures of the review meeting); always only admit shortcomings, not failures (Military heart).

6. Comprehensive and invisible control: through attitude, understand family situation, personal life, etc. In addition to the rules, some unwritten and unspoken rules are set, there is no law in the law, and there is no law in the impossible.

#### **(六) Effective assessment tips**

1. Distinguish right from wrong in consummation, and grasp three principles: usually build good karma, and ask for help when necessary; don't offend anyone casually; be cautious when joining a party or a circle of influence.

2. The use of assessment to save talents is positive and benign. When setting goals, we must measure the standard as clearly as possible, and then promptly remind them of their shortcomings—stand in the position of subordinates anytime, anywhere, with the goal of obtaining good results, kindly remind, and provide immediate assistance.

3. Everything should be "considered comprehensively" and cannot be limited to text entries. The person who presides over the comprehensive consideration must be truly fair, and dare to take the charge of "unfairness" and bravely say "justice is guaranteed, but it is impossible to be fair", and it is easy to generate a sense of trust. Finding more people to discuss is better than closing the door.

4. Encourage everyone to "seek themselves." When encountering something, first admit that it is your fault. Everyone is less nervous, and it is easy to admit their own mistakes. Mistakes come out of contention. Everyone competes to admit their faults. It is easy to see all kinds of faults, and it is easy to recognize the truth and avoid making mistakes next time.

5. Both light and dark. For the Chinese, it is easy to negotiate anything if he has the face first, and it is easy to cause emotional reactions if he has no face. The assessment should not be used to "settle accounts", but should be communicated at the beginning of the year, set expectations for the other party, let the subordinates achieve it well, and then reward the other party, so that the other party can rest assured that it is possible to meet the standard perfectly.

#### **(七) The art of consummate communication**

1. In terms of communication, we attach the most importance to consummation, that is, to try to make everyone have a face; we must consider its appropriateness in addition to the true nature;

2. It is an ethical factor, not a manifestation of power, to adopt different ways of appealing to people of different classes;

3. Meeting without discussion, discussion without decision, and decision without application is just right, it has a wonderful effect.

#### **(八) YTO's leadership style**

1. Chinese-style leadership is a series of heart-to-heart inductions and heart-to-heart interactions;

2. The leadership of Chinese-style management starts from equal treatment and brings out differential treatment to shape the course of the team;

3. To lead according to the framework of emotion, reason, and law is not only

reasonable, but also can promote the automatism of colleagues and achieve the highest leadership state of inaction.

#### **(九) Reasonable way to motivate**

1. Combining incentives with planning, execution, and assessment, and combining incentives, communication, and leadership at the same time, not only in line with the principle of Chinese people and greater than points, but also save time and effort, give equal attention, and more in line with management essentials.

2. Loyalty in Chinese refers to "people" rather than "things". A person's declaration of "loyalty to no one, only to work" is equivalent to publicly declaring that he can betray all people for the sake of work. Chinese-style management, with loyalty and ability as the first class, loyalty and incompetence as the second class, disloyalty as the third class, and ability and disloyalty as the fourth class.

3. For a group with an open and upright goal, its organizational goals should be regulated by great interests, positive interests, far-reaching interests and timely interests; "pleasant or not" is the second question that should be considered after determining the desired benefits; The best indicator to measure solitary happiness, few happiness and public happiness, only public happiness can achieve harmony; the fourth step is to use "safety" to evaluate. Tetra Pak and Ann represent the harmony and tranquility of the economic, social, political and cultural levels respectively.

4. "Doing good deeds" externally and "harmony is precious" internally have become the main strategy for both internal and external considerations. To secure customers, you must secure employees first.

5. The principle of promotion: There should be principles for promotion, but there should be no fixed and clear rules. It is only necessary to formulate a few principles, with the situation, overall consideration, and a 100-level mood. cannibalism). You should hold the mentality of "saying what you say, doing what you do", because any principle sounds reasonable at first, but it can't be overemphasized or insisted too much, so there is flexibility. Hold the public heart and seek to "settle", but also be able to bear pressure and responsibilities.

### **CONCLUSION**

Chinese-style management pays more attention to maintaining overall harmony and realizing long-term, spontaneous, healthy and continuous cooperation. The management process emphasizes the integration of various means, does not make clear distinctions and definitions, and emphasizes taking care of people's feelings and face in order to achieve better results. In the environment of integration>competition, it should be more beneficial to the development of human society. At the same time, you need to protect yourself and leave room for it.

### **REFERENCES**

- Chinese-style management Zeng Shiqiang 2015.8.1  
The truth of management: Zeng Shiqiang's analysis of the characteristics of Chinese-style management.  
Zeng Shiqiang.Peking University Press, 2009.  
Criticism of Chinese-style management Zhang Yi  
China Times Economic Press 2007.1.1  
72 Details of Chinese-style Management Si Ma An  
Economic science press 2005.6.1  
Review of Chinese Management Thought History Research [J]. Yu Huanxin. East China Economic Management, 2012, 04

# RESEARCH ON HUMAN RESOURCE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES BASED ON CLOUD COMPUTING

**XIAOHUI ZHAI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: gege987654321@163.com*

## ABSTRACT

As a service mode mainly based on network technology, cloud computing fully exerts and reflects the media role of the network, and provides effective technical support for human resource management problems of small and medium-sized enterprises. The specific application of cloud computing in human resource management of SMEs includes cloud computing-based SME human resource management cooperation alliance, human resource sharing service model, consulting service and human resource management system, as well as the development suggestions for SMEs using cloud computing. It is a brand-new attempt to combine cloud computing technology with human resource management, hoping to help the development of human resource management in small and medium-sized enterprises.

**Keywords:** SMEs, human resource management, computing-based SME

## INTRODUCTION

### 1. Introduction

#### 1.1. Research background

Small and medium-sized enterprises have played an important role in the development of the national economy and have also developed rapidly, but their management methods are still lagging behind compared with large enterprises. Although the scale and number of small and medium-sized enterprises continue to expand, their profits have not increased too much. Moreover, market competition has gradually intensified, management problems have gradually become prominent, and the long-term development of enterprises has been limited. Different from large enterprises, small and medium-sized enterprises do not have sufficient funds and personnel to promote the process of management informatization, and there are problems such as low management level, imperfect management system, and low degree of human resource outsourcing. Under the circumstance that the economy is not very prosperous, it has become a difficult problem for many small and medium-sized enterprises to reasonably allocate the human resources of enterprises and improve the work efficiency of enterprises. The traditional enterprise informatization construction mode mainly refers to the management software developed by specialized software providers for small and medium-sized enterprises, focusing on sales, system maintenance costs, system flexibility and adaptability and other factors. Although this common software can meet the management needs of a few enterprises to a certain extent, there are various types of small and medium-sized

enterprises and different business scales. The key is that these functions cannot continuously and dynamically meet the needs of enterprises with the growth of small and medium-sized enterprises.

For SMEs, the emergence of cloud computing technology presents both opportunities and challenges. As a new delivery mode of IT resources, cloud computing sends huge resource information to the cloud, provides unlimited storage space and supercomputing power, and leads the innovation of information technology. In today's fierce business competition, small and medium-sized enterprises need to choose cloud computing technology according to their own actual conditions to solve the dynamic needs of small and medium-sized enterprises' resources and technology update needs, improve the operation efficiency of enterprises, reduce various expenses, reasonably allocate resources and promote the development of information technology. What is more important is that human resources are rationally utilized, so as to achieve the same management level as large enterprises.

## **LITERATURE REVIEW**

### **1.2. Literature review abroad and at home**

#### **1.2.1. Literature review abroad**

Choudhary (2007) uses an economic model to calculate cloud services and finds that in terms of cloud computing technology, if a rental pricing strategy can be adopted for SaaS, cloud service providers can provide high-quality services and rent them to users to obtain corresponding remuneration. Siani (2008) Pearson believes that cloud computing technology needs to improve privacy protection, mainly focusing on two aspects: legal compliance and improving user trust. Privacy needs to be added to the design of cloud service models at all stages of cloud computing services, and it is necessary to propose corresponding influencing factors of privacy evaluation. Aleem and Spratt (2013) believe that cloud service providers should establish corresponding contracts with users to improve users' credibility of cloud services and solve the problem of information asymmetry between the two parties, so as to maximize the development and promotion of the cloud computing industry.

To sum up, foreign scholars mainly focus on the cost analysis, pricing strategy, cooperation strategy management and contract risk of cloud providers, cloud user selection, adoption management, technology absorption capacity and governance risk, standardized management, system and governance risks of cloud computing.

#### **1.2.2. Literature review at home**

Liu Peng (2012) proposed the anti-spam grid technology, which is also the first time that domestic scholars have mentioned cloud security. Under the guidance of this technical thought, many information technology companies in China have successively launched cloud security solutions, such as Kingsoft, 360 Security Guard and rising Jiangmin Technology. Yang Zhendong (2010) believes that cloud computing is an emerging computing model and service model. He made a preliminary framework system design for the application of cloud computing in the informatization construction of small and medium-sized enterprises. Combined with actual cases, he concluded that cloud computing is suitable for small and medium-sized enterprises. Cheng Xu, Sun Fuquan and others (2011) proposed a collaborative combination model based on cloud computing to create shared service interfaces through cloud technology to realize shared services in the cloud.

Domestic scholars and researchers have also carried out some research and exploration on cloud computing, mainly focusing on the construction of cloud computing

platforms, the application of cloud computing in enterprises, and cloud security issues.

## **2. Concept and theory overview**

### **2.1. Cloud computing**

#### **2.1.1. Definition and characteristics of cloud computing**

Cloud computing is the integrated development and commercial application of computer information technologies such as distributed computing, network storage and large data centers. From a service point of view, cloud computing is a combination of a series of computer information technologies, and commercializing these technologies to provide users with massive network, storage, and computing resources. Users can purchase or lease resources on demand. The characteristics of cloud computing include sharing, flexibility, pay-as-you-go, and low cost.

#### **2.1.2. System analysis of cloud computing**

Cloud computing has different objects and goals for applications, and the main service forms are: software as a service, platform as a service, and infrastructure as a service. Its deployment modes include public cloud, private cloud, community cloud, and hybrid cloud. The application structure of cloud computing includes five parts, namely application layer, platform layer, resource layer, user access layer and management layer.

### **2.2. The concept of SMEs**

Small and medium-sized enterprises refer to economic units that have a large gap compared with large enterprises in terms of personnel, assets and operating scale. Small and medium-sized enterprises are generally formed by one or more people, and most of the investors participate in the direct management of enterprise. Due to the small number of employees and the small scale of operation, SMEs are also less affected by external interference. At different stages of world economic development, each country has different standards for defining SMEs. But most countries are defined in terms of both quality and quantity. Quality refers to the form of financing, organization and industry status of the enterprise, while quantity refers to the number of employees, paid-in capital and assets of the enterprise. Since data on the number of enterprises is relatively easy to obtain, most countries use quantity as the main indicator and quality as the auxiliary indicator to comprehensively define SMEs.

### **2.3. Human resource management concept**

Human resource management usually refers to the rational allocation of human resources of the enterprise in a step-by-step and planned manner according to the requirements of the enterprise development strategy, and through a series of processes such as employee recruitment, training, performance management, etc. , to tap the potential of employees, and then create value for the enterprise and improve the efficiency of the enterprise. Human resource management system refers to the overall planning and adjustment of the recruitment, performance and other aspects of human resource management through the use of systematic theory, so as to improve the level of human resource management.

Human resource management outsourcing means that according to their own needs, enterprises entrust some of their work functions to external professional human resource service agencies through contracting, so as to obtain better and professional human resource management services. This not only reduces the management cost of the enterprise, but also improves the management efficiency of the enterprise.

## **3. Demand analysis of human resource management for small and medium-sized enterprises based on cloud computing**

China's small and medium-sized enterprises have a large number and a wide range, and are playing an increasingly important role in promoting the growth of the national

economy, alleviating employment pressure, and optimizing the country's economic structure. However, with the rapid development of China's economy and the increasing degree of market competition, small and medium-sized enterprises are exposed to problems such as insufficient product research and development capabilities, low teamwork ability and low management level. Therefore, they are eager to use new cloud computing technology to improve the human resource management level of the enterprise and the comprehensive competitiveness of the enterprise.

### **3.1. Present situation analysis**

Small and medium-sized enterprises have the characteristics of small scale, lack of talents, weak financing ability, unsound management, and weaker anti-risk ability. Its human resource management status quo is: backward concept, lack of overall planning, lack of a sound training system, unsatisfactory performance management effect, and compensation system to be improved.

### **3.2. SWOT strategy analysis**

The SWOT strategy analysis method provides objective analysis for the enterprise to formulate and implement the development strategy by evaluating the strengths, weakness, opportunities and threats of the enterprise. This paper uses SWOT strategic analysis method to find out the advantages and disadvantages and core competitiveness of human resource management development of small and medium-sized enterprises in the cloud computing environment.

**Strengths:** The introduction of cloud computing can effectively reduce the cost of enterprise informatization construction. On-demand human resource management modules enable resources to be fully utilized. Cloud computing can realize the sharing of different devices between enterprises, which is not limited by geographical and time, and greatly enriches the diversity of applications.

**Weakness:** First, it is unable to get rid of traditional concepts. Small and medium-sized enterprises are already familiar with the application of traditional information software. With the emergence of cloud computing, letting them give up the familiar information system to adapt to a new technology such as cloud computing will inevitably lead to the exclusion of enterprises. Second, it is cloud security issue. Once there is a problem with cloud computing technology, the use of cloud services will be interrupted, and small and medium-sized enterprises will not be able to perform corresponding operations, and data cannot be extracted in time, and the risks they bear will also increase. Third: it is application environment construction. One of the biggest obstacles in the development of cloud computing is the immaturity of the application environment.

**Opportunities:** First, it is policy support. The Chinese government is very supportive of the development of the cloud computing industry, and has successively issued corresponding cloud computing industry policies as well as a number of cloud computing pilot development cities to gradually promote innovative applications and business models of the cloud computing industry. Second: it is capital investment. By the end of 2016, hybrid cloud will become the most popular cloud computing application model among users. In the future, enterprises will store core business on the private cloud of the enterprise, host non-core business to specialized cloud service providers, and store data on the public cloud, so as to realize the development of various clouds. Third, it is rational view of cloud computing. In the future when small and medium-sized enterprises implement cloud computing, cloud computing will change from theory to practice, and more cloud service providers will provide more comprehensive, better and more specific cloud service solutions.

**Challenges:** First, there are challenges between technical lag and deployment implementation. Second, the tariff is slightly higher, and the service return period is

longer. Third, it is compatibility with the original information system.

#### **4. Application of cloud computing in human resource management of small and medium-sized enterprises**

With the rapid development of the national economy and the continuous innovation of science and technology, enterprises are facing the pressure of transformation in terms of production, sales, finance and management. Only continuous transformation can adapt to the development needs of today's current situation. For small and medium-sized enterprises in my country, enterprise transformation will become inevitable, and the human resources management department, as one of the important departments of the enterprise, will become the first-tier functional department facing transformation. In the past, when small and medium-sized enterprises encountered difficulties in operation and management, they usually first took measures to reduce operating costs, such as reducing recruitment and training costs, holiday benefits, or directly laying off employees. This is not conducive to the long-term stable development of the enterprise. The emergence of cloud computing technology will help to improve the unfavorable situation of small and medium-sized enterprises. Under the cloud background, the transformation and upgrading of human resource management of small and medium-sized enterprises needs to achieve three points: informationization upgrade, data processing ability upgrade, and organizational model upgrade.

There are many cloud service providers in the cloud platform that can provide professional outsourcing services and consulting services for small and medium-sized enterprises to assist enterprises in their rapid transformation. After the transformation of human resource management in small and medium-sized enterprises, the functional role will change, from the original transactional to the expert consulting type, so as to realize the deeper functional role of human resource management and make suggestions for the development of the enterprise. However, a key step for small and medium-sized enterprises to successfully apply cloud computing is whether business leaders and employees can recognize, understand and accept the new technology of cloud computing. In the context of cloud computing technology, small and medium-sized enterprises can make full use of cloud computing technology to develop human resource management, establish human resource management cooperation alliances, and realize resource sharing.

##### **4.1. Cloud computing-based human resource management cooperation alliance for small and medium-sized enterprises**

The emergence of cloud computing brings technological innovation and resource sharing to the development of small and medium-sized enterprises, and at the same time promotes the formation of cooperative alliances for human resource management of small and medium-sized enterprises. This paper establishes a collaborative platform for small and medium-sized enterprise human resources management cooperation alliance based on cloud computing. In the platform, there are three small and medium-sized enterprises A, B, and C, which are composed of individual private cloud, main public cloud, hybrid cloud and cooperative alliance platform. This platform is responsible for the unified supervision and management of individual private clouds, main public clouds and hybrid clouds to ensure the smooth progress of the cooperative alliance.

###### **1. individual private cloud**

Individual private cloud is a cloud computing network platform that is built by a single small and medium-sized enterprise using cloud computing technology and is not open to the outside world. It mainly allocates the internal resources of the enterprise reasonably, selects the cloud services required by the enterprise, improves efficiency and reduces human resources management costs.

By building their own private cloud for human resource management, such as private cloud for recruitment, private cloud for training, and private cloud for salary management, SMEs can enable employees and management to smoothly access the private cloud through mobile terminals such as personal computers, public computers and mobile phones. In the cloud platform, it is convenient for enterprises to publish recruitment information, internal training and salary data processing.

## 2. main public cloud

The main public cloud is a cloud computing network platform that small and medium-sized enterprises need to establish in the stage of rapid growth. It concentrates various types of private clouds and some human resource management information resources published by enterprises. The main public cloud is provided by a third-party cloud service provider. It provides customized services for the individual needs of small and medium-sized users. Enterprises only need to pay for the services they use, which effectively saves costs. In the cooperative alliance collaboration platform, the main public cloud can transmit the various cooperation intentions, resource sharing and other information needs of individual private clouds in small and medium-sized enterprises to the cooperative alliance collaboration platform, and can also accept the demand information of other public clouds.

## 3. Cooperative alliance collaboration platform

The SME Human Resource Management Cooperation Alliance Collaboration Platform is responsible for managing and supervising the dynamic hybrid cloud, effectively sorting out various resources, ensuring user information security and improving human resource management.

## **4.2. Cloud computing-based human resource management system for small and medium-sized enterprises**

### 4.2.1. The construction of human resource management system model for small and medium-sized enterprises based on cloud computing

The cloud computing technology mentioned in this chapter refers to the SaaS of cloud computing. On the basis of the SOA architecture, the Web Service related to human resource management is established. These basic modules are combined with the corresponding database processing, network transmission and interface platform and other factors. It constitutes the Human Resource Management Cloud. Combined with the cloud architecture of human resource management for small and medium-sized enterprises, and choosing the PaaS platform as a service, this paper builds a cloud computing-based human resource management system, including physical resource layer, virtual resource layer, presentation layer and application terminal layer.

The physical resource layer is composed of a series of infrastructures such as data storage, network transmission and website server. The virtual resource layer mainly includes database management system, data receiving and processing system, etc. The application service layer mainly includes personnel business process management, personnel information management and statistical analysis of human resource data, etc. These services can be used directly through a web browser. The application terminal layer means that users use Http to access network resources.

### 4.2.2. Talent recruitment for small and medium-sized enterprises based on cloud computing

The cloud recruitment management system can realize the real-time online collaborative work of job seekers, human resource management departments, business departments and third-party recruitment service providers, thereby improving recruitment efficiency and reducing recruitment costs. The specific practices are as follows:

1. It fully and efficiently reserves talents. The cloud recruitment system can update

various types of talent resource information at any time, which is very convenient for data search, assisting employers to search for effective resumes conveniently and quickly, and communicate with candidates in a timely and rapid manner, thereby completing the comprehensive and efficient talent reserve.

2. It uses big data to search for potential job candidates. After the emergence of cloud computing, small and medium-sized enterprises can make full use of major recruitment websites, headhunting recruitment companies and use employee relationship networks to recommend talents. Compared with traditional headhunting companies, the cloud recruitment system can screen talents more objectively and extensively by adopting the method of group wisdom, which has changed the lack of data support in traditional human resource management.
3. It provides comprehensive talent assessment. At present, most enterprises use a single expert evaluation model for talent evaluation, and IT methods also rely mainly on question bank evaluation. Cloud computing technology can improve some problems in talent assessment. Under the background of cloud, by establishing huge basic data of employees and organizations, and using modern information science and technology, we can accurately calculate the quality characteristics of outstanding employees, so that the characteristics of positions become the criteria for enterprises to select and employ people. In the future, the human resource management system will rely on cloud computing technology to continuously update the talent resource pool to find the most suitable talents for the enterprise.

#### 4.2.3 Talent training for small and medium-sized enterprises based on cloud computing

In the cloud computing environment, SME training includes internal training and outsourcing training. For internal training, you can purchase or lease related resources through the cloud platform to organize corporate personnel training, and you can also invite human resources business partners to guide the training. For outsourcing training, you can generally choose a suitable professional training institution according to your own needs.

First, it formulates plans and releases information on the basis of the training needs survey, and notifies relevant employees to participate in the training. After using the resources of the cloud platform, enterprises can purchase corresponding training software or lease related training resources, and can realize new mentoring and classroom training online. Such training not only effectively reduces the cost, but also greatly improves the utilization of resources, and meets the individualized training needs of enterprises to a certain extent.

Second, small and medium-sized enterprises can choose to outsource their training business. There are various professional training institutions on the cloud platform for enterprises to choose from. These training institutions take advantage of the cloud platform to expand the sharing scope of training resources, training methods, Skills and means are constantly enriched and updated, such as outdoor development. SMEs inform the training structure of their training needs, and institutional training provides customized services.

Third, the SME training based on cloud computing can meet the training needs of the trainees in time, so that the trainees can reflect the self-learning in time and place. Compared with the traditional training method, the cloud computing-based training method is not limited by time and place, which reduces the training cost of enterprises and reduces the burden on enterprises and employees.

## CONCLUSION

In the context of cloud computing, SMEs have increased competition and accelerated knowledge updating. SMEs should increase employee training and innovate training methods. First of all, small and medium-sized enterprises should strengthen the training of employees' knowledge. Knowledge is the most basic ability of employees. Enterprises should make employees have the latest technical knowledge required by the enterprise at any time, especially the rapid promotion of cloud computing technology. Employees carry out relevant knowledge training, with special emphasis on the cultivation of practical operation ability. Secondly, small and medium-sized enterprises should carry out skills training for their employees, so that the knowledge and practice of employees can be combined to solve practical problems in the work. In small and medium-sized enterprises, a mentoring system can be adopted. Finally, small and medium-sized enterprises should strengthen the spiritual and cultural training for their internal employees, and use the corporate culture created by the enterprise to strengthen the education of employees in the form of training, so that employees have a good working attitude, and create a place for employees to work with peace of mind.

## REFERENCES

- Aleem A and Sprott C R. (2013). Let me in the cloud: Analysis of the benefit and risk assessment of cloud platform. *Journal of Financial Crime*, 20(1):6-24.
- Arora, P. (2019). Redesigning human resource management system through cloud computing: a strategic approach. *Journal of Technology Management for Growing Economies*, 10(2), 73-79.
- Attaran, M., & Woods, J. (2018). Cloud Computing Technology: A Viable Option for Small and Medium-Sized Businesses. *Journal of Strategic Innovation & Sustainability*, 13(2).
- Boon, C., Den Hartog, D. N., & Lepak, D. P. (2019). A systematic review of human resource management systems and their measurement. *Journal of management*, 45(6), 2498-2537.
- Cheng Xu; Sun Fuquan; Liu Chao; Zhang Dawei. (2011). Design and research of school-enterprise cooperation platform based on cloud computing [C]. *Proceedings of the 2011 National Conference on Electronic Information Technology and Application*.
- Choudhary V. (2007). Comparison of software quality under perpetual licensing and software as a service[J]. *Journal of Management Information Systems*, 24(2):141-165.
- Cooke, F. L., Schuler, R., & Varma, A. (2020). Human resource management research and practice in Asia: Past, present and future. *Human Resource Management Review*, 30(4), 100778.
- Gill, S. S., Chana, I., Singh, M., & Buyya, R. (2018). an intelligent QoS-aware autonomic resource management approach for cloud computing. *Cluster Computing*, 21(2), 1203-1241.
- Han, Jiaonan. (2018). Design and Analysis of Configurable Human Resource Management System under Cloud Computing. *China Management Information*, 21(4), 48-49.
- Jiang, Yuqing, & Li, Yelong. (2020). University Human Resource Management System with Cloud Computing Technology. *Modern Electronic Technology*.

- Li, Lin. (2019). Research on the application of information management in colleges and universities based on cloud computing. *Collection*, 8.
- Li, Teng. (2018). Adaptive Change of Enterprise Human Resource Management in Cloud Computing Era. *Enterprise Reform and Management*, (17), 74-75.
- Liu Peng. (2012). *Cloud Computing (Second Edition)* [M]. Beijing: Electronic Industry Press, (1): 332-343.
- Lv, Z., Tan, Z., Wang, Q., & Yang, Y. (2018). Cloud computing management platform of human resource based on mobile communication technology. *Wireless Personal Communications*, 102(2), 1293-1306.
- Nassoura, M. B., & Hassan, S. (2021). Impact of Intention to Adopt Cloud-Based Human Resource Management On Innovation Behaviour: The Mediating Role of Leadership Support in Smes in Jordan. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(09), 1380-1395.
- Nzanywayingoma, F., & Yang, Y. (2019). Efficient resource management techniques in cloud computing environment: a review and discussion. *International Journal of Computers and Applications*, 41(3), 165-182.
- Ren, Qi. (2018). *Design and Development of Enterprise Human Resource Management System Based on Cloud Computing* (Master's thesis, Shanghai Jiaotong University).
- Siani Pearson. (2008). Taking account of privacy when designing cloud computing services[A]. *ICSE Workshop on Software Engineering Challenge*, and J. Thomas. *Enterprise 2.0. Implementation*. McGraw Hill Osborn Media.
- Xu, Xiaoqing. (2018). Thinking of Enterprise Human Resource Management in the Background of Cloud Computing. *Collection*, 8.
- Wang, Zheng, Ou, Zhanling, & Wu, You. (2018). Adaptive Transformation of Enterprise Human Resource Management in the Cloud Computing Era. *China's Collective Economy*, 27.
- Wu, Chao. (2020). *Research and Design of Human Resource Sharing Service Based on Cloud Computing Platform of R Group* (Master's thesis, South China University of Technology).
- Yang Zhendong. (2010). Research on the information construction mode of small and medium-sized enterprises based on cloud computing [D]. Master degree from Ocean University of China.
- Ye, Hongchun, & Wang Xinzhen. (2019). Application Research of Enterprise Human Resource Management in the Background of Big Data. *Human Resource Development*, 11.
- Zhang, Qin, & Yang Fan. (2020). The application of cloud computing in human resource management of small and micro technology enterprises. *Proceedings of the Labor Security Research Conference* (5).
- Zhao, Yu, & Zhan Yanqing. (2019). The Development and Reform Trend of Human Resource Management in the Era of Big Data. *Enterprise Reform and Management*, 6.
- Zhong, Ruyan. (2018). A New Model of Enterprise Configurable Human Resource Management Based on "Cloud Computing". *Human Resource Development*, 24.

# RESEARCH ON HUMAN RESOURCE COST CONTROL IN ENTERPRISES

**DEYANG LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: lidayang1983@126.com*

## ABSTRACT

With the continuous advancement of knowledge economy, the proportion of human resource cost in the total cost is increasing. The key to human resource cost control is the correct understanding of people. The essence of human resource cost control is to control people, but people are very different from the objects of cost control in the past. There is great uncertainty, and a person's value cannot be simply seen from data. It is affected by many factors, including a person's personality, ability, temperament, values, and work attitude. Therefore, these factors must be fully considered, and corresponding jobs should be arranged according to their own characteristics, so that employees can give full play to their roles in their positions, thereby effectively reducing the cost of human resources.

**Keywords:** human, resource, cost, employees

## INTRODUCTION

### 1. Introduction

Since the middle of the 20th century, global science and technology have shown leaping fast development trends. In particular, the influence of the third scientific and technological revolution has transformed the global economy into the era of information economy represented by computers. This economic transformation first affected developed countries such as the United Kingdom and the United States, and made great changes in their economic structure. By the 1990s, changes in the economic structure had brought about great changes in the labor force structure of enterprises, and higher requirements had also been placed on the quality of employees. Especially in the tertiary industry, human resources have become the most important resource that determines the development of enterprises. In view of this, it is particularly important for employees and technicians to carry out high-level education and various professional and technical skills training. In this case, in the face of fierce competition, in order to seek survival and development, we must increase investment in human resources and improve the quality of human resources. On the other hand, in the era of knowledge-based economy, human resources have become the most valuable resources for companies. The status of human resource management control in the whole enterprise management control is also increasingly prominent. The proportion of enterprises spending on human resources is also increasing. However, with the further development of society as a whole, the competition of enterprises will inevitably become more intense. In order to win the competition, enterprises must find ways to attract and retain outstanding talents. The

resulting costs for human resources are getting higher and higher. The cost of human resources has become an indispensable and important part of the total cost, which is directly related to the market competitiveness of the company's products and services, as well as the overall level of economic benefits. And it is also a direct reflection of the level of investment in employees, which directly affects the level of employees' interests and work enthusiasm. Therefore, strengthening the control of human resource costs is not only conducive to improving the economic benefits of enterprises, but also effectively enhancing the motivation of employees, which is a win-win situation. However, because China has been under the planned economic system for a long time, the concept of human resource cost has not been recognized and valued. The focus of enterprise cost control in China is still on the cost of material consumption, and the cost of human resources is not treated as a part of the total cost of the enterprise. With the continuous advancement of China's reform and opening up, the competition among enterprises has become increasingly fierce, which has penetrated into every aspect of economic life. Especially with the continuous development of the knowledge economy, human resources have become the most important resources for the future development and efficiency improvement of enterprises. Therefore, if the cost of this part of the most important resources is not effectively controlled, it will be difficult to fundamentally solve the problem of enterprises. If the overall cost is controlled, then it is impossible to truly maximize the benefits, making the enterprise at a disadvantage in the fierce competition, and even the risk of being eliminated, which cannot guarantee the long-term development of the enterprise. This paper chooses this theme to actively seek a new research perspective-organizational behavior, break the original basic framework, a better serve the society.

## **LITERATURE REVIEW**

### **2 Current situation and problems of human resource cost control in China**

With the continuous advancement of the knowledge economy, human resources have become the key factor that determines the future success or failure of enterprises. Therefore, if enterprises want to be invincible in the future competition, they must pay attention to human resources. On the premise of ensuring that human resources can give full play to their value, companies should actively look for ways to reduce the cost of human resources. To do this, they must first recognize the current situation of human resource cost control faced by enterprises in China, so as to accurately find the existing problems and analyze the reasons for these problems, so as to provide targeted control of human resource costs.

#### **2.1 Current situation of human resource cost control in China**

##### **2.2.1 The neglected human resource cost control in China**

For a long time, the focus of China's cost control has remained on physical costs such as materials. They do everything possible to find opportunities to improve resource utilization and reduce resource allocation, but blindly working hard on material consumption to control costs has many limitations. On the one hand, with the continuous improvement of resource utilization, it is difficult to find a better cost control method in terms of material consumption. A more important aspect is that this paranoid cost control method of pursuing low material consumption may lead to the emergence of illegal acts such as cutting corners. Therefore, in recent years, there has been a bottleneck in material consumption cost control, and more and more people have begun to look for new cost control points. At the same time, with the advent of the knowledge economy and the rise

of high-tech enterprises, the importance of human resources has become more and more prominent. Therefore, people began to shift the focus of cost control to human resource cost control, actively looking for ways to improve labor productivity and reduce human resource costs. Because the research on human resource cost control in our country is relatively late, it lacks experience. Therefore, no consensus has been reached on this issue. But it is undeniable that the control of human resource cost has become an important factor restricting the development of Chinese enterprises. Through research, it can be found that in foreign companies that have achieved certain results in human resource cost control, they began to classify human resource costs into capital investment projects, instead of directly amortizing it as an enterprise expense in the current period. That is, the cost of human resources is regarded as a long-term investment of the enterprise rather than a short-term expense. This approach is significantly different from that of China. When dealing with human resource cost in China, it is often amortized directly as a period expense, not as a long-term investment, nor as a separate subject for independent accounting and management.

2.1.2 The correct consciousness of China's human resource cost control has not been fully formed

In China, the control of human resource cost is lack of planning and good budget, which leads to the confusion of human resource cost control. Its prominent manifestations are the following misunderstandings: the misunderstanding of talent improvisation, that is, there are no strict requirements for a person's work results, as long as they reach the basic level, or even a little worse, as long as they can get away with it, it doesn't matter. A group of people with low efficiency but high salaries have caused a serious waste of human resource costs. In addition, there is also the misunderstanding of high consumption of talents, that is, some simple jobs can be done well by looking for some skilled workers, but in order to highlight the importance of their own enterprises to talents, they often spend huge amounts of money to hire related parties. This practice not only causes the waste of human resource costs of the enterprise itself, but also makes these senior talents have no chance to play the value they should play, resulting in a waste of talents.

2.1.3 Human resource cost control in China places too much emphasis on data performance

In the control of human resource costs, China still treats people as a thing, and still does not get rid of the original control method that focuses on material consumption, but treats people as a new material and ignores people themselves. The initiative, as well as the different influences brought by objective factors such as organizational groups and external environment, make the control of human resource costs too old-fashioned, and this is not only true in China, but also in the world. As a higher creature, it is difficult to measure the value of human beings with a single value. When external conditions change, the same person may play different values, which is difficult to accurately measure with numbers. There is no reasonable theory and method to solve this problem.

## **2.2 Problems existing in China's human resource cost control**

2.2.1 Obstacles in the implementation of human resource cost control

With the development of the economy and the increasing pressure of competition, the role of talents in the current economy is unparalleled in any previous era. Therefore, it is particularly important to effectively control the cost of human resources. Therefore, enterprises must establish a set of special human resource cost control methods. However, due to the relatively late research on human resource cost control in China, many theories are still very imperfect and have great defects, which hinder the establishment of a complete set of human resource cost control methods for enterprises.

For example, in China, human resources are often set up as a separate department, that is, the human resources department. Personnel in this department organize relevant management and control activities, and hardly allow other departments to intervene. However, the personnel in these departments are often only responsible for recruiting people. As for how to control costs in the future, it is difficult for them to come up with effective methods. As a result, this phenomenon of only recruiting and not controlling has emerged. It is difficult to carry out the work of human resource cost control in an enterprise effectively.

#### 2.2.2 Rigid human resource cost control methods

Since China has been under the development mode of planned economy for a long time after the founding of the People's Republic of China, production is carried out in a planned way. However, since the reform and opening up, with the continuous development of the market economy, the relationship between supply and demand has become the most important factor leading the market, and the commodities produced through investment are no longer without any risks. However, because people still stay at the previous level at the level of consciousness, they are often at a loss by such sudden changes, which may lead to inaccurate prediction of the future, resulting in excessive investment, wanton expansion of scale, and waste of resources. However, this is not the deadliest. The waste of resources can often be reflected in the data, but the waste of human resources is hidden and cannot be seen directly. Because people often regard the investment of human resources as a risk-free investment, or even a cost-free investment, when an enterprise loses money, it often only considers the cost of resource investment, and forgets the cost of human resources, which makes it difficult to effectively control the cost of human resources.

#### 2.2.3 Lack of experience and practice in human resource cost control

In China, due to the relatively late emergence of human resource management control and the lack of necessary effective practices, some mistakes have occurred in the actual human resource control work. In addition, the cultural tradition of China has always emphasized one aspect of personal ability, but often lacks awareness of other aspects of ability, so there is often a lack of a complete comprehensive evaluation system when recruiting talents, resulting in the waste of human resources cost. The first is that they tend to one-sidedly pursue highly educated talents when recruiting. They believe that as long as they have a high education, they can be competent for related jobs and lead the company to achieve benefits. But in fact, this kind of understanding is one-sided. Although highly educated people have a relatively high theoretical level, it is not certain whether this high level of theory can be transformed into a high level of results. They must be arranged to the most suitable level. Only in the position can it realize this transformation, so as to improve work efficiency and give full play to its due value, otherwise it will be a waste of human resource costs. The second is that when training, it often only pays attention to the form of training and ignores the content of the training. This formalistic training method not only fails to play any role, but causes serious waste of resources and increases unnecessary human resource costs. The third type does not pay enough attention to some key positions in the final determination of positions, causing confusion in management and control, while focusing on those dispensable general positions instead. The last one is that in the final performance evaluation, it is often only to evaluate the input and output of the enterprise as a whole, without subdividing the impact of each input element on the input and output, especially the input and output of human resources. As a result, it will dampen the enthusiasm of employees to a certain extent and make employees lack a sense of achievement, which will further lead to the possibility of employees leaving and increase the cost of human resources.

### **3 Countermeasures and suggestions for perfecting human resource cost control system**

In view of the severe situation of poor control of human resources cost in China, we must find a new way to solve the problems of human resources cost control in our country at this stage, and this new way is the theory of organizational behavior. The reason why this theory can be closely combined with human resource cost control is that the two have a common research object that is people. Therefore, we can integrate and complement the two theories based on this common research object, so that not only the cost of human resources can be effectively controlled, but also the two theories can be supplemented and perfected to achieve a win-win situation.

#### **3.1 Control of human resource costs from the perspective of organizational behavior**

##### **3.1.1 Control of human resource acquisition cost**

From the perspective of the entire process of human resource cost formation, acquisition cost plays a key role in the success of human resource cost control. Only by doing a good job of controlling the cost of acquiring human resources first, can we better guide the cost control of other parts to be carried out effectively. Human resource cost control is the control of people, so if you want to better control the cost of people, you must first ensure that the people you get are what you know and what you need. However, as an emotional animal, it is difficult to intuitively see the characteristics of human beings, which makes it more difficult to control the cost of acquisition. How to obtain the employees needed by the enterprise through effective capital cost is a key issue in the work of human resource cost control.

1. Companies should reasonably determine the number and positions of recruiters. As the first step to obtain cost control, companies should effectively grasp what kind of job talents the company currently lacks, and the number of shortages. The number of people more than the actual need results in a waste of human resource costs. The selection of the number of recruits is generally easier to determine. The key is that for vacant positions, it is a very difficult problem to determine who is competent. This requires recruiters to use the theory of organizational behavior to effectively review the personality, ability, temperament, values, labor attitude, etc. to see whether they are really suitable for this position. Enterprises can use some online or paper personality tests to get a preliminary understanding of the personality and temperament of each candidate. When the candidates really enter the company in the future, they can conduct detailed tests and reviews, so as to effectively avoid the waste of acquisition costs caused by improper selection of enterprises.
2. Companies should choose an effective combination of recruiting methods. The choice of recruitment method plays a very important role in the cost of human resources selection. It is necessary to make corresponding statistics on vacant positions, the number of required personnel and their abilities, and prepare a certain budget. According to the budget level, companies should select the appropriate combination of recruitment methods, so as to obtain the most suitable staffing combination with the least recruitment cost. Currently, the most commonly used recruitment methods are: online recruitment, campus recruitment, mainstream media recruitment, large-scale job fair recruitment, and headhunting recruitment.

##### **3.1.2 Control of human resource development cost**

Development cost is an indispensable part of the overall human resource cost, because talents obtained through recruitment and other methods are relatively unfamiliar

to enterprises. From a micro perspective, employees don't know much about the characteristics of the position and the skills required that they want to be engaged in. From a macro perspective, they are not familiar with the behavioral characteristics of relevant groups within the enterprise, the group norms that should be abided by, and the culture of the entire enterprise. In order to make them reach the predetermined usable state, the expenditure of development costs is inevitable.

2. Employees should conduct self-analysis. First of all, employees need to understand the position they are applying for, understand the basic requirements of this position for the individual employee, including personality, ability, temperament, values, etc., and find out which aspects of themselves are consistent with the requirements of the position, and in which aspects there are still gaps.
3. Companies should develop employees. When an employee formally takes a post in the future, he does not work alone, but must work in a certain group. Whether employees understand the group or not is very important to whether they can effectively play their due value. Therefore, according to the characteristics of the position, the employees are divided into different small groups, and relevant trainings are carried out on the group behavior characteristics that the group should have and the group norms that should be followed together, so that the entire small group can cooperate more effectively in work., reduce the occurrence of friction, thereby effectively reducing the cost of management coordination and development costs.
4. Companies should deepen employees' understanding of the company's organizational culture. As an invisible norm within an enterprise, organizational culture is a reflection of the soft power of an enterprise. It is a habit formed by members of the organization in long-term activities, and employees must integrate into this culture if they want to be recognized in the organization. To enable employees to work better in the organization in the future, it is imperative to conduct organizational culture training. Through the learning of organizational culture, employees can integrate into the corporate culture as soon as possible, which can not only effectively reduce the development cost, but also provide greater help for the reduction of management and coordination costs in the future.

### 3.1.3 Control of the cost of using human resources

As the most important part of human resource cost, using cost level can be effectively controlled has decisive significance for the whole human resource cost control work. In the cost of use, salary cost is undoubtedly the largest part, and it is also the most important part of the entire human resource cost. Therefore, it is particularly important to reduce salary costs as much as possible without reducing work efficiency.

1. Companies should build a reasonable employee career plan. The reason why employees are willing to work for a long time in an enterprise and obtain a higher salary level is undoubtedly a very important factor, but it is not the only factor. Employees want to be able to make a difference in the enterprise. In order to have a better development in the future, it is acceptable to lose a little immediate benefit. Therefore, it is necessary to do a good job in the career planning of employees after they join the company, so that employees can see the hope of future development.
2. Companies should establish an organic group performance compensation system. If an enterprise wants employees to give full play to their own value and make up for the costs they have paid as much as possible, it is difficult to

achieve it by relying on employees alone, because the individual ability of employees is limited after all, and it is difficult to fully make up for the cost of the company. Therefore, in order to better make up for this cost, companies must maximize the overall energy of the group of employees as much as possible.

### **3.2 Countermeasures for strengthening human resource cost control from the perspective of organizational behavior**

#### **3.2.1 Enterprises should strengthen their understanding of individuals and make reasonable use of employees**

Human resource cost control, is the control of human behavior, and human behavior is often determined by factors such as personality, ability, temperament, values, and labor attitude. Therefore, in order to do a good job in human resource cost control, we must pay attention to the impact of these factors on human behavior. For example, when arranging a position, it is necessary to fully understand what kind of job the employee's personality is suitable for. If the arranged job position does not match his personality, it will not only be difficult for the employee to exert his own value, but also unable to make up for the cost that the company spends on him. Another example is that when controlling the salary of employees, it is necessary to understand whether the employee's ability level and work performance are suitable for such a salary level. If the salary level is higher than their ability and performance, it will lead to the generation of other employees' sense of unfairness and affect the stability of the enterprise. It also brings the risk of employee resignation at any time. If the salary level is lower than their ability and performance, it will make employees feel that they are not valued and increase the risk of resignation. Another example is that in the process of corporate training, companies must actively guide employees to form correct values and labor attitudes, so that employees can contribute to the company in future work. If employees don't have the correct values and working attitude, they will be lazy and even hurt the interests of the whole enterprise. This will not only damage the interests of the enterprise, but also make all the costs that the enterprise spends on them. It will affect the orderly progress of the entire human resource cost control work.

#### **3.2.2 Enterprises should strengthen the transformation of groups and improve the workforce**

As a link between individuals and organizations, groups play a very important role in the entire organization. Because of their special status, cost control for groups is particularly important. Therefore, companies must seriously study the behavioral characteristics of groups to better reduce the cost level of groups, and group behaviors are often determined by elements such as group environment, group structure, group behavioral characteristics, group norms, and group tasks. Therefore, in order to effectively control the human resource cost level of the group, companies must focus on controlling these elements.

#### **3.2.3 Enterprises should strengthen organizational innovation and improve organizational efficiency**

Although the human resource cost control work should take people as the core and the group as the link, from the perspective of the entire control process, in order to better control the human resource cost, companies must stand at a higher position, from the organization's perspective. Companies should look for ways to reduce the cost of human resources throughout the enterprise. Organizations are often determined by factors such as organizational structure, organizational culture, organizational change and development, so companies must find ways to effectively reduce the overall human resource cost level of the organization from these perspectives. To strengthen the

construction of organizational culture, companies should make employees actively integrate into the organizational culture of the company form a sense of belonging and dependence, and treat the organization as their own home. It can also effectively reduce the possibility of employee turnover and effectively reduce the cost of turnover.

## CONCLUSION

With the advent of knowledge economy, the competition centering on human resources has become more and more intense. In the face of changes in core resources, people have begun to look for ways to strengthen the cost control of human resources. The key to human resource cost control is the correct understanding of people. The essence of human resource cost control is to control people, but people are very different from the objects of cost control in the past. People have great uncertainty, and a person's value cannot be simply seen from data. It is affected by many factors, including a person's personality, ability, temperament, values, and work attitude. Therefore, these factors must be fully considered, and corresponding jobs should be arranged according to their own characteristics, so that employees can give full play to their roles in their positions, thereby effectively reducing the cost of human resources. From the perspective of organizational behavior, the control of the components of human resource cost is mainly about how to apply organizational behavior to effectively control the cost of each component of human resource cost.

## REFERENCES

- AL SHAHAB, S. A. L. A. H. (2019). A Study on the Impact of Human Resource Cost Reduction Strategies on the Employee Performance in the Semi Government Organizations in Abu Dhabi, UAE (Doctoral dissertation, The British University in Dubai).
- Apornak, A., Raissi, S., Keramati, A., & Khalili-Damghani, K. (2021). Optimizing human resource cost of an emergency hospital using multi-objective Bat algorithm. *International Journal of Healthcare Management*, 14(3), 873-879.
- Chai, Rongjun, Miao, Shuiqing, & Li, Xianfeng. (2019). On Human Resources and Cost Management of Information System Projects. *Chinese and Foreign Entrepreneurs*, 28.
- Cheng, Yi. (2021). Enterprise Human Resource Cost Management and Control Strategies. *Human Resource Development*.
- ERDINA, A. E. (2019). Human Resource Information System Design as Cost Control Effort for Bpjs Kesehatan (Doctoral dissertation, Universitas Airlangga).
- Feng, Ying. (2019). Analysis of Human Resource Cost Management and Cost Control. *Collection*, 10.
- Huda, R. N., Iqbal, R., & Islam, Q. T. (2019). Spending on human resource: Cost or investment? -a developing country perspective. *The Business & Management Review*, 10(5), 115-115.
- Ke, Limin. (2019). Research on Human Resource Cost Control (University of International Business and Economics).
- Hou, Yun. (2020). Research on Human Resource Cost Management and Cost Control. *Times Finance*.
- Liu, Haien, & Zhang, Min. (2018). Discussing the problem of enterprise human resource cost control. *Collection*, 8.

- Liu, Jia, & Wang, Xinglin. (2019). Review of Hospital Human Resource Cost Research. *Modern Hospital*, 11.
- Liu, Ping. (2019). Enterprise Human Resource Cost Management and Control Strategies. *Labor Security World*, 9.
- Lv, Yajing. (2018). On the Cost Control of Human Resources in Enterprises. *Office Business*, 10.
- Sun, Jie. (2018). Research on Enterprise Human Resource Cost Control. *Enterprise Reform and Management*, 4.
- Wu, Yinan. (2018). Research on the Construction of Performance Appraisal Mechanism Based on Human Resource Cost Management. *Management Observation*, (1), 43-44.
- Yan, g Chunjuan. (2019). Analysis of important strategies to reduce the cost of human resources in enterprises. *Collection*, 26.
- Yang, Xiuhua. (2019). Research on Human Resource Cost Control and Innovation Management. *Farm Economic Management*, 11.
- Zhang, Tianhai. (2019). Research on Human Resource Management Cost Control. *Knowledge Economy*.
- Zhao, Jing. (2019). Analysis of Human Resource Management Cost Control Methods. *Finance and Economics (Academic Edition)*, 22.
- Zhong, Shengling. (2018). Theoretical Research on Human Resource Cost Budgeting and Control. *Times Economic and Trade*, 21.

# TALKING ABOUT THE IMPORTANCE OF HUMAN RESOURCE MANAGEMENT

**SIQI LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: sqlis@sina.com*

## ABSTRACT

Human resource management in modern enterprises plays an important role in the development of enterprises and the enhancement of enterprise competitiveness. Taking Haier Company as an example, combined with the problems existing in the current enterprise human resource management, this paper makes a specific and in-depth analysis of the importance of human resource management, and proposes countermeasures to improve human resource management and improve human resource management.

If modern enterprises need to survive and develop in the fierce market competition, the ultimate goal is to develop and manage the value of talents. The competition between enterprises ultimately depends on the competition of talents. [Wang Quanzai, 2015] The more companies see the human resources The development potential of resources, recognize that the company's employees are a powerful factor in the development and progress of the company and enhance its competitiveness. Reasonable and effective management of human resources can give full play to the huge potential of human resources and create greater value for the company. [Xu Feng, 2016] [Yan Xiaoping, 2016] Therefore, enterprise human resource management plays a very important role in the production, operation and development of enterprises.

**Keywords:** enterprise, human, resource, management, importance

## INTRODUCTION

From the perspective of the digital age, the survival and development of enterprises are faced with greater challenges, the traditional core competitiveness is weakened, enterprises need to constantly iterate, create new products and new technologies, and enterprises have more urgent needs for "talents"; from the new generation of candidates from an angle, they have higher requirements for their own growth and are eager to grow in their daily work. Combined with the characteristics of this generation of candidates, it is necessary for enterprises to build a free organizational structure. Building this structure requires the power of human resource management to unleash the potential of candidates in this free organizational structure. How to do it?

Human resource management is to meet the needs of organizational human resources to the greatest extent; develop and manage human resources inside and outside the organization to the greatest extent; maintain and motivate human resources within the organization. In short, the optimal human resources can use the least people to do the greatest things, in which everyone can play their own potential and strengths, and the process of continuous appreciation of human capital.

From the definition, content and case combination of human resource management, this paper expounds that human resource management plays a role that cannot be underestimated in the current enterprise and reform and development. The importance of management to Chinese enterprises.

## **LITERATURE REVIEW**

### **2 Related Concepts of Human Resource Management**

#### **2.1 The concept and characteristics of human resources**

Human resources, also known as labor resources or labor force, refer to the total population with labor ability that can promote the development of the entire economy and society. Human resource is the most precious resource among all resources and the first resource. [Wang Chengxian, 2001] Human resources include quantity and quality. The most basic aspects of human resources, including physical strength and intelligence, from the actual application state, including four aspects of physique, intelligence, knowledge, and skills.

Human resources are a special and important resource, which is the most dynamic and flexible part of various productivity factors [Han Deyuan, 2013]. It has the following basic characteristics:

1. Active, always use one's labor ability with purpose and plan. Purposeful activity is the fundamental difference between human labor and other animal instinctive activities. Workers actively, proactively and creatively carry out activities in accordance with the purpose determined before the labor process begins.

2. Regeneration, from the perspective of the individual worker, after his labor capacity is consumed in the labor process, the labor capacity will be reproduced again through proper rest and supplementation of required nutrients; from the overall point of view of the laborer, with the It can be reproduced continuously with human reproduction.

3. Value-added, the reproduction process of human resources is a value-added process. From the perspective of the number of workers, with the continuous increase of the population, the number of workers will continue to increase, thereby increasing the total amount of human resources; from the perspective of individual workers, with the popularization and improvement of education, the progress of science and technology and labor With the accumulation of practical experience, his labor capacity will continue to improve, thereby increasing the stock of human resources.

4. Timeliness, the labor capacity as human resources only exists in the life cycle of individual workers. The development and utilization of human resources should pay attention to timeliness to avoid waste.

5. Duality, human resources are not only the result of investment, but also create wealth. It can also be said that human resources are both productive and consuming.

6. Sociality, since each nation (group) has its own cultural characteristics, each culture is a common value orientation of a nation (group). But this cultural characteristic is manifested through the carrier of human beings. Since each person is influenced by his own national culture and social environment, his personal values are also different. In social activities such as production and business activities and interpersonal communication, their behavior may be different from the behavior advocated by the national (group) culture. Prepare for conflict, which may conflict with other people's code of conduct, which requires human resource management to actively build a team, pay attention to the relationship between people, people and groups, people and society and the coordination and integration of interests, advocate team spirit and National Spirit. [Wu Shumei, 2020]

## **2.2 Definition and content of human resource management**

Human resource management refers to the rational allocation of human resources in a planned way according to the requirements of the enterprise development strategy, and through a series of processes such as recruitment, training, use, assessment, motivation and adjustment of employees in the enterprise, to mobilize the enthusiasm of employees and give full play to the The potential of employees creates value for the enterprise and brings benefits to the enterprise. [Fu Jun, 2011] Ensuring the realization of enterprise strategic goals is a series of human resource policies and corresponding management activities of an enterprise. These activities mainly include the formulation of corporate human resources strategy, employee recruitment and selection, training and development, performance management, compensation management, employee mobility management, employee relationship management, employee safety and health management, etc. Namely: enterprises use modern management methods to plan, organize, command, control and coordinate the acquisition (selection), development (education), retention (retention) and utilization (employment) of human resources. A series of activities, and finally achieve a management behavior to achieve enterprise development goals.

The 21st century is a century of globalization, marketization, and informatization, and a century dominated by knowledge. [Wang Shihan, 2018] Under the new economic conditions, the human resources management of enterprises must undergo corresponding changes, forming a new model of human resources management, using modern scientific methods to reasonably train and organize human resources combined with certain material resources. and deployment, so that manpower and material resources are always kept in the best ratio, and at the same time, people's thoughts, psychology and behavior are properly induced, controlled and coordinated, and people's subjective initiative can be brought into full play, so that people can exert their maximum ability and can work Matching the best people, people and work content interacts to reap the best results to achieve organizational goals.

## **3. The Necessity of Enterprise Human Resource Management**

### **3.1 Adapt to the growing needs of enterprises**

The market competition is becoming more and more fierce, and the scale and strength of enterprises also need to be continuously expanded and improved in the market, which means that human resource management in the 21st century will be a new challenge for us. [Wang Shihan, 2018] How to strengthen human resource management, control the total amount of human resources, and effectively control labor costs is not only a goal to improve economic efficiency and effectively reduce enterprise costs, but also a guarantee to improve and maintain the comprehensive competitiveness of enterprises. At the same time of development, we must not only ensure a certain amount of human resources, but also ensure the improvement of labor productivity. The most important thing is how to improve the quality of employees and mobilize their enthusiasm, so as to make the enterprise continue to grow and develop. Therefore, strengthening human resource management is not only a challenge in the process of enterprise development, but also a problem that must be properly solved.

### **3.2 Help to improve the economic efficiency and competitiveness of enterprises**

The competition between enterprises is the competition of comprehensive strength, and the competition of comprehensive strength is the competition of talents in the final analysis, which shows that talents are the most important factor in mutual competition, and human resources are the basis for forming the core competence of enterprises. [Zhang Yue, 2019] The development of new core capabilities of an enterprise must be constantly

based on exploring its own human resource advantages, so human resource competitiveness has become a decisive factor for the sustainable growth and development of an enterprise.

For an enterprise, qualified operators and decision-making team are the key to its success or failure. [Peter Drucker, 2006] A high-quality management team has become the basis for an enterprise's high-efficiency input and output. The operation team determines the quality of the products and services it provides. It can be said that talent is the most important resource of an enterprise. If the company's own conditions and the environment in which it is located determine that the company is at a disadvantage, then the company should quickly formulate a talent strategy as a fundamental plan, increase investment, cultivate all kinds of required talents, and create various conditions to introduce and retain talents. , give full play to the potential of human resources, maximize the competitiveness of enterprises in the fierce and cruel market and improve the economic benefits of enterprises.

### **3.3 Human resource management can improve the job performance of employees**

The company's own characteristics determine the goals of the company. According to the personal conditions of the employees, the company uses human resource management to create an organizational atmosphere that is in line with the public, make a comprehensive plan for the employees, and carry out various positions and positions through continuous knowledge and skill training. Adjust, give full play to the personal advantages of employees according to their personal characteristics and specialties, make them fully reflect the personal value of employees, urge employees to closely link the future of the company with their own development, reflect a people-oriented working atmosphere, cultivate employees' positive style, improve The physical and psychological quality of the workforce, in line with the overall interests of the enterprise, give full play to the subjective initiative of the employees, thereby comprehensively improving the work performance of the employees and the economic benefits of the enterprise.

At the same time, human resource management is an important means to stimulate the initiative and creativity of talents to serve the development of enterprises: talents as a resource need to be developed and applied in scientific management means. In today's world, the trend of economic globalization is becoming more and more obvious, and the opportunities for enterprises to participate in world competition are also greatly increased. At the same time, the domestic and foreign competitive environment faced by enterprises is becoming more and more fierce. Under the influence of various unstable factors and unknown risks, enterprises can only gain advantages in the fierce competition by firmly grasping the people-oriented development concept and fully mobilizing the enthusiasm of people. Throughout the development history of large enterprises at home and abroad, whether it is technological innovation or marketing concepts and strategies, they all focus on the wisdom of various talents. The innovative spirit of talents is the fundamental driving force for the continuous development of the enterprise; the professional quality of talents is the fundamental guarantee to ensure the continuous improvement of the strength of the enterprise. [Xia Qinghua & Lou Huiyang. (2018) ] The role of people is the resources and wealth of an enterprise, and human resource management is an important task in the management and development of modern enterprises.

Enterprise human resource management is a necessary means of enterprise strategic development. Talents promote the development of enterprises. Enterprises need to manage existing talents reasonably, so that their abilities can be brought into play. At the same time, they need to focus on discovering talents, so that everyone can play a role in the enterprise. to their due role, reflecting their value. Do a good job in the development and optimization

of enterprise human resource management.

### **3.4 Allow employees to plan their careers and make employees have a sense of belonging**

Human resource management in an enterprise can improve the cohesion and enthusiasm of employees, and improve the overall operating efficiency of the enterprise. [Neubert, MJ2008] Human resource management can also reduce the extra expenditure of the enterprise, help to reduce the abuse rate of various expenditures of the enterprise, implement more practical work with the least investment, and reduce the additional expenditure and consumption to varying degrees. Manpower consumption saves a lot of operating costs. Human resource management is the key to the self-development and improvement of enterprise employees. Human resource management can improve the ability of employees. Every employee in the enterprise needs to complete the tasks assigned to him by the enterprise. In the process, he needs to exert his ability, exercise his ability, and let himself grow through the tempering of tasks. Through the development of enterprise human resources management, improve the planning and analysis of enterprise human resources career, understand the needs of enterprise talents at this stage, create and establish a good working and research environment for them, promote the construction and development of enterprise talents, and better for enterprises to lay the foundation for the realization of its strategic development goals.

## **CASE ANALYSIS**

### **4.1 Introduction of enterprise background**

Haier Group is the world's fourth largest manufacturer of white goods and the first of China's top 100 electronic information companies. It has more than 240 legal entities, and has established localized design centers, manufacturing bases and trading companies in more than 30 countries around the world. The total number of employees in the world exceeds 50,000. It focuses on the development of four pillar industries of science and technology, industry, trade and finance. In 2005 In 2018, Haier's global turnover reached 103.9 billion yuan (12.8 billion U.S. dollars) [Wei Xiaoying. (2019)].

In September 2021, it was selected as the 2nd among the top ten companies in the 2021 China Top 500 Invention Patents.

### **4.2 Four stages of Haier's strategic development and human resource development**

The first stage, total quality management (1984-1991)

At the beginning of the establishment of the enterprise, Haier Group managed the enterprise by means of management and control, and put forward the concept of "selfless dedication, pursuit of excellence". [Feng Renmin, Zhu Jiangyan, & Feng Yuting. (2020)] At this time, under the reform and opening up policy, the quality of home appliances is not high and the supply is in short supply. The enterprise is in the stage of famous brand strategy. Haier put forward the principle of "starting late and starting high", and began to focus on the market, the brand and quality of products, and formulated the "famous brand strategy" for Haier's development. [Jing Jianbing. (2017)] Its core purpose is to clarify customer needs and produce high-quality products. In 1985, Zhang Ruimin smashed the refrigerator when he knew that the product had hidden quality problems, in order to awaken the quality awareness of employees and the market. At the same time, the concept of "total quality management" is put forward to stabilize its own sales market. Product quality and production scale are the top priorities of the work. In order to control product quality, the management method at this time mainly focuses on the management and control of the working process and methods of personnel, and sets up a team mechanism,

which is managed vertically by the management, that is, the traditional management method of controlling employees. This management method ensures sales. Effective expansion of the market.

In the second stage, adhere to the development concept with people as the core (1991-2005)

With the diversification of society and the deepening of economic globalization, Haier Group has entered a stage of diversification and internationalization strategy, and gradually tends to be people-oriented. Haier emphasizes that "high-quality products are created by high-quality people" and everyone is a talent, and proposes the "Everyone SBU" management system to maximize the creativity and potential of employees. [Ren Benyan. (2020)] This concept has been recognized internationally. Even at the "2003 Comprehensive Conference on Production Innovation" held in Japan in 2003, Gao Di, director of the Institute of Comprehensive Research of the Japan Energy Association, praised: "Haier and Japanese Companies The biggest difference is that the operator is the core." With this concept, Haier also gave more power to employees, and won the title of the first "Enterprise with the Most Employee Growth Value", gradually stepping out of its own unique management method.

In the third stage, the "Rendanheyi" model was launched (2005-2012)

China's entry into the WTO and the profound changes in Internet technology are undoubtedly the best time for enterprises to develop globally. Haier's corporate culture is "create resources and gain global reputation". Zhang Ruimin, CEO of Haier Group, believes that in the face of the challenges of globalization, "survival of the fittest" is not as good as "survival of the fittest". It is necessary to make employees bigger and leaders smaller. [Neubert, MJ2008] Leaders should be for employees A platform for providing resources. Haier Group has put a lot of effort into "process reengineering". It is no longer an inverted triangle structure with an independent business entity as the basic unit, but has developed into a flat organizational structure, building its employees into an "elite fleet", that is, autonomous driving, A self-financing business group establishes a win-win culture of "Rendanheyi". To this end, on the premise of retaining the fast and agile style, Haier's "Rendanheyi" has opened a new era of management. In the process of talent-driven, Haier has not made sufficient incentives and fair policies in terms of salary incentives. In the era of knowledge Internet, the flow of talents is transparent, and the backbone team and elites have also been lost in the process of Rendanheyi.

In the fourth stage, enterprises change platforms to empower employees (2013 to present)

In 2013, Haier advocated the "three modernizations" reform, proposing enterprise platformization, user personalization, and employee creation. At this time, the headquarters is no longer a management and control organization, but a platform provided by the enterprise, and platform-based resources are allocated to professional service organizations. , that is, the company provides services and support for employees, builds an internal entrepreneurial coordination mechanism, builds an internal business partner system, and empowers employees, [Larry Bossidy, Ram Charan, & Cao Jianhai. (2005)] Released Greater employee vitality. After that, Haier advocated "integrity ecology, win-win evolution" to push the cooperation platform to a high point, and proposed the concept of management without leadership, everyone creates customization, and employees create customization. Its own value, [Feng Renmin, Zhu Jiangyan, & Feng Yuting. (2020)] built many platforms in practice, such as Zhongchuanghui, Haichuanghui, Hope platform, etc., and strived to build the Haier ecosystem.

## **5. Human resource management problems and their solutions**

### **5.1 Issues in Human Resource Management**

In the first stage, Haier had a big problem, which caused it to face the bankruptcy of the enterprise. At the beginning of 1985, Haier products had serious quality problems in China. And after-sales questions, the market has a great response. From the perspective of human resources, the quality of Haier Group's employees is obviously unable to meet the needs of corporate strategies, and there is a large gap in high-quality management talents and high-level technical talents, which shows that Haier Group's human resources The unreasonable resource planning has seriously restricted Haier's healthy development, and the skills and abilities of its employees are low.

In the second stage, everyone is a talent. Haier still does not absorb enough knowledge and skilled talents in the recruitment work. It relies on its own training and training to build a talent echelon plan, and does not realize the external absorption of talents and recruiting talents. How important it is, the addition of new personnel and blood can inject a lot of fresh innovative elements into the enterprise, enabling better diversified development. Although the quantity and quality of the products have been improved to a certain extent and the market share has been expanded, there is still a long way to go from the strategy of high-quality and high-performance brand name products.

The third stage of the globalization strategy has made Haier truly aware of the importance of globalization and elite teams, not only based on human texts, but also the quality of human resources has a vital role in R&D and corporate development. Haier's efforts to enhance employees' innovation ability

There is still a big gap compared with foreign counterparts. The competition of home appliance products at home and abroad is shifting to high-end products. Haier researchers must continuously improve their technological innovation capabilities, core technologies, and cutting-edge technologies, so as to adapt to the competition in the international market.

In the fourth stage, with the strong and prosperous Internet market and the accelerated flow of human resources, Haier also lags behind in innovation and transformation in the market changes, resulting in the loss of human capital. The salary is unreasonable, the talent retention mechanism is unreasonable, and it cannot keep up with the development of the times. The model under the Internet needs to be changed and adapted to the needs of the times.

Haier's platformization, win-win cooperation, reduction of regular employees, and comprehensive flexibility in management. Haier's human resource management continues the horizontal matching relationship, emphasizing the human resource management strategy focusing on entrepreneurship. This strategy has turned more business divisions into small and micro enterprises, and turned employees into CEOs. Behind the reduction of costs and expansion of benefits for enterprise development, it also shows that the difficulty of management is inconsistent with the development thinking.

### **5.2 Solutions to Problems in Human Resource Management**

At this time, the countermeasures made by human resources should be to adjust the management of employees, improve and expand the appointment and training of high-quality personnel, internal training and external recruitment to solve the problem of the gap between technical personnel and management personnel, and ensure that the strategic goals of the enterprise match the use of personnel. Pay attention to the management of employees' work process and production process methods, and be responsible for line management to improve product quality.

If enterprises want to retain talents, cherish talents, and use talents rationally, they must create flexible employment mechanism and reform imperfect employment

mechanism.

Both development and retention require a fair and equitable performance-based compensation system as the material basis for motivation and development, as well as a high-performance work system and dynamic human resource adjustment and performance assistance. [ERICKSEN. (2007)] Cultural construction makes employees more willing to have self-drive and centripetal force.

Following the rapid development of the global economy and the stage of international competition incentives, Haier announced a large-scale layoff at the end of 2013 [Wei Xiaoying. (2019)]. The number of registered employees was gradually reduced from a peak of 110,000 to 60,000, and most of the laid-offs were Middle-level managers of enterprises to open up the "insulation layer" between institutions and promote the leanness of the management team; gradually introduce intelligent manufacturing systems, from large-scale manufacturing to large-scale customized production, and promote the return of employment flexibility to skill flexibility; Promote the organization from a positive triangular structure to a flat structure, try to build a co-creation and win-win platform for intra-enterprise entrepreneurship, and create a platform-based organization ecosystem in the Internet era through small and micro companies and maker practices.

①In terms of personnel recruitment, Haier only retains core human resources (including core management, R&D personnel of the Central Research Institute, intelligent manufacturing department, etc.) as registered or regular employees, and other personnel gradually become small and micro or online employees, or only exist with Haier. Partner personnel for business contract. This change heralds the subversion of affiliation-based employment methods or employee-organization relationships, replaced by quasi-cooperative alliances based on mutual benefit and win-win for small and micro companies.

②In terms of personnel allocation, human resource management has shifted to focus on entrepreneurship, take small and micro enterprises as the carrier, and focus on matching with personal development. Everyone is a CEO, and everyone is a maker, guiding employees from executors to managers, from executors to managers. Worker-to-CEO transition and career growth. ③In terms of ability development, through entrusting important tasks, learning by doing, trial and error, and reflection, etc., cultivate employees' entrepreneurial ability and generalist ability, including forward-looking, high-level vision, and external resource stickiness and integration ability, enabling small and micro companies to rely on a small number of personnel. can run smoothly. ④ In terms of compensation management, on the basis of improving people, orders and compensation, promote the compensation of makers, establish a small and micro distribution mechanism that is self-financing and benefit-sharing, and inject overall compensation and non-material incentives, such as boss experience, sense of accomplishment, etc. Let employees get a full range of incentives to drive. Taking the market performance and user development of self-operated entities as the main basis for payment, emphasizing the benefit-sharing mechanism that I create my users and share my value-added, specifically for self-operated entities to make enough profits, earn enough expenses, and exceed profits

Divided into, self-financing, pay for ability, fair and just incentive mechanism.

⑤Corporate culture is essential. Haier's corporate culture has been interspersed with the charm of Haier's transformation from the management model of management and control to the business philosophy of "people-oriented", and then to "rendanheyi", "creatorization" and "platformization". Among them: From "selfless dedication and pursuit of excellence" in quality control, to "creating resources and gaining a global reputation" in global brand strategy, to "integrity ecology, win-win evolution" in providing broad space for future enterprise development, [Tan Xiaofang, & Zhang Lingli. (2020)] Haier's corporate culture

has always served the transformation of its management methods and the direction of corporate development. Moreover, Haier's strong corporate culture is not only a slogan, but also a constant practice. At the beginning of its establishment, Haier saw the importance of market demand and product quality, and strictly controlled the quality control, and even did not hesitate to "smash the refrigerator" to awaken the quality awareness of employees, and created Haier's concept of "quality first", driving the development of Haier's corporate culture of "selfless dedication, pursuit of excellence"; Haier has built many platforms in practice, such as Zhongchuanghui, Haichuanghui, Hope platform, U+ smart home platform, logistics experience platform, etc., and strive to create "integrity ecology, sharing Platform" [Jing Jianbing. (2017)].

Accumulate good spiritual strength for innovation spirit and reform mission, and do a good job in corporate inheritance in culture. [Zhang Zibo. (2019)]

## CONCLUSION

Through the case study of Haier, it is not difficult to find that human resource management has its own importance in the development of enterprises. In the process of economic development, the participation of talents is required. As the so-called, "economic development, talent first" dismantles the enterprise, which is an organic combination composed of individuals. Therefore, in the process of enterprise survival and development, talents are an inseparable part. The development of an enterprise, the formulation of business strategies, and the implementation of business activities are all performed by individuals. In other words, they all require the intervention of talents. The key factor in the development of an enterprise is talents. Therefore, only by scientifically and effectively managing human resources and coordinating the relationship between employees, departments and departments, and employees and departments can modern enterprises develop vigorously.

I think that Haier's human resource management is the establishment of business alliances and partnerships, and the trend of the times in human resource management. It gives employees higher goals and responsibilities, gives them a bigger stage, and allows employees to make decisions for themselves. Taking responsibility for oneself is a way to maintain the quality of human resources in the enterprise. Employees will also take the initiative to improve their business capabilities and their own quality to match Haier's strategy. To enable Haier to better select, educate, develop together, and share benefits, so that the company has a stronger talent competitiveness in the market.

## CONCLUDING REMARKS

In modern enterprise management, traditional thinking should be abandoned. A new model of human resource management should be innovated. Human resource management should conform to the characteristics of the enterprise and adapt to the changes of the times. In line with the development trend of the times, can the company stand in the competition trend and achieve final success.

## REFERENCES

Xu Feng. (2016). Discussion on the construction of modern enterprise human resource management informatization. *Modern Business* (11), 2.

- Wang Quanzai. (2015). Discussion on the Importance of Human Resource Management in Modern Enterprises. *Electronic Production* (6Z), 1.
- Wang Chengxian. (2001). Human Resource Management Key Mentoring 1. *Contemporary TV University*, 000(006), 64-68.
- Han Deyuan. (2013). A brief discussion on the characteristics of human resources. *China Business Review* (22), 110-111.
- Wu Shumei. (2020). Research on the Importance of Human Resource Management in Enterprises. *Economics*, 3(4), 55-56.
- Fu Jun. (2011). On the Integration of Enterprise Human Resource Management and Ideological and Political Work. *Shopping Mall Modernization* (6), 1.
- Wang Shihan. (2018). Research on the importance of human resource management in the context of the new economy. *Dossier*, 000(022), 112.
- Zhang Yue. (2019). On the role of human resources in corporate competitiveness. *Modern corporate culture* (24), 3.
- Wei Xiaoying. (2019). Research on Enterprise Human Resource Management Reform Strategies under Open Innovation—A Case Study Based on Haier's Practice. *Management Modernization*, 39(6), 6.
- Feng Renmin, Zhu Jiangyan, & Feng Yuting. (2020). Evolution of Human Resource Management from "Control" to "Empowerment": Taking Haier Group Employee Empowerment as an Example. *Market Weekly*, 33(10), 4.
- Neubert, MJ, Kacmar, KM, Carlson, DS, Chonko, LB, & Roberts, JA. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, 93(6), 1220.
- Xia Qinghua, & Lou Huiyang. (2018). Simulation of business model innovation based on business model rigidity: a comparison between traditional enterprises and Internet enterprises. *Systems Engineering Theory and Practice*, 38(11), 17.
- ERICKSEN. (2007). High-performance work systems, dynamic workforce alignment, and firm performance. *Academy of Management Proceedings*.
- Tan Xiaofang, & Zhang Lingli. (2020). Research on Haier Group's Strategic Evolution and Value Chain Management. *Accounting Communications* (8), 6.
- Ren Benyan. (2020). Research on the path of enterprises becoming bigger and stronger under the background of innovation-driven—Based on a single case analysis of Haier Group. *Productivity Research* (4), 4.
- Yan Xiaoping. (2016). Research on Human Resource Management and the Improvement of Enterprise Core Competitiveness. *Technology and Enterprise* (4), 1.
- Jing Jianbing. (2017). Improvement of the core competitiveness of enterprises based on brand management. *Managers* (02), 267.
- Peter Drucker. (2006). Why managers are needed. *Financial Digest* (8), 1.
- David Ulrich, Ulrich, Li Zubin, & Sun Xiaoping. (2015). *Human Resource Transformation: Creating Value and Achieving Results for the Organization*. Electronic Industry Press.
- Larry Bossidy, Ram Charan, & Cao Jianhai. (2005). *Transformation: Using the Right Strategy, Doing the Right Thing*. CITIC Press.
- Zhang Zibo. (2019). When the enterprise life cycle encounters the "inheritance cycle" Ichak Edis: Good management is a relay race - an exclusive interview with Ichak Eddy, a tenured professor at the University of California, Los Angeles Dr. Si. *Family Business* (7), 2.
- Ichak Edith, & Zhao Rui. (2004). *Enterprise Life Cycle*. *New Wave* (8), 121-121.

# **ANALYZE THE ROLE AND APPLICATION STRATEGY OF EMOTION MANAGEMENT IN ENTERPRISE HUMAN RESOURCE MANAGEMENT**

**MAN LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: lmtgzy@163.com*

## **ABSTRACT**

With the rapid expansion of national economies, all types of businesses are placing an increasing emphasis on management quality and efficiency, as well as the relevant content of human resource management. The appropriate content of emotional management is further further incorporated in the specific development process for the human resource management activity, in order to give the necessary guarantee for the effective improvement of human resource management quality and management efficiency. Simultaneously, by properly enhancing emotional management, we may pay more attention to employees' emotional shifts and psychological dynamics, allowing us to manage human resources more efficiently and precisely, allowing them to show a greater value and role. so that human resource potential can be properly stimulated and deployed as a result, the focus of this article is on examining the critical role of emotional management in enterprise human resource management and application techniques, as well as other relevant topics.

**Keywords:** emotional management, Human resource management Function, application

## **INTRODUCTION**

Under the background of deepening reform of market economy system, for enterprise human resource management, more and more attention in human resource management link further innovation management mode, which can more fully into the relevant content of emotional management, make employees emotions get comprehensive analysis and effective grasp, pay more attention to the important role of emotional management, effectively avoid the influence of negative emotions, avoid negative emotions to work cause a series of related problems, and lead to the value and role of human resources cannot be fully reflected. Therefore, in view of such situations, it is necessary to focus on the main connotation of emotional management, as well as the important role of emotional management in human resource management and application strategies and other related content, so that the value of human resources is more fully reflected.

## LITERATURE REVIEW

### 1.Theory and literature review of emotion management

From the point of concept, emotional management mainly refers to effective through individuals and groups of self and others emotions, guide and coordination, and fully tap individual or group emotions, intelligence develop emotional control ability, and ensure that individuals and groups can keep in the ideal emotional state, and reflect a more significant management effect. The concept was first started in the field of psychology, and was first studied in the field of organizational behavior, dating back to the early 1980s. American sociologist Allie R Hoheild in the sociology of feeling and emotion: the possibility of choice work mentioned that in the process of explaining people's thinking behavior, sociologists pay more and more attention to "emotional" and "emotional" and other related aspects, and in related works further put forward the concept of "emotional rules" and "emotional work". In emotional work, emotional rules, and social structure, Hochschild noted the relevant concepts and important connotations of "emotional management". After research and analysis, she believes that emotion management mainly refers to the degree and quality of changing the internal experience and external performance through personal efforts in the background of fully combining the corresponding emotional rules and the environment. In the book of Emotional Management Exploration, we conduct in-depth research and analysis of the relevant concepts of "emotional labor", and regard it as an important embodiment of personal emotional management, so that they can create physical movements or facial expressions in front of the public that meet the needs of the public and the society. However, the above content of "emotional management" did not fully explain and distinguish, because in the enterprise human resource management and workplace, emotional management is particularly complex phenomenon and organization form, so need in the subsequent development process, the relevant content of emotional management for deeper understanding and effective application, so that the potential and value of human resources are fully mining and utilization, to reflect the due efficiency.

In the current enterprise human resource management and employee help plan, emotional management more and more extensive attention and attention, in the field of organizational behavior pay more attention to employee emotional management and other related content, through emotional management, make employee mood more effectively improved, make the work pressure is greatly relieved, and more effectively through the corresponding emotional management tools and corresponding channel, make its psychological dynamics and mood are effectively optimized and perfect, keep it in a high quality operation state, so as to reflect the potential of human resources and application value. Ma Xiangzhen, Wang Zhangying and other experts and scholars have demonstrated through the corresponding research and analysis that the EAP plan is an important tool to scientifically manage employees' emotions, and to some extent, it is an "emotional massage agent for enterprises". At present, the management personnel and human resources managers of enterprises pay more and more attention to the relevant content of emotional management. At the same time, they deepen their understanding and conduct more in-depth research on emotion. The perspective of management also realized that "emotion needs management and human beings need emotional management". In the actual emotional management process, fully implement the concept of people-oriented, harmonious management as the most basic requirements, to ensure

that human resources can be in the field of emotional management atmosphere and management to fully realize interpersonal harmony and group harmony, so as to achieve harmony, make the value of human resources more effective mining and utilization.

## **2. The role of emotional management in enterprise human resource management**

### **2.1 Provide necessary guidance for enterprises to select talents**

In the process of enterprise talent selection to further effectively establish the corresponding selection criteria, so as to effectively choose more accurate and efficient talent, in the process through the emotional management mode, which can more fully reflect the eq standards, make the standard more system perfect, and then for talent selection, quality improvement, talent quality and level to provide the necessary guarantee eq, this for a person's work ability and work achievement has a very important influence.If the employee has low EQ, lack of enough adverse quotient, or the relative self-emotional management effect is not good, the work quality and work efficiency cannot be significantly improved, and it even is likely to present different degrees of physical or psychological diseases, causing a serious impact on their work efficiency.Therefore, in the process of talent selection of enterprises, through the effective integration of emotional intelligence management standards, you can more effectively evaluate the expression movements, behavior language and other related content, grasp the management of all kinds of emotions, so as to conduct a preliminary evaluation and judgment, so that you can choose higher quality employees.

### **2.2 Effectively strengthen the self-management ability of employees**

In the process of enterprise human resources management, further effective emotional management and other related content, and can make people ability pressure can get technical school adjustment, to ensure that the staff more effectively in the face of relevant pressure, presents a better working life, learning state, make the body and mind more good, which can further reflect the motivation of my mood and initiative, with more enthusiasm and positive and efficient working attitude, play their own value in the work practice.At the same time, the enterprise in emotional management training and lectures, which can make the employee's emotional management level and self-management ability is significantly improved, in the process of comprehensive and meticulous emotional management and organizational practice to ensure that employees can realize self-management, effectively tap their subjective initiative and independent inquiry spirit, to ensure their potential and value is more fully reflected, in a good interpersonal relationship and working atmosphere to further strengthen their comprehensive ability and job competence.

### **2.3 Through emotional management can promote enterprises to carry out more effective post analysis**

In the process of human resource management of enterprises, it is the key and the core content of the post analysis and the optimal allocation of human resources.In this process, in-depth analysis for different positions can be conducted through the effective strengthening of emotional emotion management mode, and then the corresponding human resources can be matched, so that different types of talents can be fully utilized and realize optimal configuration.In the process of job analysis, can further match with the needs of different positions and corresponding personnel with emotions and

psychological adjustment ability, combined with the degree of emotional intelligence and employee qualifications, focus on consideration, to more fully reflect the interests and expertise, to stimulate and mobilize the value of relevant personnel, meet the corresponding qualifications and emotional intelligence, which can fully reflect the due human resources management effect.

### **3.Application strategy of emotional management in enterprise human resource management**

#### **3.1 Enterprises should implement humanized management more effectively**

In the process of enterprise emotional management, its fundamental content is to fully reflect the basic principle of people-oriented, and as the core content, the humanized management should be effectively implemented in the process of practice, so as to effectively stimulate and release the nature and human nature of employees, so that its value can be presented. When conducting external recruitment, enterprises should be included in the relevant indicators of employee emotional management for assessment. In terms of humanized management, to build people-oriented enterprise culture, to ensure that the employees' ownership status can be fully established, more equal and fair treatment of employees, make employees can fully feel the value of enterprise culture and people-oriented management system, and then have a corresponding sense of belonging and satisfaction, so as to meet their own mental health needs to a greater extent. There is a clear positive relationship between emotional management and self-efficacy. Under the role of humanized management system, to reflect the core value and role of emotional management, but also can effectively do with the emotional needs research analysis, based on the actual profit results, make the emotional needs more effectively meet, so can fully avoid because of unreasonable management employees in emotional fluctuations.

#### **3.2 Pay attention to the independent innovation of emotional management in the process of human resource management**

In the process of enterprise human resources management, for emotional management work, need to pay attention to the employee emotional change, pay more attention to employee emotional response and fluctuations, further grasp the relevant factors, to benchmark more attention to employee emotional intelligence factors and corresponding training and management, through more comprehensive and detailed emotional management and training content, make the employee emotional intelligence level is significantly improved. At the same time on the basis of innovation and optimization of emotional management mode, make enterprise managers more fully grasp the nature of emotional management and development direction, make employees can also in the process of emotional management, through their own efforts and value, further identify the enterprise, which can further stimulate and arouse employee emotions, on the basis of self-identification self-positioning and achieve the relevant goals, have more ideal potential and application value. At the same time, in the process of independent innovation management of emotion management, also to further innovation management ideas, to ensure that communication mechanism, incentive mechanism, training mechanism and so on can get more effective fusion in the process of emotional management, and ensure that the content is more fully reflected in the process of human resource management, in order under the role of more perfect management mechanism,

improve the emotional management level. Moreover, it is incorporated into the systems and operation mechanism of performance appraisal, taking this as the starting point to make employees get more effective selection, training and promotion, and provide the necessary guarantee for the effective realization of employees' self-value.

### **3.3 The management of the enterprise should fully strengthen the improvement of the employees' self-management ability**

In the process of human resource management of enterprises, To reflect the comprehensive application value of emotion management, In the emotional management process, A more scientific and feasible way is used to combine the psychological process and development changes experienced by individual employees, Further reflects the effective interaction between the leadership and the employees, Employees should be fully guided to have a full understanding of their own emotions, The office effectively defines the source of relevant emotional changes, Management should combine the emotional changes and development status of employees, Further put forward and implement the corresponding solutions, To fully ensure that the emotional management training work is more effectively implemented in the process of staff standard guidance and human resource management. Enterprise management can set up the corresponding psychological counseling room or emotional counseling room, for employees' work and psychological pressure for more effective relief and counseling, to ensure that the staff can really in the first sense of the own psychological state and emotional corresponding adjustment, in order to more effectively complete the enterprise organization goals and personal work goals. At the same time, enterprises also should further match and emotional management corresponding communication platform and feedback mechanism, on the platform can let all employees and time communication and communication, in everyone equal, free and open atmosphere of communication, make interpersonal relationship can get effective coordination, in a harmonious and friendly atmosphere, make emotions corresponding control and management, to form a better corporate culture, make the enterprise cohesion and centripetal force is significantly improved. Alibaba, for example, millet, and other enterprises in the process of human resources management, the emotional management into the whole process of management, further effectively increase emotional investment, with feelings, the emotional intelligence factors in the use of human resources management selection and promotion, at the same time further strengthen the emotional care for employees, through the creation of enterprise culture is the emotional quotient to further improve.

### **3.4 Carry out a variety of training to improve employees' emotional expression ability**

In the process of human resource management of enterprises, We should also attach great importance to the improvement of employees' emotional expression ability, Absence rate, turnover rate, accident rate increased, etc, Increased interpersonal conflict, Team members are difficult to cooperate with each other, Work enthusiasm and work efficiency decline, In such circumstances, Further schools need to pay more attention to their emotions through various types of training, And then effectively create an atmosphere and environment of emotion management, To effectively express their own emotions with their employees, Focus on the communication between staff and leadership decisions, Face up to the employee's emotional problems, And in the timely and effective publicity and promotion, Through the integration of online and offline

methods, Get employees to find their emotional problems. If not timely solution, can through timely human resources management department and professional guidance, fully understand the source of work pressure and emotional instability, and ensure that emotional intelligence development training and training mode, can be as a very important content in employee quality education and human resource management, through more professional system management method, make the employees control emotions and perceive emotions, use emotions significantly, and effectively improve in emotion, more fully strengthen employees' self-motivation, self-emotional management ability. In the course of practice, Can be effectively through the form of role-playing emotional training, The emotional expression ability of employees has been significantly improved, At the same time, the deep role-play strategies can also be effectively applied in the specific operation process, Re-evaluate negative situations or shift attention to positive emotional experiences, Then, change the disadvantage more effectively, enabling employees to experience in emotional, Emotional management and control have been significantly improved, On the basis of the continuous strengthening of employees' ability to self-work, Strengthen the communication skills, Improve self-management, Have a better emotional self-management ability, Cultivate employee loyalty in a more sound corporate culture atmosphere, Make its psychological state and self-mood to adjust to the most appropriate level.

## CONCLUSION

From the above analysis, we can fully see that in the current process of management and development of enterprises, more and more attention to the human resource management of enterprises. At the same time, under the background of the new era, the relevant content of emotional management is further integrated, so as to make the role and value of emotional management more fully reflected, and provide the necessary guarantee for the exploration and utilization of the potential and value of human resources of enterprises. At the same time, in the process of specific human resources management, it is necessary to further fully implement the corresponding implementation strategies and application measures, so that the emotional management level can be significantly improved, and then reflect a more significant emotional management efficiency on the basis of the potential mining and application of human resources.

## REFERENCES

- Sun Enze. The Meaning and Pathways of enterprise sentiment management [J]. Journal of Shanxi University of Finance and Economics, 2019 (S2): 65-66.
- Chen Jun. The Application of Emotional Management in Modern Enterprise Human Resource Management [J]. Human Resource Development, 2020, (07): 65.
- Xiong Shuping. Research on the relationship between enterprise organizational health and employee emotion management [J]. Enterprise Economy, 2015,5 (11): 18
- Wang Yu. On employee emotion management [J]. Chinese and foreign entrepreneurs, 2019 (35): 36
- Li Lidan. On the Application of Emotional Management in Enterprise Human Resource Management [J]. Entrepreneur world, 2018 (15): 54-55.
- Sun Yan. The Application of Emotional Management in Enterprise Human Resource Management [J]. Human Resources, 2017 (35): 47-48.

- Ma Xiangjun, Wang Zhangying. On the conceptual definition of emotion management [J]. Journal of Southeast University (Philosophy and Social Sciences edition), 2012,04 (5): 58-61 + 127.
- Wang Lixia. Discussion on the connotation of "emotion management" [J]. Sociosocial Sciences, 2019,06 (5): 27-29 + 41.
- Feng Li, Gao Shanshan, Li Mingyong. The Application of emotion management in College Student work [J]. Adult Education in China, 2019,05 (5): 23-24.
- Lu Yihui. Study on emotional influencing factors and emotion management [D]. Overseas Chinese University, 2019.
- District, Haipeng. Study on the relationship between enterprise employee emotion management and work performance [J]. Enterprise Reform and Management, 2020, (12): 77.
- Gao Zhiyan. Research on the Emotional Management of Enterprise Employees [J]. Enterprise Management, 2018, (09): 105.
- Yang Lulu, Gao Kai. Research and analysis of emotion management in Human Resource Management [J]. Reform and opening-up, 2017 (15): 154-156.
- Wang Yu. On employee emotion management [J]. Enterprise Reform and Management, 2015, (35): 126.
- Wang Xinyan and Zhao Xiong Luzi. Empirical research on the impact of employee emotion management on work performance —— takes service enterprises as an example [J]. Jiangxi Social Sciences, 2015, (11): 234.
- Hu Yuting. Survey on the emotional management of employees in private enterprises [J]. Cooperative Economy and Technology, 2021, (06): 117.
- Prince Han. Study on the Optimization of Human Resource Management from the perspective of Behavior [J]. Enterprise Management, 2020, (2): 56.
- Liu, IELTS. Emotion management —— in HR is based on an organizational behavioral perspective [J]. Shopping Mall Modernization, 2014 (15): 101
- leaves. Explore the path of optimizing human resource management through emotional management [J] Industry and Technology Forum 2020 (19) 5:240
- Chen Jianping. Exploration on the Improvement Methods and Problems of Enterprise Business Management [J]. Enterprise Management, 2018, (09): 105.

# RESEARCH ON MEDICAL MANAGEMENT IN THE CONTEXT OF POST EPIDEMIC ERA

**JING YANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: zlyj820507@126.com*

## ABSTRACT

The novel coronavirus pneumonia has a great impact on the order of medical education and teaching and the teaching status of teachers and students in China. In the face of education crisis, teaching management should give full play to the important role of teaching resource allocation and teaching activity arrangement center. This paper analyzes the problems to be solved in teaching management based on the impact of teaching work during the current epidemic prevention and control period; And under the thinking and inspiration, what strategies are put forward to improve the teaching management and promote the continuous development of medical education.

**Keywords:** COVID-19, Medical Management, Prevention and control measures

## INTRODUCTION

### 1. Introduction

Novel coronavirus pneumonia is a new era of medical management. The new concept of medical management and management mode have changed in 2019. The medical management mode in post epidemic era needs more advanced scholars' attention and research. This paper mainly studies and analyzes the problems existing in current medical management, and puts forward strategies to improve medical management methods by using the results of the survey, so as to promote the development of Chinese medical cause.

The novel coronavirus pneumonia has brought great influence to the teaching work in universities. In order to meet the new requirements of teaching work in the post epidemic era, the Ministry of education proposed that all colleges and universities take the way of government leadership, University subject and social participation to jointly implement and ensure the online teaching of colleges and universities during the epidemic prevention and control period, so as to ensure the teaching progress and teaching quality during the epidemic prevention and control period. Under the general requirements of "no classes, no classes, no schools", colleges and universities responded positively, made overall planning and careful deployment, steadily promoted online teaching, and ensured the smooth development of teaching activities. Medicine provides health support for the public, and medical education cultivates guardians who serve public health. Medicine and medical education are closely related to the operation and development of society and play an irreplaceable role in ensuring the prosperity and sustainable

development of the country. In the post epidemic era, comprehensively improving the training ability of medical talents is the core work of medical colleges and universities. During the novel coronavirus pneumonia epidemic prevention and control period, the educational and teaching activities of medical colleges and universities can be carried out smoothly. Teaching management plays a decisive role. It is an important part of the whole university's teaching and education work, an important guarantee for the normal operation of the teaching order, and an important foundation for the implementation of the teaching plan. The novel coronavirus pneumonia affects and changes the higher medical education profoundly. In the face of the teaching needs of the long term coexistence and deep integration of the traditional classroom teaching and the integration of modern information technology, and the new educational form and the new paradigm of talent training, the management of higher medical education must effectively respond to the new era requirements and challenges. Through the method of questionnaire survey, this paper obtains the management data of several key medical colleges in Beijing, analyzes the problems existing in the current medical management, discusses and puts forward the medical management methods suitable for the current situation, and promotes the development of Chinese medical cause.

## **LITERATURE REVIEW**

### **2.1 Current situation of medical management in the post epidemic Era**

#### **2.1.1 Inadequate implementation of medical education reform policies**

Medical colleges and universities are the main force to fight the epidemic earlier, but the medical teams established by many medical colleges and universities lack the knowledge of preventive medicine, psychology, disaster relief and statistics. In the face of severe treatment work, he can complete the task with high quality, but he still fails to pay attention to the research and application work involving deep-seated epidemiology, psychological counselling medical record collection and summary, etc. When many medical workers reflect and summarize after finishing the front-line anti epidemic work, they often regret that they have not collected and processed the clinical front-line work data well, which reflects that the implementation of relevant policies on medical education reform in the current medical education management needs to be further strengthened. At the same time, the comprehensive nature of medical education should be fully considered Practical characteristics to promote and regulate the development of teaching activities.

#### **2.1.2 Imperfect medical management system**

Under the influence of medical reform, the competition in the medical market is intensifying, and medical schools are facing great pressure of quality improvement and competition. For medical management, under the influence of the current domestic policy environment and economic environment, the way of its survival and development lies in management. Although medical teaching is one of the responsibilities of Medical College, the medical level has not been greatly improved due to the imperfect medical system. Therefore, medical clinical teaching is facing many problems, such as quality, quality, teachers and so on. In recent years, the medical college has gradually

increased its investment in clinical teaching, mainly focusing on the construction of hardware facilities, while the investment in teaching is very little. There is a disconnect between the medical clinical teaching conditions and the top students trained by medical colleges, which also has a negative impact on the sustainable development of medical management.

### **2.1.3 The level of teaching staff needs to be improved**

Due to the complexity of medical courses in medical colleges, medical colleges are required to pay attention not only to teachers' professional skills, but also to teachers' service level, and strengthen teachers' professional skills and service level. Through the construction of teaching staff, teachers can learn advanced medical technology, so that teachers can better teach students, so as to ensure that students can master new treatment methods and technologies in time. There is still much room for the improvement of contemporary medical teachers. In addition, teachers also need to conduct orientation training for young and middle-aged backbone teachers to provide them with opportunities for further study and relearning, so as to enrich the practical experience of young and middle-aged teachers to help students solve the problems encountered in the learning process.

### **2.1.4 The social environment needs to be improved**

The quality of medical clinical teaching management has always been closely related to the social environment. Driven by the medical reform, China's medical and health system has been gradually improved, and people's awareness of safeguarding their rights has been strengthened day by day. Medical clinical teaching activities under the background of medical reform must maintain a good relationship with patients and pay attention to protecting their legitimate rights and interests. Patients' constantly updated service awareness and consumption awareness have fundamentally changed the doctor-patient relationship. They will protect themselves from harm through legal channels. Over the years, clinical medical disputes have occurred from time to time, and the doctor-patient relationship was once in a tense situation, which increased the practice difficulty of clinical medical students to a certain extent. In the process of medical clinical teaching, we must know the patients and obtain their consent before we can carry out demonstration teaching for students. In order to avoid the risk of medical disputes, many hospitals often restrict the operation of interns. Even if there are prospective students, the operation is limited to some shallow levels. In the long run, medical clinical practice teaching will also lose its original significance and completely fail to meet the requirements of talent training. In particular, in the post epidemic era, patients are more sensitive to interns. In addition, affected by the bad information reported by the media, many patients have a better rejection of interns. They will refuse doctor-patient cooperation in a variety of ways or reasons, which hinders the smooth development of medical clinical teaching activities.

### **2.1.5 The informatization construction of experimental practice teaching needs to be developed**

Medicine is a highly practical subject. The proportion of experimental courses exceeds more than half of the total class hours. More than one third of the class hours in clinical teaching should be carried out in the environment of actual contact with patients.

Clinical thinking ability and clinical operation skills must be obtained through clinical practice. Although the needs of some courses can be solved through the network virtual experimental teaching resources, some courses are still difficult to carry out, which poses a challenge to the teaching management, becomes a difficult problem in the medical teaching management during the epidemic prevention and control, and also exposes the deficiencies in the research and application of experimental practice teaching information.

## **2.2 Significance of changing medical management mode**

The novel coronavirus pneumonia has made the whole society realize that medical personnel are the most valuable resources of the country and the guard for the safety and health of the people. The management of medical education should fully respect the law of medical development, strengthen the concept of medical reform and development, and earnestly implement various national policies.

Strengthening the level of teaching management in Colleges and universities is of great significance to improve the quality of education and teaching in Colleges and universities. Therefore, we must think deeply about the Enlightenment of the epidemic situation to the teaching management, and further improve and strengthen the teaching management of medical colleges and universities. We should not only fight a prepared war to prevent and resist risks, but also fight a strategic initiative war to turn danger into opportunity. In the future medical education, facing the unexpected crisis, where is the forerunner of teaching management and what is the best move? We need to change the current medical management mode and explore an advanced teaching management mode suitable for the post epidemic era.

## **2.3 Strategies for changing medical management in the post epidemic Era**

### **2.3.1 Improve the policy system**

The opinions of the Ministry of education on strengthening educational scientific research in the new era (education and political law [2019] No. 16) has made a comprehensive deployment for educational scientific research in the new era, focusing on comprehensively improving the service decision-making ability, promoting the solution of educational practice problems, giving full play to the leading role of professionals, striving to enhance the international influence and strengthening the transformation of scientific research achievements, Strive to further improve the educational and scientific research system and mechanism, enhance the vitality of scientific research institutions and personnel, improve the scientific level of organizational forms and research methods, improve the evaluation methods and mechanisms of scientific research achievements, significantly enhance the ability of original research, and greatly enhance the social contribution of educational and scientific research. The policy system of medical colleges is to solve the contradiction between teaching and scientific research, so that the majority of teachers do not forget the "original intention" of the establishment of colleges and universities, do not become a simple "researcher", hold the "original intention" - teaching and educating people, and guide teachers and students to return to the foundation of education.

### **2.3.2 Build a perfect education quality evaluation system**

In the process of carrying out teaching tasks, teachers and schools need to highlight the dominant position of students, and its main purpose is to strengthen students' learning ability. With the help of building a perfect evaluation system, medical colleges can timely grasp the ideas and opinions of students and teachers, and gradually improve the problems in the teaching quality evaluation system. Combined with the actual situation of medical colleges and universities, in order to improve the teaching quality evaluation system, implement efficient and orderly teaching management methods, and achieve the teaching goal of learning. At the same time, modern management methods are introduced to enhance the scientificity of decision-making and management. In the past, the traditional administrative teaching management is mainly an empirical management. Managers often pay attention to the continuation of tradition, historical analogy, experience accumulation, one-way memory, subjective judgment and imagination, and lack the application of modern emerging management methods. In order to adapt to the development and requirements of the situation, our school introduces modern scientific theories and management methods such as system science, cybernetics, information theory and Decision Science in teaching and management. At the same time, using the network means and drawing on the successful experience of the world, we have established a perfect decision-making system, such as network decision-making information system, teacher teaching examination management system, student achievement reference system and quality monitoring system, which enhances the scientificity and standardization and reduces the blindness and experience; It not only reduces the manual burden of teachers, but also facilitates students to choose courses online and timely understand the academic achievements of their own courses.

### **2.3.3 Strengthen the construction of educational administration management team and improve the management service level**

The quality of the team is the key to the reform of education and teaching management in Colleges and universities. The team of educational administration management in Colleges and universities is an important force to deepen teaching reform and construction, strengthen teaching management and supervision, improve teaching quality and achieve the goal of high-level talent training. The quality of educational administration management team directly affects the level of teaching management and quality, and is also related to whether we can cultivate high-quality socialist builders and successors. The party and government leaders of our university attach importance to the construction of the educational administration team, select and allocate personnel with high academic qualifications, high professional titles and strong professional ability to enrich the educational administration department, boldly promote, use and commend excellent teaching management cadres, adhere to establish the prestige of the teaching management team and mobilize the enthusiasm of the teaching management team. In the spirit of being highly responsible to the party and the people, all the academic staff devote themselves to working overtime, work hard and complain, serve the teachers and students of the school enthusiastically, and strive to improve the service quality and work efficiency of our college. Specifically, in order to meet the needs of medical teaching reform in the new situation, many teachers actively explore new models and methods of teaching management reform. Under the condition of the continuous increase of the number of students, in order to make rational use of the school's teaching resources, the staff of the Academic Affairs Office deeply understand the opinions of teachers in Secondary Colleges (departments, departments) and teaching and research departments every semester, repeatedly coordinate and adopt new thinking The new method is to

reasonably prepare the curriculum schedule, teaching plan, vehicle plan transfer and archiving of all professional courses in the whole school and classes in the two campuses. In addition, the teacher is enthusiastic about running student status certification, review, handling student status change procedures and student elective course management for the whole school, actively handle the issuance of students' degree certificates, graduation certificates and completion certificates, the statistics of students' achievements in the graduation class, and the certification of students' innovative credits. At the same time, the cadres of the Academic Affairs Office boldly explored and established a network course selection and performance management information system, which not only facilitated students, but also standardized the mechanism of various teaching management norms, and promoted the smooth operation of various work of teaching management and monitoring. In short, with the active participation of teachers and relevant departments, the school has developed more rapidly and effectively, and has also received the support of all sectors of society.

#### **2.3.4 Speed up the construction of teaching staff**

Due to the complexity of medical courses in medical colleges, medical colleges are required to pay attention not only to teachers' professional skills, but also to teachers' service level, and strengthen teachers' professional skills and service level. How to quantify and evaluate teachers' teaching work? Some teachers in medical colleges are full-time teachers, and some are clinical medical staff or medical technicians. On the one hand, quantitative evaluation is carried out from the completion and quality of personal teaching work and the completion quality of fixed teaching tasks such as classroom teaching quality, teaching articles and teaching topics, On the other hand, is the team cooperation and collective work participation of teachers and medical staff. The work of each teacher and medical staff is not single and independent. Every teaching and research department / Department, Department / hospital and college will have collective work that requires teachers' participation. The evaluation of this part of work needs to highlight the overall awareness and unity and cooperation of teachers and medical staff. For the completion of each specific teaching routine task and temporary task, quantitative scores are established in detail, so as to more comprehensively evaluate the work of teachers and medical staff, and enhance the cooperation and completion quality of teaching work.

#### **2.3.5 Reasonably set up practical operation courses**

Under the background of the post epidemic era, the phenomenon of emphasizing theory and not carrying out practice in the teaching process of medical colleges is more serious, which has an invisible impact on students' practical operation ability. On the one hand, the school can ensure that students' application ability can be improved after obtaining solid theoretical basis, On the other hand, it can ensure that students consolidate the theoretical principles, so as to improve students' learning interest and ability. Reasonably set up time operation courses and innovate the teaching mode of medical courses to help students build innovative thinking ability, so as to strengthen students' ability to find, ask and solve problems.

#### **2.3.6 Regular discussion and exchange and timely solve problems**

Any work is constantly improved in the gradual promotion, and the management of medical teaching is no exception. Every semester, teachers face different students.

Similarly, every year, every semester and every class, teachers' teaching ability is changing. How to better promote teaching work in an all-round way, do a good job in teaching management, supervision, organization and coordination, especially in the post epidemic era, teachers face students with more independent personality and more changeable and active thoughts, the difference in the degree of understanding of the same thing is significantly enhanced, and the values show an obvious trend of diversification, which needs to be seriously considered. In order to achieve the best quality of teaching work, we must introduce flexible management. The intervention of flexible management has changed the management mode of rigid education in many colleges and universities to a great extent, which is conducive to balancing the relationship between student development and teaching management and realizing humanized education. Flexible management is to strengthen the exchange and communication between teaching managers and teachers and students, as well as between teachers and students. It must be a pragmatic exchange and discussion, avoid formal retreat exchange and discussion, and it must be a heart-to-heart exchange and discussion between teaching managers and front-line teachers and students, so as to have a detailed understanding of teaching work and personal learning and development, and meticulous care and help. Establish and improve the diversity of communication channels between teaching management and teachers and students, so as to comprehensively solve problems and difficulties, improve the efficiency of teaching management and improve the quality of teaching and education.

## CONCLUSION

Teaching management in medical colleges has a long way to go. It carries the reform and development of medical colleges, the promotion of medical education, the improvement of medical work quality and the innovation of medical research. Medical college teaching managers should strengthen the research on higher education teaching policy, deeply analyze its evolution logic, and put forward prospects for China's medical teaching reform in the future, which has profound practical significance and value for the adjustment and reform of China's higher education teaching policy in the new era. Compared with teachers and successful students, many times the teaching managers of medical colleges are working in obscurity. Therefore, it is more necessary for the teaching management team of medical colleges to come to the "front" and actively think, constantly innovate, serve teachers and students and ensure the quality of education.

The novel coronavirus pneumonia is the most rapid public health event since the founding of new China, which has the fastest speed of transmission, the most difficult control and the most extensive infection. It is not only a test of the medical technology level and the ability to cure, but also a comprehensive examination of higher medical education in China. It has a great impact on the teaching work of higher medical education, and has a certain impact on Teachers' teaching mentality and students' learning state. In the face of the impact and Enlightenment brought by the epidemic, education management should condense problems in reflection, objectively analyse, absorb experience, make up for shortcomings, and constantly promote the reform and development of higher medical education, to train more medical workers to protect the people's lives and health.

It is urgent to explore and solve the new connotation and management problems of medical colleges and universities. Guided by the blueprint for the construction of educational modernization, the strategic direction of educational development, and the spirit of documents such as the opinions on strengthening educational scientific research in the new era, which are drawn up by the CPC Central Committee and the State Council, we should inherit the medical teaching and personnel industry, accelerate the pace of

medical education reform, and contribute to the construction of "double first-class" medical colleges Explore and innovate medical education with Chinese characteristics and contribute to it.

## ACKNOWLEDGMENT

It took nearly two months to write this paper. In the process of writing this paper, I encountered countless difficulties and obstacles. From the election of the topic of the paper to the prototype of the paper, I spent it with the help of teachers and classmates. In particular, I would like to thank my thesis instructor——Dr. Muhammad Shahid Khan. Every time I revise and help my thesis, I am very serious and patient. I am very lucky to meet such a teacher. In addition, I would like to thank all the scholars involved in this paper. This paper quotes the research literature of several scholars. Without the inspiration and help of the research results of scholars, it will be difficult for me to complete this paper. Finally, I would like to thank my family and friends for their strong support. Whenever I have no clue and want to give up, they give me strength behind my back and help me complete the challenge.

## REFERENCES

- 张挺, 曲巍, 王小飞, 董君, 才岩.新冠肺炎疫情防控背景下医学教学管理工作的思考[J].中国医学教育技术, 2021, 35(02):150-153.DOI:10.13566/j.cnki.cmet.cn61-1317/g4.202102002.
- 张艳秋, 李佩贤, 于谦, 周小平, 孙斌.数字化校园背景下信息素养提升研究——以医学院校教学管理人员为例[J].中国医学教育技术, 2015, 29(02):138-141.DOI:10.13566/j.cnki.cmet.cn61-1317/g4.201502008.
- 张宝刚, 杨景明, 蒲丽娟, 刘万鹏, 安申.医学院校教学管理信息化改革探索[J].卫生职业教育, 2018, 36(09):22-24.
- 麻秋伟, 雷霖, 姜琨彦, 王建钰, 郎海洋.提升医学院校教学管理效率之我见[J].医学争鸣, 2021, 12(03):76-79.DOI:10.13276/j.issn.1674-8913.2021.03.018.
- 吕思思, 张建勋, 马云伟, 于越.信息化背景下医学教学质量管理的现状及对策研究[J].基础医学教育, 2014, 16(05):413-416.DOI:10.13754/j.issn2095-1450.2014.05.32.
- 梁蒙.医学院校教学管理模式改革创新的实践研究[J].世界最新医学信息文摘, 2018, 18(65):288.DOI:10.19613/j.cnki.1671-3141.2018.65.224.
- 许玲.医学院校教学管理模式改革创新探索[J].教育与职业, 2013(18):35-37.DOI:10.13615/j.cnki.1004-3985.2013.18.009.
- 任炜, 杜文娟.医疗改革背景下医学临床教学管理存在的问题与对策[J].统计与管理, 2015(12):99-100.
- 佟矿, 吴婉云.项目管理应用于教学管理的探索——以医学临床教学为例[J].广东第二师范学院学报, 2013, 33(03):107-112.
- 宋春梅, 吴兆根.基于“互联网+”背景下预防医学开放式实验教学管理研究[J].国际公关, 2020(03):204.DOI:10.16645/j.cnki.cn11-5281/c.2020.03.163.

# HOW TO TURN HUMAN RESOURCES INTO HUMAN CAPITAL

XIAOLU YU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: yvxiaolu@163.com*

## ABSTRACT

In enterprise management, human resources gradually become an important resource for enterprise development, including the name of the department, but also the original personnel department collectively referred to as the hot human resources department now. Under normal circumstances, enterprises only regard human resources as capital, while talents become the hot "resources" that enterprises urgently need to solve. For enterprises, only by turning human resources into capital can they have local talents to a certain extent. They can grow and develop through various measures and then be used by the enterprise. In the 21st century, the arrival of the era of knowledge economy has confirmed the important value and status of enterprise human capital. The arrival of the era of knowledge economy has created conditions for the transformation of human resources into human capital. This paper mainly analyzes and expounds how to transform human resources into human capital.

**Keywords:** Human resources, Human capital, Transformation, Development and utilization, value-added

## INTRODUCTION

### 1. Human resources and human capital theory review

#### 1.1 Theoretical review of human resources

1.1.1 The concept of human resources. Force resources can be exploited and excavated, or can be utilized; And capital is the human resources that can produce and produce infinite value, also known as labor resources or labor force, refers to the total population that can promote the development of the entire economy and society and has the ability to work. Human resource is to develop people as a kind of resource, which can be exploited and used to create value.

1.1.2 Characteristics of human resources. Due to the biological, active, intellectual and social characteristics of human, human resources have the following characteristics:

1.1.2.1 Human resources are subjective resources or active resources. Subjectivity or initiative is the primary characteristic of human resources, which is the most fundamental difference from all other resources. Subjectivity means that human resources play a leading role in economic activities. All economic activities are human activities,

which trigger, control and drive the activities of other resources.

1.1.2.2 Human resources are special capital resources. Human resource is the product of investment by public society, enterprises and individuals, and its quality mainly depends on the degree of investment. Human resource is also a resource that may bring benefits continuously in a certain period of time. Once it is formed, it will certainly bring benefits to investors in an appropriate period. Human resources in the use process will also appear tangible wear and tear and invisible wear. For example, the aging of laborer itself is tangible wear and tear, and the aging of laborer knowledge and skill is invisible wear and tear.

## **2. Theoretical review of human capital**

**2.1 The concept of human capital:** Human capital emphasizes the use of human resources in the process of production and operation. When human resources are used as a means to earn profits, they are endowed with the connotation of human capital. The use of human capital is the application of its knowledge and skills. In the process of use, human capital can create more value than its own value, and will increase its value through the accumulation of labor process or through its own construction.

### **2.2 The characteristics of human capital:**

2.2.1 dependence. Human capital is the carrier of human beings. It is the solidification of the value formed in the form of human power investment on workers, which is inseparable from their owners. All physical strength, knowledge, intelligence, skills, emotions, values, thoughts and morals are attached to living people.

2.2.2 Initiative. Human capital is the most dynamic factor in the process of economic development. On the one hand, the realization and creation of the value of material capital and monetary capital must be through the operation of human capital.

2.2.3 Timeliness. Human capital is different from material capital, which has one dimension. If not timely development and utilization, with the passage of time will gradually reduce until disappearing. Through investment in the form of education, training, and to form a certain human capital stock, will be put into the social reproduction process, you can generate profits, to be effective, human resource development in time or not, not only hard to become the effective strength of social development, but also become a drag on economic development and social progress of encumbrance or "baggage".

2.2.4 Variability. With the development of science and technology and social progress, the stock, increment and value of human capital will be in constant change. Subjectively, workers study hard, have the courage to practice, in the painstaking study of some discovery and innovation, its stock and increment will not break to increase, value will continue to increase.

## **3. The connection between "human resources" and "human capital"**

Human resource and human capital are both concepts based on people, and the research object is the brain and physical strength of people, which are consistent from this point. Moreover, most modern HRM theories are based on human capital theory. Human capital theory is the key content and basic part of human resource management theory. The accounting of human resource economic activity and its income is based on human capital theory. Both are produced when studying the important role of manpower as a factor of production in economic growth and economic development.

The difference between "human resources" and "human capital"

Resources and capital although there is only a word difference, but there is an essential difference. Human capital can be regarded as the human resources condensed by the material capital invested on the human body. Human capital exists in human resources. For "resources", people think more about seeking and owning; When it comes to "capital", people will think more about how to increase its value and generate profits. The enterprise should turn the manpower into capital, make it become the wealth of the enterprise, let it be used by the enterprise, and continuously add value to create more value for the enterprise. Their differences are mainly reflected in the following three aspects.

**3.1 Different focus:** For resources, people pursue the best, such as the more money the better, the more advanced technology the better, etc., but as capital, people focus on the relationship between input and output, care about cost, and even consider profit; Thirdly, human resources are more about seeking and owning, while human capital is more about maintaining and increasing value

**3.2 The nature of the two is different:** resources are usually naturally formed and undeveloped, while capital is developed and planned. What resources reflect is the problem of stock. When it comes to resources, people think more about seeking and owning; What capital reflects is the problem of flow and stock. When it comes to capital, people think more about how to increase its value and make profits.

**3.3 The two research perspectives are different:** human resources have the property of capital only when they continuously create greater new value in the process of continuous application. Human resource takes human as the source of wealth and studies human problems from the relationship between human potential and wealth. Human capital takes human resources as an investment object and a part of wealth, and studies human problems from the relationship between investment and benefit. Without rational development of human resources, strong human capital cannot be formed and sustainable development cannot be achieved. The formation and accumulation of human capital mainly depend on training, if there is no training, human resources can not be rationally developed. To attach importance to training is to attach importance to the development of enterprises, which is to develop human resources and accumulate human capital.

#### 4. The important role of human capital

**4.1 Human capital can improve enterprise performance:** modern enterprise management mode follows the people-oriented principle, and this view has been recognized by enterprises. Great leaders and great employees can create great brands and make companies profitable. Human is the developer of productivity, and the level of productivity measures the development space of enterprises. Some scholars studied general human capital and special human capital by selecting 65 employees of municipal companies. The former was represented by years of education, while the latter was represented by years of work, proving that the two kinds of human capital were positively correlated with performance. At the same time, the researchers selected 506 Italian high-tech enterprises, with the work experience of entrepreneurs to represent the entrepreneur human capital, and found that it plays a positive role in promoting enterprises. (Deng Hong, 2007(04))

**4.2 Human capital can improve innovative technology:** for enterprises, technological innovation can update corporate strategy and quickly adapt to market changes. At the same time, human capital can innovate technology to boost productivity.

At present, the personnel with bachelor degree or above account for more than 85% of the total number of employees, master's degree, doctor's degree and post-doctoral degree account for more than 70% of the total number of employees, and a post-doctoral work station has been set up in Huawei. The annual r&d investment of the company is no less than 10% of the main business income of the year, ranking the first among Chinese enterprises. In 2021, Huawei spent 23.7 billion yuan on R&D, and its r&d investment in the past five years exceeded 70 billion yuan. Huawei has also set up the "2022 Laboratory" as the main body of the company's innovation and research, and the cornerstone of future RESEARCH and development capabilities. The company not only attaches great importance to r&d investment, but also strengthens patent protection. Such "sophisticated" talent allocation has become the energy source of Huawei's scientific and technological innovation.

**4.3 The influence of human capital on the structure of enterprise property right system:** in the traditional form of enterprise, the property right of enterprise is based on monetary capital, while the labor force is in a passive and dominated position. After the emergence of human capital, enterprises no longer dominate the world with currency, but gradually change to human capital owning part of the equity. The property right structure of enterprises has changed, resulting in the new concept of human capital as a shareholder, forming human capital property right, so as to participate in income distribution and realize the value of creating wealth.

**4.4 The impact of human capital on corporate governance structure:** The service Guide in 2013 reported the revelation of the most expensive CEO course in China: 20 days, tuition of 168,000 US dollars, and there are requirements for participants: The capital of an enterprise should not be less than us \$1 billion. Faced with such harsh conditions, there are still a lot of applicants. Meanwhile, entrepreneurs must be recruited with strong learning ability, communication ability and leadership ability, which also shows that human capital has an increasing influence on corporate governance structure.

## **5. Current situation and problems of transforming human resources into human capital**

### **5.1 The capitalization degree of enterprise human resources is low**

In contemporary times, human resource is a word with high frequency, but the use of human capital is relatively new and rare. Human resource and human capital are interrelated but different concepts. For the enterprise, the recruited talents become the existing human resources, which depends on the number of talents, such as the number of employees in the company and the number of people in a certain department. They are only matched human resources.

However, resources are not necessarily capital. Human capital refers to the ability and conditions that people possess to create benefits when they are a resource, which can be measured by economic value. For enterprise managers, the human resources that can bring benefits to the enterprise are the capital. They invest a lot in human resource management every year. However, how to turn human resources into human capital and let talents create more value for the company continuously is an important problem that most enterprises are facing.

### **5.2 Imperfect incentive system and distribution system**

Human resource is the main source of the competitive advantage of the enterprise, but the human resource department does not play its due value at critical times. In many cases, the direction of the human resource department is wrong, and the human resource department has gradually evolved into the logistics support department of the company,

while ignoring the real value of human resource management. The human resource department set up by most enterprises to manage human resources is mainly responsible for logistics support of the company in addition to recruitment and attendance statistics, which is exactly the root of the malpractice.

### **5.3 The concept of enterprise management is backward**

The human resource department set up by most enterprises to manage human resources is mainly responsible for logistics support of the company in addition to recruitment and attendance statistics, which is exactly the root of the malpractice. The human resources department, which is supposed to master the company's talent development strategy, is instead focused on various matters of the company, from talent recruitment to daily errands. The functions of the human resource management department are constantly expanded, their energies are dispersed, their powers are constantly reduced, and they are gradually marginalized. As a human resources manager, they may know what kind of job matching what kind of person, but to talented person's attributes, talent have potential value and how to develop and use talents are ignorant, because they have the most data is only on the surface of things oh, failed to exert its maximum effect, for the company development strategy layout, Let every employee can exert their maximum efficiency.

## **6. Solutions and suggestions for transforming human resources into human capital**

### **6.1 Strengthening the theoretical construction of human capital transformation**

Enterprise managers to strengthen the learning of the latest management theory and the study of advanced system of the company, within the enterprise build the atmosphere attaches great importance to the talent training and talent development, to give enough emphasis on human capital, formulate relevant talent capital strategy and implementation of related hr initiatives on a regular basis for human capital management issues were discussed and analyzed, And with the implementation of the enterprise strategy to adjust the system at any time to adapt to the company's new period of development needs. In addition, we should adhere to the people-oriented scientific development concept, attach importance to talent capital, provide sufficient learning opportunities and development space for senior talents, and improve the recognition of excellent talents to the company culture.

### **6.2 Optimize the environment for the transformation of enterprise human capital**

The competition of modern enterprises is not only reflected in the strength competition of production technology and production capital, but also in the competition of human resources and human capital. "man", as the carrier of cultural value in the era of knowledge economy, is of great significance to the long-term development of enterprises and the great progress of society. Therefore, the government should strengthen the investment in quality education, carry out comprehensive education, lifelong education; At the same time, enterprises should increase the investment in human capital, introduce excellent talents for enterprises, and promote the capitalization of human resources through reasonable competition mechanism and incentive mechanism.

### **6.3 Scientific use of talents to add value to enterprise operations**

For enterprises, only scientific and reasonable use of talents, can arouse enthusiasm and work enthusiasm, and then tap their potential to create more value for enterprises. An employee can install 50 watches in a day, he can also install 80 watches in a day, so this is very important, as long as it is used properly, give full play to its

strengths, efficiency is not an interface. The development and scientific use of human capital include the following two aspects:

### **6.3.1. Provide good working conditions.**

In order to make talents create maximum value, it is necessary to provide employees with all kinds of support for work, including relevant training, corresponding office equipment, cooperation with other departments, so that employees can work with ease, maintain higher work efficiency, and bring greater benefits to the enterprise.

### **6.3.2 Play an inspiring role:**

**6.3.2.1** The role of incentive: incentive on the one hand can mobilize the enthusiasm of employees, can contribute more talent for the enterprise, on the other hand can increase the confidence and stickiness of employees to the company, actively participate in the company's development, actively invest in training and promotion, so as to increase the value of talent;

**6.3.2.2** Incentive method: it can be achieved by meeting the material needs and spiritual needs of employees. Material needs can be met by salary, bonus, welfare and other ways. Spiritual needs can be met by promotion or providing development opportunities, emotional care, work performance recognition and other ways to achieve.

## **CONCLUSION**

Talked so much, in short, in today's global economic integration, under the trend of knowledge economy, human resource has become the key resources for enterprises to obtain and maintain competitive advantage, however, is to be human resources from the potential productivity into realistic productivity, and then transformed into human capital, we must strengthen human resources development and management. This requires the enterprise to be people-oriented, to enhance the ability of people as the focus, to develop the potential of people as the core, the effective development and integration of human resources, in order to comprehensively promote the appreciation of talent, to truly realize the transformation of human resources to human capital.

## **REFERENCES**

- Zhang yaowen, several studies on human resource cost theory [J] management and technology of small and medium-sized enterprises (next issue), 2011,01
- The Relationship between Human Capital and Firm Performance", Yin Fufeng, Yang Xiangyang, Huaiyin Institute of Technology
- An Empirical Study on the Relationship between Entrepreneur Human Capital and Firm Performance. Xie Yaping, Fuzhou University
- Cooper A C, Gimeno -- Gascon F J. Nd Woo, Prediction of Predictors' Predictors based on Tial Data [J]. Journal of Business Venturing, I994(5): 371-395.
- Hermalin B E and M S Weisbach. Determinants of Board Composition[J]. The Rand Journal of Econom -- IC, L988, L9 (4), 589 -- 606
- Fu Weining. Human capital and firm performance: A Theoretical Analysis Model [J]. Financial science. 2003 (6): 65-70.
- Coupling Analysis of Li Jinglu's Contribution to human Capital value ---- Taking Huawei as an example [J] Science & Technology and Economy, 2013 (2)
- Li Yichun, Strategic Approach of Transformation from Human Resources to Human Capital in China, Times Economics and Trade, 2nd issue, 2013
- How to Transform "Human Resources" into "Human Capital" zhao Siyuan, Jiangsu Yanghe Winery Co., LTD

Analysis of Human Resources and Transformation of Human Capital. Changchun CRRC Railway Vehicle Co., LTD. Li Xiaoqian

Human Resources and Human Capital [J]. Deng Hong, Pan Chunyue. 2007(04)

"Human Capital and Business Performance from the Perspective of Chinese Marine Culture", Zhao Jie, Shandong University

Human Capital Mobility, Executive Change and Performance Improvement, Menglan Sun, Xiangtan University

Wang Zhihao, Wang Yang. Journal of Harbin University of Commerce (Social Science Edition). 2019(02)

Does CEO turnover matter in China? Evidence from the stock market[J]. Pierre Pessarossi, Laurent Weill. Journal of Economics and Business. 2013

the mismatch of human capital and human capital contribution: systems measure and empirical correlation Steven wong BaiYing liao south 1 2 1. 2. School of Finance and Public Economics, Shanxi University of Finance and Economics

The Efficiency of Human Capital Allocations in Developing Countries[J]. Dietrich Vollrath. Journal of Development Economics. 2014

Yang Yupeng, Wang Jing, Wang Anzhong, Implementation Path and Method of Human Capital Evaluation [J]. National Circulation Economy. 2020(05)

The Impact of human capital on corporate performance: The Mediating Role of compensation [J]. Hu Qiao, Jia Yimeng. Technological Economy. 2020(10)

The relationship between human capital, r&d investment and firm performance [J]. Chen Jiatai. Modern Business. 2019(02)

The relationship between r&d investment, human capital and firm performance: A case study of listed companies on sme Board [J]. Liu Yong, Xu Xuan-lian. Journal of Harbin University of Commerce (Social Science Edition). 2020(02)

# RESEARCH ON PRINCIPAL-AGENT RISK MANAGEMENT OF HUMAN RESOURCES IN NEW ENTERPRISES

ZENG YI

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: ouiben@163.com*

## ABSTRACT

Since the 21st century, the development mode of China's new economy has driven the large-scale growth of new enterprises and the rapid growth of the endogenous force of innovative and entrepreneurial human capital. This poses new challenges to the changes in China's human resources management and human resources agency business. The rise of new enterprises has become a new force in the development of China's market economy in the new era, and has played an important role in promoting employment, stimulating innovation and increasing market vitality. In order to quickly and steadily expand the business market for new enterprises, human resources entrusted agents have become an important option for their management changes. The implementation of human resources principal agency can optimize its operating costs and human service specialization, thereby improving the industry competitiveness of new enterprises. However, the human resources agency is a continuous and complicated process, and the potential risks are easily ignored by the new enterprises, and even make the new enterprises face losses. Therefore, it is of practical significance to correctly identify and effectively evaluate the principal-agent risk of human resources of current new enterprises in promoting the construction of core competitiveness and sustainable development of enterprises in China.

**Keywords:** Principal-agent risk, human resources management, new enterprises

## INTRODUCTION

### 1 Introduction

The business entrustment agency, which emerged early in the field of information technology, is one of the means of competition in the enterprise value chain, and it is also an important way to optimize the combination of business modules in the enterprise entrustment agency. Since the 1980s, the entrustment agency has gradually expanded to enterprise production, sales, business Diagnosis and human resources and other fields, especially the software industry and logistics industry at present, the Internet has continuously released new demands for service agency, which has made China's service agency enterprises flourish (Hu, 2021). The number of companies is close to 40,000, achieving high-quality development and gradually climbing to the high end of the global value chain. The industry was formally incorporated into the national strategy. Driven by the national industrial upgrading, innovation and entrepreneurship development and talent innovation strategy, it has created more and more development space for the agency of human resources (Li. 2017). The entrusted agency of human resource

management business such as performance management provides an opportunity.

After China implements the dual entrepreneurship and development policy, many new enterprises have emerged in China. New enterprises have become a new force in China's economy. New enterprises play an important role in promoting the development of China's economy, and alleviate the contradiction of employment in China (Wang, 2020). At the same time, they occupy a pivotal position in the rapid development of China's economy. However, the impact of the 2008 world financial crisis, the downturn of the world economy and the shrinking of the international market, the lack of labor advantages, and the impact of foreign high-tech and high-quality competitive products have all posed certain challenges to the development of China's new enterprises. The vast majority of new enterprises tend to focus on the current financial policies, product production and quality supervision, and focus more on business risk prevention and control, but ignore the risks that may be caused by human resources agency, resulting in the risk management module of human resources agency (Zhang, 2018). Without it, there is a general phenomenon of low efficiency in the entrustment and agency of human resources of enterprises. Therefore, scientific methods should be adopted to identify the principal-agent risks of human resources in new ventures, so as to make effective assessments of these risks, and then give practical risk response methods, which will help improve the core of new ventures in China.

## **LITERATURE REVIEW**

### **2. The problem of principal-agent risk of human resources in new enterprises**

#### **2.1 High uncertainty of principal-agent risk events**

Uncertainty in three aspects reflects the risk of human resources principal-agent. First, the human resources risk events of new enterprises are more frequent and uncertain than those of large-scale enterprises, which are caused by new enterprises entering the market. The short development time is directly related to the weak competitiveness. The uncertainty of the risk event is mainly reflected in the time and place of the risk event, the scale of the risk outbreak, the scope of the risk, the level of the risk. The second is that the various factors that trigger the risk are implicit and unobservable, dynamic and unmeasured. Risk factors exist in the project cooperation bidding, project management follow-up and process management between the client and the agent, and also in the unknown management concept and management culture between the client and the agent. The occurrence of risk events of human resource agency is the result of many factors alone or together. The third is that the object of risk occurrence is basically difficult to determine. Often, the unfavorable risk results will be borne by new enterprises. New enterprises have poor ability to resist risks, resulting in corporate losses (Brewster, 2018). The object of outbreak risk is sometimes caused by the company itself, regardless of the external environment. It will also form a risk of self-destruction. Finally, the relationship between the principal and the agent is also very important. If it is not handled properly, it will also bring risks to the enterprise. This kind of risk object factors generated inside and outside the new enterprises is always in dynamic development and interacts with each other. Many risk object factors have unconventional changes in the management goals and interests of both parties. Therefore, the uncertainty significantly increases.

#### **2.2 Adverse selection crisis and trust crisis in principal-agent relationship**

The adverse selection game based on the maximization of interests often occurs in principal-agent events, which makes the rent-seeking behavior and opportunistic behavior in the principal-agent relationship explicit (Clark, 2020). It is known that, according to common sense logic, full trust in the cooperative department can effectively

reduce the possibility of opportunistic behavior, promote the normalization of cooperative relations, and promote the establishment of a long-term cooperative relationship. And it can also effectively reduce conflicts and the transaction costs between them, thereby promoting the sharing of knowledge and resources among human resource entrusting agency enterprises, and establishing a human resources entrusting agency alliance partnership. However, irrational trust crisis is the basic norm in HR principal-agent activities of new enterprises.

Therefore, the moral crisis of mutual distrust and adverse selection in business activities will inevitably replace trust. The decline of trust will inevitably lead to a crisis of trust, which will lead to the failure or termination of human resources agency (Cooke, 2020). There are various factors that cause the trust level of both parties to decline, mainly including: differences and conflicts in the daily management process and management culture between new enterprises and cooperative agents or agents, and changes in management projects that occur during the cooperation process. In this way, the crisis of trust will bring about an increase in management costs, which is not conducive to the upgrading and transformation of human resources agency business, and hinders and destroys the establishment of a principal-agent partnership.

### **2.3 Lack of risk warning and prevention system for new enterprises**

Human resources entrusted agents are both familiar and unfamiliar to new enterprises. In addition, the human resources decision-making management system of new enterprises often lacks institutional arrangements and strategic designs for human resources entrusted-agent work, and the modern enterprise system is not perfect. Therefore, in the process of human resources agency, it is necessary to establish a scientific reasonable early warning mechanism of human resources principal-agent risk and prevention system to identify, warn and manage principal-agent risks, and avoid or reduce losses caused by principal-agent risks. First of all, it is necessary to establish a risk early warning mechanism and early warning platform, to predict the possibility of risk occurrence, identify the nature of potential risks, reasonably analyze and scientifically evaluate the harm and loss of risks, formulate risk management strategies, and strengthen resource investment in risk management. Therefore, scientifically and rationally analyzing and evaluating the principal-agent risk of human resources can not only maximize the utilization of resources, but also improve the ability to prevent risks. The appropriateness of the risk prevention of human resources entrustment agency in new enterprises determines whether they can truly maximize the benefits from human resources entrustment agency (Elsafty, 2020). However, at present, most new enterprises have no systematic risk management system to deal with the principal-agent risks in the human resources principal-agent.

### **2.4 Insufficient incentives for new enterprises to principal-agent risk control**

The role of incentives in human resource principal-agent is becoming more and more obvious. Companies should actively carry out multilateral cooperation to achieve the goal of facing risks together and sharing benefits together, so that the principal and the agent can be closely combined to maximize collective interests, which is the incentive of human resources principal-agent risk control. The sustainable development of cooperation can be promoted only through incentives that enable both parties to receive reasonable returns (Greer, 2021). Incentives should be the focus of the consideration of both parties. Only when both parties can take into account their feelings about the method and jointly consider future benefits can both parties be urged to give up their opportunism in cooperation and work towards their common goals. Therefore, new enterprises should consider feasible incentives in order to strengthen the reward for agents. At present, among new enterprises, the main incentive means is the form of salary incentives, the

incentive effect of long-term cooperative development is not obvious, and there is an obvious lack of incentives for human resources principal-agent risk control. To sum up, most new enterprises are currently affected by the financial crisis and the turbulent macroeconomic control environment, as well as the comprehensive impact of the new crown pneumonia virus epidemic on economic operation and enterprise production since the end of January 2020. There is a large lag and temporary stagnation in the construction and improvement of the incentive mechanism for risk control (Hausken, 2019).

### **3 The control of principal-agent risk of human resource in new enterprises**

#### **3.1 Game-based human resource principal-agent risk control**

There are two main aspects to the key risks of HR principal agency in new enterprises. First, there are problems in the management of the enterprise. The second is the loopholes in the enterprise's system. Both can bring key risks to the human resources agency of the enterprise. Due to the emphasis on investment projects and market demand in the process of new enterprises' development, the dynamic game characteristics of investment development are more obvious, and the risk of enterprise investment development is neglected. Therefore, establishing a risk prevention mechanism under the game, seeking the Nash equilibrium of the game, and ensuring the optimal control of the game risk are the top-level design to promote the optimization of human resources principal-agent risk management (Hee, 2018).

##### **3.1.1 Building a reputation mechanism for promoting corporate social responsibility**

The corporate vision and responsibility, product quality, brand culture, employee care, salary system, service commitment and customer loyalty, capital chain security, agile manufacturing, and honest cooperation of new ventures are important conditions for building a good reputation. A good market reputation can firmly constitute the high-quality intangible assets of new ventures and is the core brand of enterprise development. Therefore, the risk prevention of enterprise development must be implemented from the establishment of a social reputation of integrity. The human capital of new enterprises is the core capital of enterprise development. Human capital has significant value-added properties. The immaturity of the principal-agent market and the game appeal of the agent to the interests will only increase the risk of the agent. Under this circumstance, the reputation level of new enterprises can effectively avoid the psychology and behavior of the agent's interest game, so as to promote the generation of a more rational human resource principal-agent contract (Johansen, 2019). Therefore, new enterprises should actively improve their own development mechanism, take the initiative to assume corporate responsibility, strengthen the corporate reputation of quality and service, form a rigorous institutional system, and improve their immunity to risks to effectively avoid the game risk of human resources agency.

##### **3.1.2 Promoting the construction of risk prevention system of lean management**

The development scale of new enterprises is not enough to establish an ERP management system for resource planning, but lean management thinking can replace part of the effectiveness of ERP management to a certain extent. In the production and operation of enterprises, the game of investment and income, and the game of cooperation with the agent, all have the realistic possibility of causing risks. This requires that the human resources agency business of new enterprises must also be placed under the inspection of lean management. According to the existing resources of new enterprises, a standardized and detailed operational risk management system is formulated from the aspects of agent bidding selection, contract signing, and implementation of the supervision system, so as to fully cope with the game risks in the agent market. A flexible mechanism should be adopted to improve the management level of the enterprise, and

maximize the effectiveness.

### **3.2 Risk warning and prevention platform control based on transaction cost**

From the perspective of transaction cost, blockchain technology should be used to establish a human resources agency risk early warning and prevention platform. Through the corresponding Internet, artificial intelligence and other information technology platforms, the risk cost point in the process of human resources agency transaction agency should occur based on early warning of monitoring data in chronological order. It is a comprehensive platform that brings together management, technology, application and service alerts to sense risks. The cost risk prevention and early warning of human resources entrusted agents requires input of various types of information of the enterprise entrusted agent and the contract information of the agent, the risk probability of contract performance, the progress of the agency task, etc. into the platform management, and the change of the transaction cost point is used as an early warning to meet the basic requirements of risk early warning. The design of the early warning platform can basically use the existing enterprise information management system, and the early warning release and automatic analysis system embedded in the blockchain technology constitute an integral part of the human resources agency transaction cost risk prevention and early warning platform. The early warning platform adopts a five-level integrated design, namely the basic environment layer, the data resource layer, the service support layer, the application layer, and the user access layer. At the same time, the early warning platform includes five functional modules, namely the main interface of the platform, the platform management functional module, the risk identification functional module and the risk assessment functional module. It integrates subsystems such as information management, information release, and risk early warning into a system, so that risk identification, assessment, early warning and other functions can be interactive and punctual, so as to effectively avoid risks and prevent them before they occur, which can provide a good internal and external environment for the development of the enterprise.

### **3.3 Risk control in principal-agent transition**

The risk formation in the transition of principal-agent is mainly due to changes in the management and business personnel of both parties, the appropriate adjustment of contract content brought about by changes in the situation, and the accuracy of risk warnings and changes in regulatory measures. Subtle fluctuations in changes may cause process regulatory risks in the principal-agent transition (Karman, 2020). The prevention of risks in the transition requires timely communication and feedback from both parties, who should strengthen management communication and overall operation, and jointly restrain the formation of accidental risks in the transition of principal-agent.

The agent's adverse selection behavior based on interest demands is irrational behavior under the condition of information asymmetry (Koster, 2020). Actual effort on the agent can easily constitute an obstacle, which requires management communication to effectively resolve it. Management communication mainly includes the following ways. The first is the effective communication between departments within the new enterprises. It should strengthen the awareness of each functional department of the new enterprises to the human resources entrusted agency project, so as to enhance the identification and public supervision of all employees of new enterprises. The second is the establishment of a timely communication mechanism between the two parties of the principal-agent contract. The contract game between the principal and the agent requires the timely communication and exchange of project progress and quality management opinions between the two parties, so as to achieve the same behavioral effect as possible. The third is to establish a corresponding technical connection between the progress as well as content data of the principal-agent project and the risk early warning system of

the new venture. It forms the management structure and control mechanism in the transition of the principal-agent, and establishes tangible and intangible channels to strengthen the understanding of all parties. It increases active communication between all parties involved to ensure that information can be communicated in a timely manner.

## CONCLUSION

New enterprises are the new force of China's industrial revolution in the new era, and an important pole of entrepreneurial human capital and innovative technology in the regional economic circle. In the development of the fierce market competition of the new industrial economy, the hypothetical interest demands of all economic agents will inevitably lead to the normal game in economics and the adverse selection of the realization of cooperative value, and the moral hazard of cooperative game will inevitably exist. Therefore, it is determined that new enterprises that tend to be temporarily poor in economies of scale must seek efficient operation modes in internal governance and human resource management, so as to continuously reduce production and operation costs and maximize benefits, which will inevitably lead to new innovations. The commission-agent resource outsourcing operation mode accumulated in the third wave of the world's industrial revolution has injected new vitality into new enterprises. Although there may be various risks in resource outsourcing, the increasingly normalization of the flow of competitive markets and talents has prompted the demand and choice of human resources principal agents for new enterprises.

## REFERENCES

- Brewster, C., Mayrhofer, W., & Farndale, E. (Eds.). (2018). *Handbook of research on comparative human resource management*. Edward Elgar Publishing.
- Clark, G. L., & Monk, A. H. (2020). *Long-Term Investment Management: The Principal-Agent Problem and Metrics of Performance*. In *The Routledge Handbook of Financial Geography* (pp. 263-285). Routledge.
- Cooke, F. L., Dickmann, M., & Parry, E. (2020). *Important issues in human resource management: introduction to the 2020 review issue*. *The International Journal of Human Resource Management*, 31(1), 1-5.
- Elsafty, A. S., & Ragheb, M. (2020). *The role of human resource management towards employee's retention during Covid-19 pandemic in medical supplies Sector-Egypt*. *Business and Management Studies*, 6(2), 5059-5059.
- Greer, C. R. (2021). *Strategic human resource management*. Pearson Custom Publishing.
- Hausken, K. (2019). *Principal-agent theory, game theory, and the precautionary principle*. *Decision Analysis*, 16(2), 105-127.
- Hee, O. C., & Jing, K. R. (2018). *The Influence of human resource management practices on employee performance in the manufacturing sector in Malaysia*. *International Journal of Human Resource Studies*, 8(2), 129.
- Hu, B., McCune Stein, A., Mao, Y., & Yan, A. (2021). *The influence of human resource management systems on employee job crafting: An integrated content and process approach*. *Human Resource Management Journal*.
- Johansen, M. S., & Sowa, J. E. (2019). *Human resource management, employee engagement, and nonprofit hospital performance*. *Nonprofit Management and Leadership*, 29(4), 549-567.

- Karman, A. (2020). *Understanding sustainable human resource management—organizational value linkages: The strength of the SHRM system*. Human Systems Management, 39(1), 51-68.
- Koster, F., & Benda, L. (2020). *Innovative human resource management: measurement, determinants and outcomes*. International Journal of Innovation Science.
- Klein, H. J., & Potosky, D. (2019). *Making a conceptual contribution at Human Resource Management Review*.
- Legge, K. (2020). *Human resource management: Rhetorics and realities*. Bloomsbury Publishing.
- Li Aiguo, Zeng Qing. *Policy Situation and Future Prospects of "Innovation and Entrepreneurship"* [J]. Reform, 2017(10):149-157.
- MCCARTHY. (2017). *The top 20 reasons startup strategic outsourcing and corporate strategy*[J]. Computers in Industry, 32(11):146-155.
- Riana, I. G., Suparna, G., Suwandana, I. G. M., Kot, S., & Rajiani, I. (2020). *Human resource management in promoting innovation and organizational performance*. Problems and Perspectives in Management, 18(1), 107.
- Shaw, J. D. (2021). *The resource-based view and its use in strategic human resource management research: The elegant and inglorious*. Journal of Management, 0149206321993543.
- Wang Juanjuan. (2020). *Research on Human Resource Outsourcing Risk Management of Hunan ZL Company* (Master's thesis, Xinjiang University).
- Yabanci, O. (2019). *From human resource management to intelligent human resource management: a conceptual perspective*. Human-Intelligent Systems Integration, 1(2), 101-109.
- Zhang Hongbin, Huang Haiyan, Hu Spy. *The impact of risk-taking on performance of small and micro startups: the moderating effect of dynamic capabilities* [J]. East China Economic Management, 2018,32(11):126-133.

# **BIBLIOMETRIC ANALYSIS ON COORDINATED DEVELOPMENT OF ECOLOGY AND INDUSTRY**

**WANG SHI YING**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 389257015@qq.com*

## **ABSTRACT**

In face of global warming and increasingly severe energy problems, the coordinated development of industry and ecology is of great significance to cope with climate change and achieve sustainable development of ecological economy. In this paper, taking the relevant literature on ecology and industrial development collected by Web of science from 2000 to 2022 as sample, 2251 valid literature were obtained based on five sets of search keywords "ecological industry development", "industrial economy and ecological environment", "ecological green economy", "capitalization of ecological resources" and "ecological industrialization". The CiteSpace software was used to visually analyze the literature in this field based on year, country, journal and keywords. The results show that the number of published literature increases with the time-year transition, and China is the country with the largest research results in this field, followed by the United States and the United Kingdom. Journals such as Journal of production and Ecological Economics have made significant contributions to the development of this field. With the intensification of global ecological and environmental problems, the focus of scholars' research in this field has gradually shifted from industrial ecology and ecological industrial park construction to low-carbon emission and ecological environmental protection.

**Keywords:** ecology and industry, coordinated development, web of science, CiteSpace

## **INTRODUCTION**

### **1. Introduction**

#### **1.1 Background**

While promoting large-scale growth in the global economy, the industrial revolution that began in the 1860s has become the culprit of the global greenhouse effect and climate warming through the use of non-renewable fossil fuels such as oil and coal, and the emission of large numbers of greenhouse gases represented by carbon dioxide. Climate warming leads to glacier melting, sea level rise, smog resident, frequent rainstorms, frequent mountain fires and other chain reactions, the current basic consensus of the global scientific community is that by the end of this century, the global average temperature will rise by more than 4°C than before the industrial revolution, and the higher temperature caused by continuous global warming will make the earth unsuitable for human habitation, which is what human beings have to stop no matter what, and need face and work hard for the earth. Based on this, the international community signed the United Nations Framework Convention on Climate Change in the 1990s, as the world's first international

convention to control global carbon emissions and cope with the global greenhouse effect, and actively explored international measures to cope with global warming and reduce global carbon emissions. The official launch of the 2030 Agenda for Sustainable Development in 2016 and the signing of the Paris Climate Agreement have made the protection, use and sustainable development of global ecosystems a shared vision for humanity. China has proposed that it will strive to peak carbon dioxide emissions in 2030 and achieve carbon neutrality by 2060 through more vigorous policies and measures. Therefore, while responding to the impact of the Covid-19 epidemic, the world must take innovation, coordination and green development as new measures for industrial development and promote the "green recovery" of the global economy in the post-epidemic era.

Making good use of ecological resources, promoting green economic development, and creating an environment-friendly and resource-saving circular economy are effective measures for the international community to cope with the increasing depletion of non-renewable resources and excessive carbon emissions. The concept of ecological green economy came into being. The so-called ecological green economy is to give full play to ecological advantages, take the road of economic green development on the basis of adhering to ecological priority and resource intensification, organically integrate the construction of ecological civilization with economic construction, build an ecological-oriented development model, effectively combine ecological environmental protection and governance with the development and utilization of natural resources and industrial development, and coordinate development, realize the transformation of ecological advantages into industrial economic development advantages, realize the advantages of ecological industrialization and industrial ecological integration and development, and finally realize the transformation of ecological product value into economic advantages.

## **1.2 Theories**

### **1.2.1 Theory of sustainable development**

Sustainable development is a new idea and model proposed by mankind to maintain the coordinated development of social economy and ecological environment in response to the problems of energy consumption, deterioration of the ecological environment and increasing imbalance of the ecological environment caused by economic development since the industrial revolution. The connotation of sustainable development theory includes: a good economic development model should be based on ecological sustainability and energy sustainability, and human beings should protect the development of future generations to meet their needs while meeting the needs of contemporary economic and social development, and not let the development of their own stages endanger or destroy the development of future generations. Sustainable development encompasses three categories: ecologically sustainable, economically sustainable and socially sustainable, which are mutually reinforcing and inseparable. What human society should achieve is a situation of coordinated development of nature, economy and society. The theory of sustainable development encompasses three principles: the principle of equity, that is, equitable opportunities for development between contemporary people, between present and future generations, between humans and other species, and between humans in different countries and regions. The principle of continuity: The carrying capacity of the earth's development is limited, and the economic development of human beings and various social activities need to be kept within the limited resources and environmental carrying capacity of the earth. Principle of commonality: All countries in the world participate in the protection of the global environment and are jointly responsible

for the sustainable use of the global ecological environment and energy(Hanna & Cesaretti, 2019).

### **1.2.2 Eco-economic theory**

American economist Kenneth Bolding's "A Science: Ecological Economics" clearly puts forward the concept of "ecological economics". The "American School" that emerged in the Western countries in the 19th century quantitatively analyzed the ecological crisis and proposed that "what is obtained from nature should be returned to nature in a circular manner." Since the 1990s, the academic community has begun to focus on the study of ecological economic theory, Herman Daly has conducted systematic research on the theoretical framework of ecological economy and proposed steady-state economic theory(Norgaard, 2008); some studies have pointed out that economic system is subsystem of ecosystem(Brown, 2004; Simonis, 2008). Looking at the theoretical research on ecological economy, the research field mainly focuses on the three aspects of ecological industry development, ecological restoration and ecological environmental protection, the core concept is to emphasize the combination of ecological environment and economic development, use ecological principles and economic development theory to systematically study ecology and economic development, put global economic development in the sustainable development of ecosystems, and achieve the goal of sustainable development of ecological economy through limited and recyclable utilization of ecosystems and natural resources.

## **LITERATURE REVIEW**

Compared with the traditional industrial model, eco-industry is technological innovation and core model reform, which is an organic whole formed by the circulation of material and energy flow between industrial development and environmental protection within the system(Frosch & Gallopoulos, 1989). Mature eco-industrial systems can obtain industrial symbiosis, allowing economic development to be recycled and recycling industrial elements to maximize the benefits of economic and social development (Tonn et al., 2014; J. Yang et al., 2018).Through quantitative analysis of the development level of ecological industrialization in 15 provincial-level cities in China from 2000 to 2018, it is shown that five factors, such as regional GDP, human resources in the secondary industry, total investment in fixed assets, industrial sulfur dioxide removal, and the production value of "three wastes" recycled products, are the main factors restricting the development level of regional ecological industry (C. Lu et al., 2020).As an effective way to balance ecological environmental protection and industrial economic development, many studies have focused on greenhouse gas emissions from ecological industrial parks(Dong et al., 2013, 2014; Hashimoto et al., 2010; Y. Lu et al., 2015; Zhang et al., 2013).Holistic analysis of environmental performance in eco-industrial parks using improved emergy analysis methods (Dong et al., 2018).The role of industrial technology in promoting the economic output of natural resources per unit, as well as the negative impact of industrial development on the ecological environment (Leme et al., 2018),the economic output of natural resources per unit can be increased by improving and innovating industrial production technologies(Clara Inés Pardo Martínez & Silveira, 2013),and empirical research methods are used to explore ways to improve the competitiveness of Chinese high-tech ecological industries (K. Yu et al., 2018).

The central theme of the circular economy is the valuation of production substances in a closed-loop system, where the goal of the circular economy is to reduce pollution emissions, resource constraints and impacts on sustained economic growth while sustainably exploiting natural resources (Winans et al., 2017). Circular economy is a transition from a traditional "linear" economy to a "circular" economy, which mainly includes the technical cycle of material and economic cycles, providing new opportunities for economic and industrial development and social development (Nikolaou et al., 2021; Nikolaou & Tsagarakis, 2021). Micro, meso and macro level analysis of the circular economy is conducive to a more systematic and comprehensive understanding of the connotation and extension of the circular economy (Moraga et al., 2019). Industrial symbiosis is an effective way to gain a competitive advantage in the collective, industrial symbiosis integrates the material, energy, water environment and by-products in each industry into an organic system network, which becomes an effective transition to a sustainable economic by effectively solving problems such as energy consumption, waste management and pollution control (Baldassarre et al., 2019). Through the analysis of the contributing factors of the green economy development of China's Liaoning Province from 1995 to 2017, it is shown that ecological security and green economic development complement each other and promote each other (C. Yu & Chen, 2021). A quantitative analysis of the three variables of human capital, financial development and GDP of 20 OECD member countries between 1990 and 2017 to measure the comprehensive contribution of green growth, economic globalization and ecological innovation to the realization of sustainable ecological and economic development shows that the ecological sustainable development of environmental resources can be achieved through technological innovation and effective production management in the production process (Ahmad & Wu, 2022).

Pritchard first proposed the bibliometric analysis method in 1969, using mathematical or statistical methods to analyze the changes and characteristics of a discipline or field in the process of development. Citespace is a visualization software for the statistics and analysis of scientific literature, which runs on the Java platform to identify and display the knowledge base, research direction and research frontier of a certain discipline or field (Chen et al., 2012). Citespace-based literature analysis has been applied to various fields of scientific research, knowledge areas and emerging trends in organic photovoltaic technology (Xiao et al., 2017), new trends in regenerative medicine (Chen et al., 2012), ecological model studies of eutrophication in water bodies (W. Hu et al., 2019), desertification restoration studies (H. Hu et al., 2021).

## **RESEARCH METHODOLOGY**

### **3. Research Methodology and Data Sources**

Based on the nodes of keyword, journal, research countries, research focuses and frontier trends of citespace analysis software, this paper conducts statistics and analysis of the research content of ecology and industrial development from an academic perspective, and applies citespace5.8.R3 software to design ecological industry, ecological green economy and other topics of articles for data mining and analysis, in an attempt to grasp the international research hotspots and development trends in the field of ecology and industrial development. Lay the foundation for the next step of research on the ecology and industrial development of specific regions.

In order to ensure the quality of literature analysis data, this paper uses the articles in the Web of science database as the analysis object, WOS is a more influential multidisciplinary comprehensive academic digest index database on a global scale, including the most influential core academic journals in multiple disciplines such as natural sciences, biomedicine, social sciences, etc. The literature analysis using the wos database can fully guarantee the quantity and quality of literature in related fields around the world.

This study uses the five groups of keywords most relevant to ecology and economy: "ecological industry development", "industrial economy and ecological environment", "ecological green economy", "ecological resource capitalization", "ecological industrialization" as the search label, the selected literature type is: article, does not include research reports, call for papers, conference papers, etc. The time range of the search is 2000-2022, because from 2000, the research on energy conservation and emission reduction, industrial ecology, etc has been gradually carried out. Finally, 2648 articles were retrieved, and 2251 valid documents were obtained after removing duplicate and invalid literature such as comments, reports, and meeting notices, which were used for the source data analyzed in this paper.

## RESULTS AND FINDINGS

### 4. Results and Findings

#### 4.1 Time distribution and volume analysis of published articles

The change in the number of literature published with time can reflect the change of research popularity in this field with time, as can be seen from Figure 1, the number of papers published in years is calculated, with the passage of time in the year, the number of articles in the field of ecology and industrial development has increased year by year, indicating that the research fever in this field has increased year by year. The first research article on this field was published in 2004, showing that since 2004, the world has begun to pay attention to the ecological environment while paying attention to industrial economic growth, and considering ecological environmental protection and industrial development as a whole. In 2004, there were 67 articles on industrial ecology, mainly focusing on theoretical research on industrial ecosystems (Chiu & Yong, 2004; Linton & Yeomans, 2004), and applied practical exploration (Baas & Boons, 2004; Roberts, 2004; P. P.-J. Yang & Lay, 2004; Zhu & Cote, 2004).

By selecting the node type as the institution on the citespace, performing visual analysis, exporting the top 30 data in terms of article volume to Excel and generating a histogram, the comprehensive analysis of the journals published in the field is carried out. From figure 2, we can see that the main journals in the field of ecology and industrial development ranked first in "Journal of Cleaner Production", with a circulation of 999 articles, followed by "Ecological Economics", with 741 articles, "Science of the Total Environment", "Journal of Industrial Ecology" individual reached 600 articles. These journals play a great role in promoting the development of ecology and industry in the global academic community, from the analysis of the main fields of articles published in various journals, the main focus of the academic community in the field of ecology and industry is cleaner production, ecological economy and environment, ecological industry, etc.

*Figure 1: Trend of the number of papers published over time*

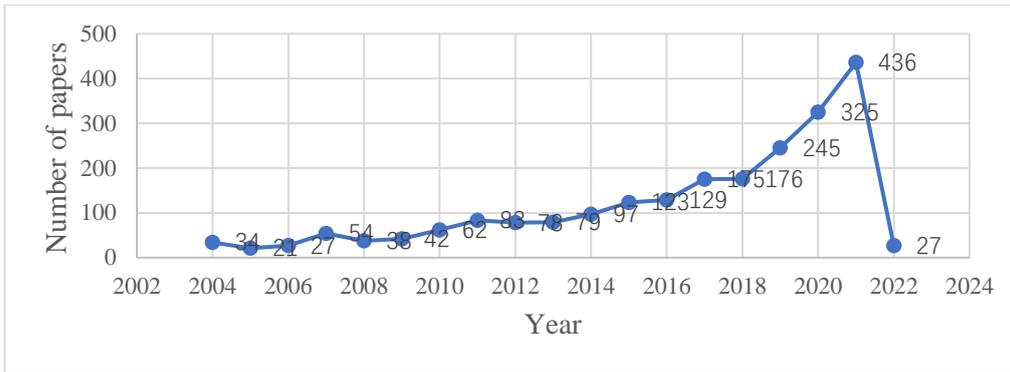
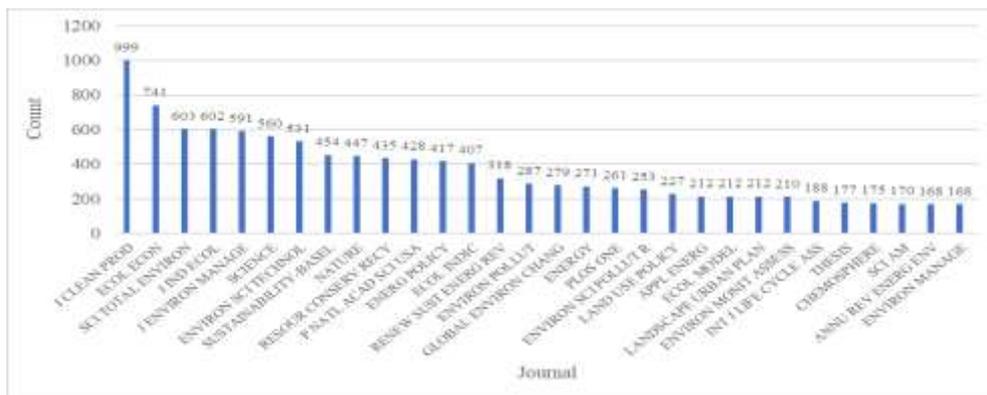


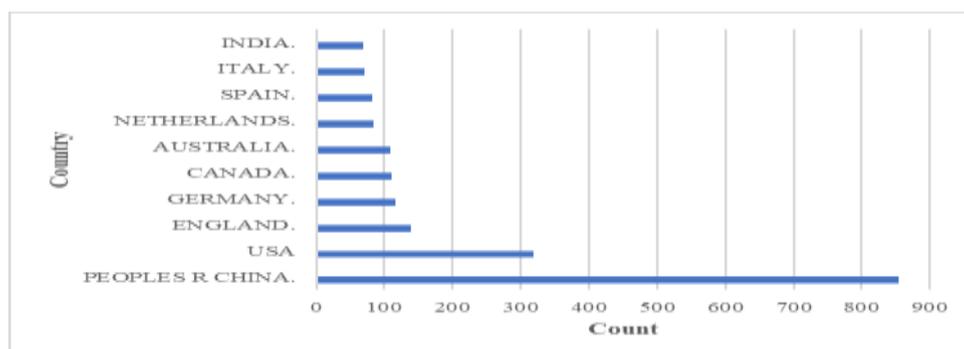
Figure 2: Major source journals in the field of ecology and industrial development



#### 4.2 The analysis of country in this field

Through the analysis of the number of documents issued by different countries in this field, it can be roughly estimated that researchers in different countries pay attention to this field, so as to analyze the importance attached by different countries to ecological environmental protection and industrial development. As can be seen from Figure 3, the cumulative number of Articles published by China in this field has reached more than 800, which is much higher than that of the United States, which ranks second, and the United Kingdom ranks third. Since the last century, while promoting the growing economic level, China gives play to the responsibility of a big country, has always taken into account the protection of the ecological environment, and in the context of global warming, proposing to peak its national carbon dioxide emissions by 2030 and achieve carbon neutral low-carbon emission targets by 2060. The optimization and upgrading of industrial structure, the green development of ecological economy, and ecological industrialization have become important trends in Chinese economic transformation.

Figure 3: Number of submissions by different countries in this area



### 4.3 Analysis of research hot spots and trend

Keywords are a highly generalized study topic of an article, and the frequency of occurrence of keywords can reflect the hot spots and trends of research in a certain field. In order to analyze the research priorities and trends in the field of ecology and industrial development, this paper uses the CiteSpace literature analysis software. Select the node type as the keyword, carry out keyword co-occurrence analysis and cluster analysis.

#### 4.3.1 Keyword co-occurrence analysis

The co-occurrence analysis results are shown in Figure 4, there are 676 keyword nodes and 2308 node network connections. The five keywords reflected by the size of the node are the most frequent keywords in all literature: "industrial ecology" (454 times), "impact" (193 times), "Ecology" (191 times), "Sustainable development" (187 times), and "management" (180 times). It shows that since 2004, the most popular directions in the field of ecological and industrial research are industrial ecology and sustainable development. Table 1 shows the top 20 keywords in the research process of this field, and these keywords can be used to systematically analyze the research scope and research direction changes in the field in the past 20 years.

Figure 4: Results of keyword co-occurrence analysis



Table 1: Top 20 keywords of Coordinated development of ecology and Industry

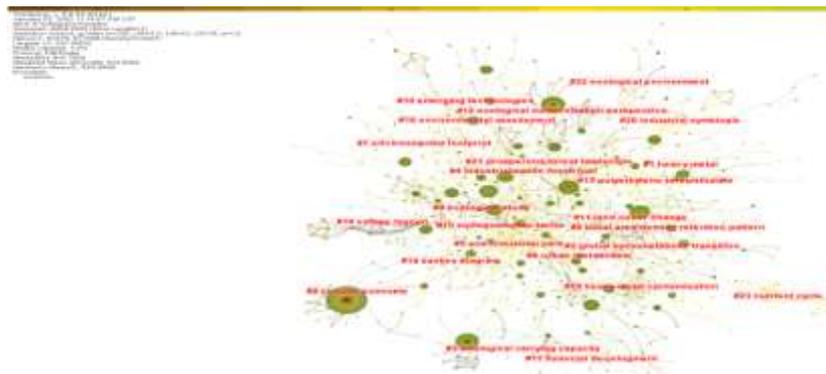
Keywords	Frequency	Begin Year	Keywords	Frequency	Begin Year
industrial ecology	454	2004	energy	104	2007
impact	193	2004	growth	94	2007
Ecology	191	2004	climate change	94	2004
Sustainable development	187	2004	framework	90	2008
management	180	2007	emission	88	2004
system	168	2004	heavy metal	87	2007
china	145	2009	industrial symbiosis	86	2007
circular economy	130	2010	consumption	86	2005
model	119	2007	city	81	2006
sustainability	117	2007	life cycle assessment	80	2007

#### 4.3.2 Keyword cluster analysis

The keyword clustering analysis results are shown in Figure 5, where high-frequency keywords are clustered into 23 classes, The modularity (Q) is 0.7904 (>0.3), indicating that the divided community structure is significant, and The mean silhouette (S) is 0.9046 (>0.7) shows that the clustering results are highly efficient and convincing (Kim & Chen, 2015). Keyword clustering analysis finally yielded 23 clustering results, respectively #0 basal area density retention pattern、 #1 heavy metal、 #2 global socio-metabolic

transition、#3 ecological carrying capacity、#4 industrialization fossil fuel、#5 eco-industrial park、#6 urban metabolism、#7 environmental footprint、#8 ecological study、#9 circular economy、#10 emerging technologies、#11 land cover change、#12 ecological modernization perspective、#13 polyethylene terephthalate、#14 sankey diagram、#15 socioeconomic factor、#16 environmental assessment、#17 financial development、#18 heavy metal contamination、#19 vehicle lagoon、#20 industrial symbiosis、#21 prosperous forest landscape、#22 ecological environment、#23 nutrient cycle. The clustering results intuitively show the research results extended from the research focus of ecology and industrial development.

Figure 5: Results of keyword clustering analysis



#### 4.4 High frequency citation analysis

By analyzing the popularity of keywords cited in literature on ecology and industrial development over the years, the changes in research directions over time can be analyzed. The top 20 keywords with the strongest citation bursts in Figure 6 are analyzed, "industrial ecology" and "ecological industrial park" are areas with long continuous research popularity, the research heat lasted from 2004 to 2015, under the current global situation of global warming and the increasing exhaustion of non-renewable energy, "ecological environment" and "carbon emission reduction" have gradually become new research hotspots, and the research heat may continue to increase with international attention to climate and environment.

Figure 6: Top 20 Keywords with the Strongest Citation Bursts



## DISCUSSION AND CONCLUSION

The coordinated development of ecology and industry is an important measure to cope with global warming and the increasing depletion of non-renewable resources, this

paper takes all the research results in this field included in the web of science database since 2000 as a research sample, and uses the CiteSpace literature visualization analysis software to analyze the publication year, country, journal, keyword, etc., and summarizes the research trends and research hotspots in the field over the years. Provide theoretical basis for future research frontiers and research trends. The analysis results show that the number of articles published in the field of ecology and industry has increased year by year, indicating that this field has been valued by academic research since 2000. China is the country with the most fruitful research results in this field, with nearly 1,000 published articles, indicating that China continues to pay attention to ecological environmental protection while paying attention to the level of economic growth. The second most published article was the United States, followed by the United Kingdom. The journals that published articles were analyzed, and the journals in the field ranked first in the field were *Journal of Cleaner Production*, followed by *Ecological Economics*, *Science of the Total Environment*, *Journal of Industrial Ecology*, etc. These journals play a significant role in promoting ecological and industrial development in the global academic community. The results of keyword co-occurrence analysis and cluster analysis can show the research hotspots in this field over the years, and the concepts of "industrial ecology", "ecology" and "sustainable development" are used to study hot spots. The analysis of high frequency citation shows that "urbanization", "ecological environment", "low-carbon emission reduction" and "economic development" are the current research hotspots and research trends, and according to the current characteristics of global climate and economic development, it is speculated that these research hotspots will continue.

## REFERENCES

- Ahmad, M., & Wu, Y. (2022). Combined role of green productivity growth, economic globalization, and eco-innovation in achieving ecological sustainability for OECD economies. *Journal of Environmental Management*, 302, 113980. <https://doi.org/10.1016/j.jenvman.2021.113980>
- Baas, L. W., & Boons, F. A. (2004). An industrial ecology project in practice: Exploring the boundaries of decision-making levels in regional industrial systems. *Journal of Cleaner Production*, 12(8–10), 1073–1085. <https://doi.org/10.1016/j.jclepro.2004.02.005>
- Baldassarre, B., Schepers, M., Bocken, N., Cuppen, E., Korevaar, G., & Calabretta, G. (2019). Industrial Symbiosis: Towards a design process for eco-industrial clusters by integrating Circular Economy and Industrial Ecology perspectives. *Journal of Cleaner Production*, 216, 446–460. <https://doi.org/10.1016/j.jclepro.2019.01.091>
- Brown, L. R. (2004). Plan B: Rescuing a Planet under Stress and a Civilization in Trouble. *World Environment*, 28(3), 337–338. <https://doi.org/10.1007/s10669-007-9158-9>
- Chen, C., Hu, Z., Liu, S., & Tseng, H. (2012). Emerging trends in regenerative medicine: A scientometric analysis in *CiteSpace*. *Expert Opinion on Biological Therapy*, 12(5), 593–608. <https://doi.org/10.1517/14712598.2012.674507>
- Chiu, A., & Yong, G. (2004). On the industrial ecology potential in Asian Developing Countries. *Journal of Cleaner Production*, 12(8–10), 1037–1045. <https://doi.org/10.1016/j.jclepro.2004.02.013>
- Clara Inés Pardo Martínez, & Silveira, S. (2013). Energy efficiency and CO2 emissions in Swedish manufacturing industries. *Energy Efficiency*, 6(1), 117–133. <https://doi.org/10.1007/s12053-012-9159-5>

- Dong, H., Geng, Y., Xi, F., & Fujita, T. (2013). Carbon footprint evaluation at industrial park level: A hybrid life cycle assessment approach. *Energy Policy*, 57, 298–307. <https://doi.org/10.1016/j.enpol.2013.01.057>
- Dong, H., Liu, Z., Geng, Y., Fujita, T., Fujii, M., Sun, L., & Zhang, L. (2018). Evaluating Environmental Performance of Industrial Park Development: The Case of Shenyang. *Journal of Industrial Ecology*, 22(6), 1402–1412. <https://doi.org/10.1111/jiec.12724>
- Dong, H., Ohnishi, S., Fujita, T., Geng, Y., Fujii, M., & Dong, L. (2014). Achieving carbon emission reduction through industrial & urban symbiosis: A case of Kawasaki. *Energy*, 64, 277–286. <https://doi.org/10.1016/j.energy.2013.11.005>
- Frosch, R. A., & Gallopoulos, N. E. (1989). Strategies for Manufacturing. *Scientific American*, 261(3), 144–152. <https://doi.org/10.1038/scientificamerican0989-144>
- Hanna, S., & Cesaretti, G. P. (2019). The Theory of Sustainable Development: A Review. *RIVISTA DI STUDI SULLA SOSTENIBILITA'*, ix. <http://ideas.repec.org/a/fan/rissri/vhtml10.3280-riss2019-002004.html>
- Hashimoto, S., Fujita, T., Yong, G., & Nagasawa, E. (2010). Realizing CO2 emission reduction through industrial symbiosis: A cement production case study for Kawasaki. *Resources Conservation & Recycling*, 54(10), 704–710. <https://doi.org/10.1016/j.resconrec.2009.11.013>
- Hu, H., Dai, J., Jin, Y., & Liu, X. (2021). Bibliometric analysis on desertification restoration based on CiteSpace. *Arabian Journal of Geosciences*, 14(2), 72. <https://doi.org/10.1007/s12517-020-06309-3>
- Hu, W., Li, C., Ye, C., Wang, J., Wei, W., & Deng, Y. (2019). Research progress on ecological models in the field of water eutrophication: CiteSpace analysis based on data from the ISI web of science database. *Ecological Modelling*, 410, 108779. <https://doi.org/10.1016/j.ecolmodel.2019.108779>
- Kim, M. C., & Chen, C. (2015). A scientometric review of emerging trends and new developments in recommendation systems. *Scientometrics*, 104(1), 239–263. <https://doi.org/10.1007/s11192-015-1595-5>
- Leme, R. D., Nunes, A. O., Message Costa, L. B., & Silva, D. A. L. (2018). Creating value with less impact: Lean, green and eco-efficiency in a metalworking industry towards a cleaner production. *Journal of Cleaner Production*, 196, 517–534. <https://doi.org/10.1016/j.jclepro.2018.06.064>
- Linton, J., & Yeomans, J. S. (2004). Materials recycling and industrial ecology. *Nature Materials*, 3(4), 199–201. <https://doi.org/10.1038/nmat1101>
- Lu, C., Ji, W., Liu, Z., Dong, S., & Xue, B. (2020). Synergistic Evaluation and Constraint Factor Analysis on Urban Industrial Ecosystems of Traditional Industrial Area in China. *Complexity*, 2020, 1–16. <https://doi.org/10.1155/2020/3805454>
- Lu, Y., Chen, B., Feng, K., & Hubacek, K. (2015). Ecological Network Analysis for Carbon Metabolism of Eco-Industrial Parks: A Case Study of a Typical Eco-Industrial Park in Beijing. *Environmental Science & Technology*, 49(12), 7254–7264. <https://doi.org/10.1021/es5056758>
- Moraga, G., Huysveld, S., Mathieux, F., Blengini, G. A., Alaerts, L., Van Acker, K., de Meester, S., & Dewulf, J. (2019). Circular economy indicators: What do they measure? *Resources, Conservation and Recycling*, 146, 452–461. <https://doi.org/10.1016/j.resconrec.2019.03.045>

- Nikolaou, I. E., Jones, N., & Stefanakis, A. (2021). Circular Economy and Sustainability: The Past, the Present and the Directions. *Circular Economy and Sustainability*, 8. <https://doi.org/10.1007/s43615-021-00030-3>
- Nikolaou, I. E., & Tsagarakis, K. P. (2021). An introduction to circular economy and sustainability: Some existing lessons and future directions. *Sustainable Production and Consumption*, 28, 600–609. <https://doi.org/10.1016/j.spc.2021.06.017>
- Norgaard, R. (2008). [No title found]. *Ecological Economics*, 67(3), 514–515. <https://doi.org/10.1016/j.ecolecon.2008.06.009>
- Roberts, B. H. (2004). The application of industrial ecology principles and planning guidelines for the development of eco-industrial parks: An Australian case study. *Journal of Cleaner Production*, 12(8–10), 997–1010. <https://doi.org/10.1016/j.jclepro.2004.02.037>
- Simonis, U. E. (2008). Lester R. Brown, Plan B—Rescuing a Planet under Stress and a Civilization in Trouble: W.W. Norton, New York and London, 2nd edn., 2006, XII + 367 pp, ISBN 978-0-393-32831-8. Price \$16.95. *The Environmentalist*, 28(3), 337–338. <https://doi.org/10.1007/s10669-007-9158-9>
- Tonn, B., Frymier, P. D., Stiefel, D., Skinner, L. S., Suraweera, N., & Tuck, R. (2014). Toward an infinitely reusable, recyclable, and renewable industrial ecosystem. *Journal of Cleaner Production*, 66(mar.1), 392–406. <https://doi.org/10.1016/j.jclepro.2013.11.008>
- Winans, K., Kendall, A., & Deng, H. (2017). The history and current applications of the circular economy concept. *Renewable and Sustainable Energy Reviews*, 68, 825–833. <https://doi.org/10.1016/j.rser.2016.09.123>
- Xiao, F., Li, C., Sun, J., & Zhang, L. (2017). Knowledge Domain and Emerging Trends in Organic Photovoltaic Technology: A Scientometric Review Based on CiteSpace Analysis. *Front Chem*, 5. <https://doi.org/10.3389/fchem.2017.00067>
- Yang, J., Bao, Y., Zhang, Y., \_X\_ Li, & Ge, Q. (2018). Impact of Accessibility on Housing Prices in Dalian City of China Based on a Geographically Weighted Regression Model. 28(3), 11. <https://doi.org/10.1007/s11769-018-0954-6>
- Yang, P. P.-J., & Lay, O. B. (2004). Applying ecosystem concepts to the planning of industrial areas: A case study of Singapore's Jurong Island. *Journal of Cleaner Production*, 12(8–10), 1011–1023. <https://doi.org/10.1016/j.jclepro.2004.02.028>
- Yu, C., & Chen, M. (2021). Regional Ecological Security Evolution and Green Economy: An Empirical Study. *Mathematical Problems in Engineering*, 2021(4), 1–11. <https://doi.org/10.1155/2021/5549048>
- Yu, K., Gong, R., Hu, S., & Luo, Y. (2018). Based on analytic hierarchy process to discuss key factors in high-tech industrial ecology development. *Ekoloji*, 27(106), 449–454.
- Zhang, H., Dong, L., Li, H., Fujita, T., Ohnishi, S., & Tang, Q. (2013). Analysis of low-carbon industrial symbiosis technology for carbon mitigation in a Chinese iron/steel industrial park: A case study with carbon flow analysis. *Energy Policy*, 61, 1400–1411. <https://doi.org/10.1016/j.enpol.2013.05.066>
- Zhu, Q., & Cote, R. P. (2004). Integrating green supply chain management into an embryonic eco-industrial development: A case study of the Guitang Group. *Journal of Cleaner Production*, 12(8–10), 1025–1035. <https://doi.org/10.1016/j.jclepro.2004.02.030>

# THE IMPACT OF BIG DATA ON HUMAN RESOURCE MANAGEMENT OF E-COMMERCE ENTERPRISES TAKE JINGDONG AS AN EXAMPLE

**JIE ZHANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 389257015@qq.com*

## ABSTRACT

With the rapid development of the Internet, the concept of "big data" came into being at the historic moment. The first wave of big data is enterprises. The traditional human resource management can no longer meet the development of enterprises, so we must carry out management innovation and reform. Especially for e-commerce enterprises, how to face the new wave of reform, how to do a good job of human management, introduce talents, and make good use of talents has become a problem that enterprises should focus on.

Taking Jingdong Group as an example, this article generally analyzes the overall process of recruitment, selection and training, and the collection of data and pictures. From the perspective of the influence of "big data" on the human resource management of e-commerce enterprises, we study and understand the current situation of the company's human resource management, find out the common problems, and more fully think about the promotion method of human resource management of enterprises.

Finally, for the research results, from the form of talent recruitment, improve the comprehensive quality of enterprise recruiters, improve the new staff training system, and talent and job match several aspects such as improvement measures, to how to deal with the big data electricity enterprise human resources management problems put forward effective measures and the prospect of electricity enterprises in the background of big data.

**Keywords:** big data; e-commerce enterprises; human resource management; reform

## INTRODUCTION

### 1. Research background and research status quo

#### 1.1 Research background

With the emergence of individual forms such as "live broadcast with goods" and wechat business in the circle of friends, the competitive pressure of e-commerce enterprises is increasing and facing major reform. While e-commerce enterprises improve their original mode, innovate more sales methods and channels, and enrich product diversification, human resources management also need to pay more attention to it. Through the sudden COVID-19 epidemic, the importance of talents and the urgency of reforming human resource management are more highlighted. A series of issues such as how to introduce talents and select appropriate talents have become the focus of major enterprises and managers.

As one of the top ten e-commerce platforms, JD is still developing steadily and rapidly under the turbulent market conditions. Human resource management mainly includes six modules. However, this paper mainly investigates and analyzes the reform of JD's recruitment and allocation in human resource management, and summarizes the necessity of modern "big data" for the reform of human resource management, and the problems existing in the traditional model. Therefore, taking this paper as the background, and based on the investigation and analysis of JD human resource management, we put forward universal and effective suggestions, so that JD Group can develop better and better with the assistance of "big data" technology, and also provides a template for other enterprises to promote the future overall development of the e-commerce industry.

### **1.2 Current research status at home and abroad**

1. Based on the Internet era, how to apply "big data" to human resources management has become a hot topic. Li Jin (2015) analyzed the reform and innovation of human resources management in Internet + era, summarized the problems and influence of Internet technology on traditional human resources management technology, boldly proposed the possibility of human resources management based on big data; Lu oguang (2017) further analyzed the impact of applying big data technology on enterprise management, and found the huge space for the development of human resources management in the background of big data. In 2018, Li Jianjun elaborated on the close connection between the era of big data and human resource management, analyzed the problems existing in the human resource management of enterprises in the era of big data, and put forward corresponding solutions.

The concept of "big data" has already appeared as early as the 1980s. The concept of big data was presented by a Godner study report first formally mentioned in 2001. In September 2008, Science magazine published an article titled "Big Data: Science in the PB Era", so that the word "big data" began to spread rapidly. Not only do foreign enterprise researchers pay attention to the role of big data in enterprise management, but also the government attaches great importance to it. The President's Advisory Board on Science and Technology proposed in 2011, expanding government investment in this important field. Therefore, in foreign countries, the development research of "big data" appeared early and government support gradually become popular research.

## **LITERATURE REVIEW**

### **2. Current status of human resource management of JD Group**

We study JD's talent recruitment in human resource management under the background of "big data". Through searching information and searching, we can understand that JD Group has set up the official website of "JD Recruitment", and the page includes three recruitment methods of social recruitment, campus recruitment and intern recruitment. You can select the application module according to your own situation, select the position to fill in your own information, and complete the application. Offer sends post-received online or offline training. The overall process is easy to operate and clear. In addition to the official website, there are also application channels put on various recruitment software, such as 58 Tongcheng, Boss Direct Employment, etc. This kind of software recruitment facilitates the local recruitment of the advertisement, mostly for the grassroots staff of the branch. However, due to the large scale of the company, the imperfect system and the low attention, it still relies on offline personnel recruitment, so that the traditional personnel management cannot be completely eliminated, resulting in

the cross-coexistence of big data human resource management and traditional personnel management. Therefore, the company has certain problems in the recruitment.

### **3. Problems existing in the company's human resource management under the background of big data**

According to the recruitment of JD physical stores of JD offline and the collection of JD school recruitment in previous years, it is concluded that the JD Group mainly has the following problems in talent recruitment:

#### **(1) Single form of talent recruitment and low efficiency**

Now, JD mainly relies on companies to distribute recruitment specialists for school recruitment, talent markets, job fairs, job hunting and other agencies, which are a well-known recruitment method of traditional human resource management. The traditional mode requires a large number of personnel and time in the recruitment operation. From the acceptance of applicant information to the selection and follow-up personnel, not only the recruitment form is single and backward, but the recruitment task is heavy, especially the huge workload and low efficiency.

#### **(2) The comprehensive quality of enterprise recruitment specialists is relatively low**

In the field recruitment, the comprehensive quality of the recruitment specialist on the whole recruitment work is very significant. Campus recruitment, for example, most students is the first contact in the campus job fair and employers, in the students do not know about an enterprise, the quality of recruitment commissioner represents the image of an enterprise, reflects an enterprise culture, college students usually according to the impression of recruitment staff perception, performance in the process of recruitment and the quality of the whole process to know the enterprise, and evaluate the overall situation of an enterprise. This problem exists in most enterprises, and JD is no exception. Jingdong will send recruitment commissioner to recruit, but because the professional resources are limited, so the campus recruitment team uneven quality, excellent university arrangement is professional, and in big cities general school dispatch is non-professional recruiters, so some recruiters themselves to the enterprise culture, management, technology, job requirements are not clear, professional quality is low. Some recruiters get bored after a day of the interview and are often poor. Often impatient to answer various questions raised by college students, with low personal quality.

#### **(3) Recruitment and recruitment requirements are not scientific, and talents and positions do not match**

The purpose of company recruitment is to make " people do the best, the best of their things." Stephen.P.Robbins (1997) proposed that the goal of effective HR recruitment is to match the characteristics of personal work (ability, experience, etc.) with the work requirements. In JD enterprises, there are often opposite phenomena that employees are unable to work and employees cannot play effectively in their positions, that is, the mismatch between talent and position. The unscientific setting of enterprise recruitment needs is the main reason for this problem. Specifically, it is shown that the recruitment department does not connect or cooperate with the employment department, does not pay

attention to the human resources recruitment plan, and the enterprise recruitment department lacks an active recruitment mode. For example, many recruitment work in enterprises is carried out urgently needed by the employing departments, and they do not take the initiative to explore and recruit talents, and the awareness of talent reserve is weak. At the same time, the employment department believes that the recruitment work is only the task of the recruitment department has nothing to do with itself, and will no longer follow it up after the task explanation, resulting in the recruitment demand and the recruitment target, and the content setting is not scientific.

#### **(4) The training system for new employees is imperfect**

The main reason for the imperfect training system is that the training plan is not systematic, and it is difficult to institutionalize. The random changes of enterprise training plan can easily lead to the increase of enterprise training cost, the waste of human resources and the instability of employees. Therefore, the formulation of a careful and systematic training plan will help enterprises to carry out orderly training and improve the efficiency of enterprise training. According to the relevant survey, in recent years, less than 50% of the domestic enterprises really have a systematic training plan, that is, more than half of the enterprises lack the concept of a training plan, which is a very unfavorable factor for the training itself. Jingdong also has some problems in employee training, such as following the trend, blindly following the trend, and having no system arrangement.

### **4. Analysis of the causes of the problems in the human resource management of JD Group There are many reasons for the recruitment problems, but the main reasons are as follows:**

#### **(1) Analysis of the current recruitment environment**

In the wave based on the Internet, some large e-commerce enterprises with good salary and work treatment are very favored by job seekers, and the enterprises are more competitive in the recruitment market. Although the online recruitment is driven by big data, large batches of employee recruitment still rely on the recruitment of fresh graduates, internal recommendation, etc., and the employee recruitment method of major domestic enterprises is relatively simple. The main reasons are as follows. First, social aspects: due to the deep-rooted influence of traditional human resources management, enterprises want to develop new recruitment methods, and it is difficult to completely fight against the old thinking, with low social acceptance, and cannot produce a large-scale area of benefits. Second, the industry: enterprises can not pay great attention to using big data for human resource management. In order to reduce development costs and difficulty, they still mainly adopt the traditional on-site recruitment method, but they have less courage to innovate and be a pioneer. Third, applicants: online recruitment is rarely used by job seekers, that credibility is low and cannot be timely responded, such as whether the online application will see, whether personal information will be leaked, and how to operate the interview process. So, even if the way of hiring is diversified, the environment still cannot be easily changed.

#### **(2) Enterprises do not pay enough attention to human resources management**

Now human resource management, human-oriented has become the focus, talents as a resource to improve competitiveness, that the talents can ensure the survival and development of enterprises in the fierce competition. In fact, a lot of enterprises is just realize the importance of talent, blindly attract a large number of talents can not effectively manage, and ignore the importance of human resources to the enterprise —— is not

serious, select talent lack of accurate positioning, less recruitment cost of these all reflect the enterprise of human attention to human resources management. As a result, there are many problems in the on-site recruitment of Jingdong and many enterprises. For example, the interviewer is not professional enough, often pay attention to causality, halo effect and so on. Although the recruiters adopt some modern recruitment methods in their practical work, such as the evaluation center, talent evaluation, scenario simulation, etc. However, due to the enterprise is not enough attention, the department cut corners, should combine the situation of the company and the employment department needs to prepare a specific personnel evaluation form, into an evaluation form randomly downloaded by the recruiters from the Internet. Due to the insufficient mastery of the form and the insufficient understanding of the content, the original target of recruitment can often not be achieved, so that the expected effect of the company's human resources cannot be achieved.

### **(3) Lack of human resource planning and work analysis**

At present, most Chinese enterprises of the understanding and application of the concept of modern human resources is still in the initial development stage, have no deep understanding of its concept, and will not fully work in accordance with the concept of modern concept of human resources management in practice. As a leading company in e-commerce, JD may also have such problems. Jingdong branch part of the personnel department has been using the traditional personnel management mode, belongs to passive reaction, do not understand the real role of human resources management, lack of human resources management plan and work analysis, lead to role, responsibilities, management mode, management mode and other requirements, tasks and post of organization comprehensive quality and ability, lead to personnel selection, training development and salary system lack of necessary standards and basis, which makes the lack of necessary basic support.

### **(4) Do not know the people, and do not make good use of them**

For JD branches distributed in various cities, there will be the phenomenon of "do not know people, do not make good use" in human resource management. For example, company leaders promise employees high performance commissions, but for an employee with good performance and potential, the performance indicators are not completed and the work begins to become slow. After personnel understand, the needs of employees at this stage are not to earn more wages through hard work, but to obtain higher positions through excellent performance in work to achieve the embodiment of self-value. Therefore, the high performance commission does not meet his needs for his own career development. This example shows that at present, most enterprises are willing to spend more time to understand the consumer psychology and needs of customers, but ignore the professional desire of the employees in the company, which affects their work enthusiasm. The company's goals cannot be achieved, yielding twice the result with half the result. Therefore, the dilemma of "unknown people" appeared.

In recruitment, the company generally prefers highly educated applicants, and will clearly require applicants to have some kind of higher degree. However, a large number of highly educated applicants, after recruitment, do not get reasonable arrangements, and are usually randomly assigned to vacant or even unimportant positions. Every day "996" is not only not very satisfied with the salary, but also not satisfied with the job deployment. Jingdong is an e-commerce enterprise, which needs technical support, highly targeted, employees "specialized" can not be assigned at will. However, due to the company's care of the old employees, those new employees with highly educated qualifications and ideas have a negative working mentality, low talent retention rate, and the phenomenon of "not good use", resulting in a huge waste of human resources.

## SUGGESTIONS

### 5. Suggestions on human resource management under JD's big data

#### (1) Broaden the recruitment channels, and use a variety of recruitment methods

Expanding the recruitment channels is the most direct and effective way to meet the recruitment needs of enterprises. At present, in addition to the most commonly used traditional recruitment channels, JD also has various recruitment positions put on the recruitment platforms, and holds various forums. These methods are generally existing in the basic recruitment positions of enterprises. In addition, there are two kinds of enterprise internal recommendation and external recommendation. The former referees has a clear understanding of the ability and quality required by the position, so the recommended candidates are generally close to the requirements of the position, which is a very convenient recruitment channel. But in the recruitment process, this channel is often overlooked. The latter is the most commonly used and important recommendation of big enterprises is headhunting, but due to the high cost, it is only used when senior positions are suspended or in urgent need of talents. Finally, there is an external recruitment channel, that is, enterprises will cooperate with schools or social training institutions to directly transfer the required talents to the company, so as to ensure the basic job needs of JD distributed in various cities. At the same time, this recruitment channel of cooperation with the school can have a good grasp of the quality of the applicant and effectively predict the competency of the applicant.

These methods do not exist independently, but complement each other. In the process of recruitment, the enterprise cannot deal with the recruitment of all positions in a single way, which shall be conducted according to the internal manpower situation of the enterprise. Different positions require different recruitment channels, and according to the recruitment channels adopted, choose the appropriate recruitment channels. Enterprises should not be extreme in the recruitment of what channels, need to take its essence of the dress, not only to retain the original way and actively use the new technology recruitment channels.

#### (2) Innovate the online recruitment strategies of e-commerce enterprises under the background of big data

In the process of daily work, the human resources department of JD enterprises should encourage the staff to use data to analyze problems, and consciously create a new online recruitment mode in the big data environment. The application of network recruitment has two benefits: first, we can conduct the screening and comprehensive analysis of the applicants' information based on the information obtained in each recruitment platform, and the enterprises can take the initiative to contact the recruitment, so as to better provide the network data support for the enterprise talent recruitment. Second, it can improve the efficiency of recruitment work, remove the formalism required by traditional processes, which not only saves time and cost, but also reduces labor investment.

In the current industry background, e-commerce enterprises should use big data to obtain massive recruitment information through legal channels, and cultivate the data analysis ability of online recruitment specialists. Most of the professional background of JD enterprises are economic management, which lack theoretical support for data processing technology and insufficient data mining ability. But if in order to be in the forefront of such fierce competition in the industry, human resource management must rely on big data technology. Therefore, under the promotion of industry innovation, enterprises have put forward higher requirements for talent recruitment staff. For example, the company requires the human resources department to improve the information

technology ability of the recruitment team, and fully realize that data analysis is not a simple information accumulation. It can classify the data collected by recruitment through big data technology and find out the deep information hidden in it. At the same time, the team in charge should clearly understand the resume and adapt to (traditional paper to electricity

Sub-resume); Change the way of thinking and working mode, from one-way recruitment selection mode to dual selection mode for enterprises and individuals.

### 3. Using the 5P model, JD needs to create a scientific and reasonable human resource management model, the —— 5P model.

At present, human resource management covers more than 10 contents in the textbook, many and complex, so it is difficult for even an employee specializing in human resources management, it is difficult to fully and accurately remember, especially let the middle and senior leaders of the enterprise fully understand these contents. Using the 5P model will be easier to understand and remember, as shown in Table 1. As can be seen from the table, the 5P model simplifies and classifies the content of the traditional human resource management, which is simple and clear, and is not only conducive to the company to clarify the content of the human resource management, but also establishes a scientific and effective human resource management system for the enterprise.

Table 15 The correspondence between the P model and the traditional human resource management

Position	职务设计	职务设计企业内有多少个职位，每个职位有什么责任，职位间的关系，如何履行好职责。需要什么能力	设置定员、定员定编职务分析、职务说明
People	人员选拔	找出满足岗位要求的人，对能力不够的人进行淘汰或培训，对能力强的人进行提拔	人力资源规划，人员招聘、培训、人员晋升
Performance	绩效评价	依据人员与岗位匹配的效果进行评价	员工绩效考核
Payment	薪酬设计	员工对企业作出了贡献后，企业能带给员工多少回报	员工工资确定、奖励体系、员工福利、社会保险、劳动合同
Positive attitude	工作积极性	促使员工主动为企业工作，并能从工作中得到快乐	企业文化、员工关系、员工激励、职业规划

### (3) Matpeople and posts one by one

Any company is the first work needs, and then according to the situation, which requires personnel resources managers fully understand the knowledge structure, technical means, work experience, professional interests, behavior, personal motivation, attitude and values, etc., so as to observe and judge whether employees can competent to match work, eventually make different people adapt to different positions, combine personnel and post, do know people, give full play to their potential, provide space for their creativity. For example, when JD recruits candidates for suitable positions, no matter which recruitment method adopts, it will be according to the fair competition mechanism. This can not only mobilize the enthusiasm of enterprise employees to work, but also well attract new outstanding talents. It can get rid of the traditional method of selecting talents according to qualifications, so that applicants with real knowledge and ability can embark on the right position, avoid high energy, low use or low use in Jingdong employment, and make reasonable use of talents to achieve effective recruitment.

### (4) Improvement of the new employee training system

In the stage of rapid development of the Internet, JD should be able to investigate the needs of employees in depth according to the actual situation of enterprise development, and build a perfect training system. Jingdong need to build a training system that meet the needs of enterprise development optimization scheme, can advance from the inside layers, specific, jingdong human resources management department needs to optimize according

to the training target two offline training combination, can meet the needs of different channels of new employees, and with the help of big data technology design more diverse more hierarchical training content.

## CONCLUSION

It can be seen in the full text that big data not only brings changes to our lifestyle, but also affects the human resource management mode of enterprises. For enterprises, both is a challenge and an opportunity. If we can seize the opportunity, a group of enterprises with forward-looking thinking like JD will vigorously develop and use big data, give full play to the advantages of big data, introduce modern human resources management, and effectively improve the overall work efficiency of enterprises. Therefore, other enterprises should also follow the pace of The Times, realize the network information management, can efficiently large capacity to collect, processing and store personnel information, ensure the quality of enterprise internal management work, can also grasp the first time in the personnel management, provide scientific system personnel information, connect the whole human resource management process, and help managers to make optimal decisions according to the system data results.

And, too, there are loopholes in big data. The correct application of norms can make the effective change of human resource management and bring convenience to the whole industry. However, once the person drilled its loopholes, illegal use, the consequences are unimaginable. For example, leaking recruitment information not only affects the company's image and damages its reputation, but also infringes on the privacy of the applicants' rights. Therefore, with the continuous improvement of domestic big data application technology, the relevant norms for big data application should also be implemented. The state shall formulate relevant laws to strictly supervise enterprises in the application of big data. Enterprises should also take measures, such as formulating the system of management norms, to strengthen the construction of network information security, to ensure the safety of the company's employment information and employee personal information.

## REFERENCES

- Yin Jianping, Chen Dingwei. Research on the applicable mechanism of human resource big data: based on the strategic human resource management perspective [J]. *Mall modernization*, 2020 (5): 4.
- Xu Lixin. Innovative Countermeasures based on Human Resource Performance Management in the Era of Big Data [J]. *Business 2.0 (Economic Management)*, 2021 (18): 1.
- Zhang Wei. The Reform and Innovation Research of Human Resource Performance Management in the Era of Big Data [J]. *Today*, 2021 (2): 1.
- Zhang Xiaohua. Research on Human Resource Management Innovation Strategy in the Big Data Era [J]. 2021.
- Wang Pei. Opportunities, challenges and transformation and upgrading of human resource management in the era of big data [J]. 2021.
- Huang Zhanyuan. Research on the Changes and Challenges of Big Data Human Resource Management [J]. *China Management Informatization*, 2021, 24 (8): 3.
- Yang Qiqi Ji. Exploration on the Development Trend of Human Resource Management in the Big Data Era [J]. *Office Business*, 2021 (20): 2.
- Tao Jing. Research on Human Resource Performance Management Innovation in the Big Data Era [J]. *Global Market*, 2020, 000 (005): 51.

# ANALYSIS OF INNOVATION MANAGEMENT MODE

ZHIGUO GAN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email:925786083@QQ.com*

## ABSTRACT

With the continuous development of science and technology, the requirements for the sustainable operation of enterprises are becoming higher and higher. Enterprises need to quickly respond to the internal environment of operation and continuously innovate. The traditional operation mode of enterprises has been difficult to adapt to the development of The Times. I will talk about my own views from the three aspects of enterprise innovation management concept and the establishment of organizational structure suitable for innovation and the establishment of management mode suitable for innovation.

**Keywords:** innovation management, innovation of organizational structure

## INTRODUCTION

### **First, innovation management concept**

The development of Chinese enterprises went through several stages. The first stage was the era of product shortage and serious shortage of social goods. At that time, the planned economy system was implemented and goods were purchased by ticket. In the second stage, sufficient supply of commodities is basically realized, but enterprises are still the center, and enterprises design and produce products based on their own understanding of enterprises. It is a standardized intensive production mode. But now has begun to transition to the third stage, the competition between enterprises is becoming more and more fierce, commodities are in the stage of surplus, customer requirements are becoming more and more diversified, different customer groups have different needs for products, the enterprise-centered or product-centered model has been unable to meet the needs of modern society. Now the business model of enterprises is customer-centered, aiming at different customer groups, designing and producing targeted products that can best meet customer needs. Products need to have precise positioning, it is best to let customers can participate in the design process. We should also be able to achieve small batch diversification of flexible manufacturing, establish a customer-centric, always provide services to create value for customers. Therefore, the current production management mode of enterprises has undergone profound changes. In the past, products were designed and produced from the top down, but now it is necessary to establish a bottom-up organizational management structure to adapt to today's rapidly developing society

## LITERATURE REVIEW

### **Second, innovation of organizational structure**

In the past, the management of enterprises was often pyramid structure, with many levels, long decision-making process and low efficiency. Today's society needs to establish a rapid response of the organizational structure, it is necessary to carry out a flat reform of the organizational structure of enterprises. A good example is the integration of people and orders advocated by Haier, an outstanding domestic manufacturing enterprise.

The literal interpretation of "single" : "people", refers to employees; "Single" means user value; "Integration" refers to the integration of the value realization of employees and the value created by users. The basic meaning of "integration of people and order" is that every employee should directly face users, create user value, and realize their own value sharing in creating value for users. Employees are not subordinate to their posts, but exist because of users. There are "orders" and "people". The meaning of "people" has been further extended. First, "people" is open, not limited to the inside of the enterprise, and anyone can compete for the post by virtue of competitive plans. Secondly, employees are no longer passive performers, but entrepreneurs and dynamic partners with "three rights" (on-site decision-making rights, human rights and distribution rights). The meaning of "single" is further extended. First, "single" is robbed, rather than assigned by the superior. Secondly, "single" is leading, and dynamic optimization, rather than narrow order, but not closed curing. The "integration" of individual payment is a closed loop through the "individual payment". Everyone's payment comes from the user's evaluation and the user's salary, rather than the superior's evaluation and the enterprise's salary. The traditional enterprise pay is the result of post-evaluation, while the user pay is calculated to win in advance and share the super profit of gambling.

From the fundamental reform of the salary-driven way, the mode of integration of personnel and order forces the two variables of the enterprise -- the mode of strategy and organization to be overturned, which is embodied in the "three" -- the enterprise platform, the employee maker, and the user personalized. Enterprise platformization, that is, the enterprise changes from the traditional bureaucratic organization to create a win-win platform; Employee customization, that is, employees are transformed from passive executors who accept instructions to active creators and dynamic partners who create value for users; User personalization means that users are transformed from purchasers to participants in the best experience of the whole process, and from customers to interactive user resources.

The subversion of the model has also overturned the relationship among enterprises, employees and users. In the traditional mode, users listen to employees and employees listen to the enterprise. In the single-employee mode, enterprises listen to employees and employees listen to users. Strategic transformation, organizational restructuring and relationship transformation bring about the reconstruction of the entire business model.

The essence of a win-win situation is: I create my users, I share my value-added. That is to say, employees have the right to make their own decisions according to the changes in the market, and employees have the right to make their own income according to the value created for users.

The "win-win mode" enables everyone to be his or her OWN CEO and form a self-organization facing the market. Each employee realizes his or her own value by creating value for users.

In the aspect of management guiding ideology, the single unity win-win mode to the user as the center, guided by strategic innovation, pioneering the human-oriented management thinking to the further development, highlight the subject status of the individual and independent management team, promote continuous dynamic upgrade enterprise management activity, enterprise, employees, customers, mutual benefit and win-win results.

### **The mode of innovation management**

In the past, the traditional innovation model was often made by the head of the senior management, while the senior management was often difficult to participate in the market in the most depth, and decision-making in the office often deviated from the actual situation of the market. However, the development of modern enterprises increasingly requires rapid and accurate response, and decision-making needs to be decentralized, which requires not only all-round participation of all employees, but also in-depth participation of customers. Through a variety of management tools, to establish a smooth communication channel, so that customers, suppliers, employees and other parties can be deeply involved in the establishment of a bottom-up innovation model.

Netflix does this very well in the United States. The culture of Netflix has three key factors: talent density, open communication, and reduction of control.

1. Talent density refers to the need to attract first-class talents to join the team, so that the whole team is composed of outstanding talents as much as possible. It is difficult for mediocre people to find a foothold in the team. Netflix is an example in this respect, in a certain stage of the business, the company running especially hard, on the verge of collapse, forced, the company will be a lot less good redundancy, high thought the company's operation will appear because of people cut more trouble, only to find an interesting phenomenon, because the company personnel streamlining its efficiency greatly improved, There's more innovation, there's more teamwork, there's better functioning, and companies get through the hard times. Since then, Netflix has made increasing talent density a fundamental part of its strategy.

2. Communicate openly. Open communication is an important topic when top talent is in the spotlight. This starts at the top of the company and requires a culture of equality rather than authoritarianism. So that everyone can express their views and opinions frankly. When the company makes decisions, it is based on relatively objective collective discussion and decision-making evaluation system, not on the authority of someone. To do this, netflix did two things, first is the company all the information as much as possible to fully open, the second is to establish a set of decision evaluation system, for each person's professional background, and consistent performance, determine the everyone comment on specific issues of score weighting, in view of the issues discussed form a quantifiable decision points. So Netflix made its decisions based on relatively rational analysis and became one of the most innovative companies in the world.

3. Reduce control. What Netflix is trying to do is to give its employees as much freedom as possible and let them take on more corporate responsibilities. Netflix will give its employees more decision-making power, allowing them to make decisions on major projects without having to go through layers of centralized approval at the top. This is hard to imagine in the average company. At the same time, Netflix has also established a very

good fault tolerance mechanism. When employees make mistakes, the company can accept them with an open attitude and regard them as a valuable asset for employees' growth.

## REFERENCES

- Peter Drucker, innovation and entrepreneurship, Hainan Publishing House, 2000  
Daniel Rehn, the history of management thought, China Social Sciences Press, 2000  
Henry Mintzberg, strategic process: an overview of strategic management school,  
Chinese translation edition, China Machine Press, 2002  
Daft, organization theory and essentials of design, translated by Li Weian et al., China  
Machine Press, January 2003  
PF Drucker, the future of industrialists, Shanghai People's publishing house, 2002.

# RESEARCH ON HUMAN RESOURCE TRAINING OF SMALL AND MEDIUM-SIZED ENTERPRISES IN CHINA

JUN LIU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email:249295621@qq.com*

## ABSTRACT

In this paper, the competition in the 21st century is the competition of talents, and the competition of human resources is the basis for the training of human resources in small and medium-sized enterprises. This paper deeply analyzes the current situation of human resources training in China and the problems existing in human resources sources, training methods, content, organization and funding of small and medium-sized enterprises in China, and the dilemma that small and medium-sized enterprises managers and workers lack motivation in human resources training. On this basis, it is proposed to explore a road suitable for the development of human resources training for small and medium-sized enterprises in China by using the external environment and internal conditions of the enterprise.

**Keywords:** Human resource training, small and medium-sized enterprises, China

## INTRODUCTION

### 1 Introduction

Internationally, after the subprime mortgage crisis broke out in the United States in 2008, the global economy was severely impacted. The arrival of the post-financial crisis era has brought a heavy impact on China's small and medium-sized enterprises (Li, 2021). 40% of small and medium-sized enterprises went bankrupt under this crisis. In China, from the first shortage of migrant workers in China in 2004 to the increasingly serious labor shortage in 2013, China's demographic dividend strategy, namely the strategic advantage of cheap labor, has been gradually eliminated by the market. In the face of such internal and external troubles, a large number of small and medium-sized enterprises in China have been affected and restricted to varying degrees. If small and medium-sized enterprises want to rise in such a complex and fierce environment at home and abroad, they must strengthen the training of enterprise human resources. As we all know, the competition in today's era is the competition of talents, the key to the competition between enterprises is the competition of talents, and the core of the competition is the utilization and optimization and integration of human resources. Small and medium-sized enterprises must fundamentally realize the necessity of human resource training for enterprise development. The level of an enterprise's management is determined by the quality of its employees and the state of its human resources training and development (Tian, 2018). The history of China's market economy development is short, the growth of small and medium-sized enterprises is not long, and the tradition of employee training is lacking. The development status of small and medium-sized

enterprises is worrying. Therefore, it is urgent and of great significance to study the human resource training of small and medium-sized enterprises in China.

## **LITERATURE REVIEW**

### **2 Current situation of human resource training in small and medium-sized enterprises in China**

Faced with the rapid progress of global economic integration in the new century and the major challenges of domestic economic leapfrogging and transformation, the key point for the development of small and medium-sized enterprises is talents, the core point is talents, and the breakthrough point is talents (Wu, 2021). The lack of human resources, the uneven level of talent quality, the shortage of human resources training funds, and the imperfect and reasonable training methods have seriously restricted the healthy development of small and medium-sized enterprises in my country.

#### **2.1 The source of human resources for SMEs**

The sources of human resources for SMEs are extensive and diverse. When the business of the enterprise expands, or there are vacancies due to the loss of talents, the enterprise needs to release recruitment information through internal or external channels according to the needs of human resource planning to attract talents to apply (Wang, 2019). Of course, these channels and methods have their own advantages and disadvantages in the recruitment process.

##### **2.1.1 Family members**

Most of the small and medium-sized enterprises in China have small production scales, low starting points, and are mostly labor-intensive industries (Wu, 2021). Most of the operators in this model are entrepreneurs, and most of them are family-owned enterprises. Most of the family business personnel do not need to spread outside the family, and the members of the family are responsible for various positions required for business operation (Yang, 2020). Due to the natural blood relationship between family members, there is a spirit of self-restraint and self-sacrifice among the members. Compared with laws and regulations, the application of family members can save the cost of external human resources and management costs.

As we all know, there has always been a debate about family-owned enterprises: whether these enterprises should go out of the family system and establish a modern enterprise system. The family system has its adaptability and rationality, but it also has certain drawbacks. The management method adopted by family-owned enterprises has a strong color of rule of man. The entrepreneur has all the rights and is easy to act arbitrarily. The employment of family members can backfire restrict or hinder the growth of the business.

Family members play an important role in the establishment and development of an enterprise, but in the face of scientific and professional management, some characteristics belonging to the family system will limit or hinder the healthy development of the enterprise. If an enterprise wants to develop sustainably, it must overcome these characteristics of the family system and the various drawbacks mentioned above, embark on the road of scientific management, rationally allocate human resources, and optimize the structure of human resources.

##### **2.1.2 Acquaintances recommendation**

Acquaintance recommendation is one of the ways for small and medium-sized enterprises to source human resources. It is a recruitment method for employees or

people who often communicate with the company to recommend candidates for vacancies to the company. The general situation of recommended persons has been known. The company and the recommended person can quickly get to know each other, thus saving a part of the recruitment process and cost. There are also some difficulties to find professional and technical personnel in the enterprise, such as senior technicians, electrical technicians, certified public accountants, etc. It is difficult to find satisfactory and trustworthy candidates through recruitment. However, through the introduction and recommendation of acquaintances, companies can quickly find satisfactory candidates for professional and technical personnel, which is also an effective channel method.

However, there are pros and cons, and this method of acquaintance recommendation often imposes some problems for the healthy development of human resources in small and medium-sized enterprises. Recommenders, candidates, and corporate personnel are hindered by interpersonal relationships when dealing with affairs. When more and more people are recommended by these acquaintances, some small groups will be formed within the enterprise, which will directly affect and affect the long-term development of the enterprise.

### 2.1.3 Employees recruitment

In addition to family members and acquaintances recommendation, most SMEs now use recruitment methods to attract talents. Recruitment of employees is an important basic work in the development and management of human resources, which is directly related to the formation and construction of human resources teams. The quality of employee recruitment directly affects the overall quality of human resources of enterprises. Successful employee recruitment is a crucial step for companies to survive in a highly competitive market.

Generally, when small and medium-sized enterprises need personnel recruitment, they must first predict and evaluate the supply of human resources in their own enterprises, and then organize and analyze them according to the obtained data information, and then carry out the next step of specific personnel recruitment work. Recruitment can be divided into internal recruiting and external recruiting according to the source of recruiters. Internal recruitment is based on the internal staff of small and medium-sized enterprises as the recruiting object, and recruit's talents through promotion, level transfer, job rotation, re-employment or recall of former employees. External recruitment is the rapid growth of small and medium-sized enterprises. When expanding the scale of the enterprise, the number, technology and ability of the internal personnel of the enterprise cannot meet the needs of enterprise development.

## 2.2 The situation of human resource training in small and medium-sized enterprises

Enterprises have begun to notice the importance of human resources training, but the training cycle and time are too short, the training content is very single, and the training management and funding are seriously insufficient.

### 2.2.1 Single training content

Under the constraints of objective conditions such as manpower, material resources, and capital in the current market, companies often go straight to the ground and train employees according to the skills that are urgently needed by the company (Afriati, 2022). This has indeed improved work efficiency, solved the urgent needs of the enterprise, and avoided the waste of resources, but it also reflects the utilitarian nature of the enterprise and the unity of training.

When a mature enterprise conducts human resources training, in addition to requiring employees to understand the general situation of the enterprise and some professional and technical skills training, they also need to conduct political, ideological,

scientific and cultural training for employees, so that employees can establish a correct collective view, values and interests. Companies should reasonably design career planning for employees, so that employees form the idea of lifelong education and continuing education (Akhtar, 2021). Only by attaching importance to professional theoretical knowledge and practical operation skills, and strengthening the training of political ideology and scientific and cultural knowledge, small and medium-sized enterprises can improve the soft power and competitiveness of enterprises, and lay a solid foundation for the long-term strategic development of enterprises.

#### 2.2.2 Lagged training methods

Many small and medium-sized enterprises are struggling to cope with fierce market competition (Ajala, 2020). In order to survive and develop, most of the training methods of Chinese enterprises are short-term employee training based on emergency. Short-term training is indeed time-sensitive and can timely solve the urgent needs of the current enterprise, but it is not a scientific and sustainable training method. Human resource training of contemporary SMEs should focus on enterprise development, and match the level of personnel development (Belias, 2020). The training should implement different training methods according to the immediate and long-term needs of the enterprise. Combining short-term training with long-term training, shortening the training time to avoid training burnout for employees, and extending the training period enables employees to continuously improve themselves. Training promotes the construction of enterprise learning organizations, strengthens employees' sense of belonging and honor to the enterprise, and realizes the win-win development of enterprises and employees.

#### 2.2.3 Insufficient training funds

Most managers of small and medium-sized enterprises in China still retain the old management concept, attach importance to material investment, and despise human capital investment (Blaga, 2019). They regard human resource training as a kind of behavior that can or can't be done, rather than a bargaining chip for corporate strategy to add value. Enterprise managers hope that employees can contribute to the company and gain benefits as soon as they are in the company. However, employees often need time to adapt to the environment of the enterprise and create value for the enterprise. The poor attitude towards human resource training in enterprises directly leads to two situations. One is that when the economic benefits of the enterprise are relatively good, the enterprise will provide some funds for training. In addition, when the business economy is not optimistic, people tend to stop spending on training first and use it as a capital turnover for other departments. The economic benefits brought by human resource training to the enterprise are indirect, and its effect is not immediate.

Chinese SMEs have their own distinct advantages in their own development process, but at the same time there are also a lot of root problems. Clearly understanding the source and current situation of human resource training for small and medium-sized enterprises in my country, and timely solving problems in human resources training plays a very important role in promoting the healthy and stable development of small and medium-sized enterprises.

### **3 Internal conditions for human resource training in small and Medium-Sized enterprises**

In order to achieve a dynamic balance among the external environment, internal conditions and business objectives of the enterprise, it requires the enterprise to understand the advantages and disadvantages or the weak links in the internal strategic conditions of the enterprise before deciding how to take advantage of the opportunities brought by the external environment. The internal environment of an enterprise occupies

a very important position in the process of enterprise business strategy management, and is largely restricted by enterprise resources and capabilities (Chen, 2018). Fully understanding and analyzing enterprise resources is a necessary condition for enterprises to formulate long-term strategic plans. Therefore, as the most important human resource in enterprise resources, it is very important, and the establishment of human resource training environment becomes very necessary.

### **3.1 Accelerating technological innovation and promoting industrial upgrading**

With the development of economy and the rapid change of science and technology, technological innovation has become a necessary means for small and medium-sized enterprises to survive and develop in a complex market environment (Flaming, 2019). Technological innovation plays a pivotal role in SMEs wanting to operate sustainably and lastingly. It is the basis for the survival and development of small and medium-sized enterprises and the source of improving market competitiveness. It is the essence and magic weapon for small and medium-sized enterprises to participate in peer or similar market competition (Gautam, 2018). Enterprises accelerate technological innovation and promote industrial upgrading, which actively promotes and affects the progress of enterprise human resources training. Small and medium-sized enterprises should also speed up technological innovation and promote industrial upgrading (Milewska, 2020).

### **3.2 Increasing labor compensation and reducing labor turnover**

Low labor remuneration is one of the most significant reasons for the increase in labor turnover in SMEs (Mooharramzadeh, 2020). The level of wages and benefits is most directly reflected in the labor turnover rate. The steady growth of wages will help stabilize the work psychology of employees and increase the corporate centripetal force of employees. Unfair wages and low benefits are bound to contribute to the rapid loss of labor.

Small and medium-sized enterprises in China have improved the labor remuneration of employees from different levels through a series of wage forms such as bonuses, allowances, subsidies, dividends and benefits under the condition of reasonable enterprise development. Only the right salary that increases over time is the most attractive to employees. In this way, talents can be retained, the turnover rate of enterprise labor can be reduced, and the sense of belonging of employees can be enhanced. The profit and loss of the enterprise is directly linked to the salary and interests of the employees, so that the employees can generate strong enthusiasm for work, actively participate in the construction and development of the enterprise, closely combine their own future interests with the destiny of the development of the enterprise, and truly care about the consciousness of the protagonist.

### **3.3 Standardizing labor contracts and establishing incentive mechanisms for employee training**

The lack of stable training objects for small and medium-sized enterprises is one of the difficulties faced by the human resources training of small and medium-sized enterprises in China. Standardizing labor contracts, coordinating enterprise labor relations, establishing employee training incentives, and reducing labor turnover will effectively alleviate the difficulties faced by human resources (Nwogo, 2021).

First, companies should regulate labor contracts. When signing labor contracts, companies should standardize labor contracts, protect the fundamental interests of employees, and reduce friction between employees and enterprises. Efforts should be made to promote the formalization of the enterprise employment system and standardize

the labor market.

Second, it refers to the coordination of labor relations. Small and medium-sized enterprises gradually establish harmonious labor relations. According to the actual labor relations of enterprises, companies should adopt stable labor relations, standardize labor relations, and establish harmonious labor relations.

#### **4 Creating an external environment for human resource training in small and medium-sized enterprises**

The take-off and vigorous development of small and medium-sized enterprises need support from all aspects, and enterprise managers should vigorously develop and cultivate talents. The training deserves the corresponding support from all walks of life. It is the cradle for the enterprise to nurture, develop and cultivate talents, and the base for the enterprise to cultivate a high-quality team. Therefore, companies should try their best to create a good external environment for human resource training for SMEs.

##### **4.1 Improving human resources training plan**

Human resource training is a series of steps that require careful investigation and analysis in the early stage, which determines the training needs of small and medium-sized enterprises, formulates training objectives, manages the specific implementation details of the training, and finally does a series of steps such as training assessment and training feedback evaluation. A systematic and scientific human resources training plan can effectively improve employees' work enthusiasm, enhance employees' professional knowledge, skills and literacy, enhance employees' centripetal force, and improve the cultural environment of the enterprise. The training plan is a process of formulating a series of systematic and scientific training programs after forecasting and evaluating the training needs of the employees according to the near and long-term goals of the company's own economic development.

The human resources training plan for SMEs generally includes training purpose, training principles, training objects, training content, training methods, training time and training location, training organizers, training evaluation, training budget, etc. Human resources training for small and medium-sized enterprises is a systematic and long-term work, and employees in enterprises should receive human resources training on a regular or irregular basis. Small and medium-sized enterprises should proceed from their own strategic development and actual situation, formulate comprehensive and systematic human resources training plans, and implement various training programs reasonably, so that they can not only promote the steady development of enterprises, but also meet the learning needs of employees.

##### **4.2 Establishment of Human Resource Training Base for Small and Medium Enterprises**

The government should establish human resource training bases for small and medium-sized enterprises in various provinces, cities and regions. They should actively promote human resources training for small and medium-sized enterprises, continue to carry out in-depth national technical personnel training projects, adhere to demand traction, follow market rules, integrate high-quality resources, provide talent support for industrial development, and deliver a steady stream of outstanding talents to small and medium-sized enterprises.

The government should establish a special human resources training base for small and medium-sized enterprises, strengthen the human resources reserve team of small and medium-sized enterprises, and promote the construction of soft power of small and

medium-sized enterprises. The base will be used to drive the cooperation of enterprises, universities, and scientific research institutions, forming a new situation of human resources training that combines point-to-face joint development.

## CONCLUSION

In the 21st century of talent competition, enterprises need to vigorously develop human resources training. If small and medium-sized enterprises want to stand out in the market and develop in the long-term, human resources training is imperative. The development of human resources training for small and medium-sized enterprises has a long way to go. It is the demand of the era of talent competition, an inexhaustible driving force for economic development, and an excellent means to enhance the comprehensive competitiveness of enterprises. It is hoped that this paper will be of reference value for small and medium-sized enterprises in the development of human resources training, help small and medium-sized enterprises in vigorously developing human resources training, and help small and medium-sized enterprises to improve the level of human resources and improve the skills and quality of workers.

## REFERENCES

- Afriati, M. J., & Ahmad, M. (2022). *Quality Management Human Resource Training and Development*. *Journal of Curriculum Indonesia*, 5(1).
- Akhtar, Z. (2021). *Effect of Entrepreneurial Training for Human Resource Management of Prisoners: A Framework*. *International Journal of Criminal Justice Sciences*, 16(1), 217-235.
- AJALA, A., & AGBETUYI, H. (2020). *Human Resource Training in a Developmental Environment*.
- Belias, D., Vasiliadis, L., & Mantas, C. (2020). *The Human Resource Training and Development of Employees Working on Luxurious Hotels in Greece*. *Cultural and Tourism Innovation in the Digital Era*, 639-648.
- Bлага, P. (2019). *Ethical considerations in human resource training based on e-learning*. *Curentul Juridic*, 79(4), 42-51.
- Chen Mingdong. (2018). *A Preliminary Study on the Innovative Model of Enterprise Human Resource Training in the New Era*. *Hebei Enterprises*, (5), 117-118.
- Flaming, L., & Mosca, J. (2019). *Should Accounting Majors Have Human Resource Training in Compliance, Coaching, Team-Building and Mentoring Skills?* *Journal of Higher Education Theory & Practice*, 19(5).
- Gautam, T. P., & Poudyal, S. R. (2018). *Human resource planning, selection and training practices of Nepalese pharmaceutical companies of Nepal*. *Nepal Journal of Multidisciplinary Research (NJMR)*, 1(1), 58-70.
- KOMBO, N. K., & KAKUBA, S. J. *Human resource training and development: an investigation into relationship between in-service training and quality teaching practices in secondary schools*. Editorial Board, 150.
- Li Xiaoyan. (2021). *Optimizing Measures for Human Resource Training in Enterprises*. *China's Collective Economy*.
- Milewska, E., & Gembalska-Kwiecień, A. (2020). *Competence matrices as an instrument for scheduling production and planning human resource training needs*. *Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska*.

- Mooharramzadeh, A., Talebi, B., & Daneshvar, Z. (2020). *Identification and Validation of Intervening Factors in Human Resource Training Policymaking* (Mixed Study).
- Ngambi, S. N., & Chakanika, W. W. (2020). *University Extension Education in Zambia: increasing Opportunities for Human Resource Training and Development. Multidisciplinary Journal of Language and Social Sciences Education* (2664-083X, Online ISSN: 2616-4736), 3(1), 43-58.
- Nwogo, O. O., & Kabari, J. B. (2021). *Human Resource Training and Staff Performance in Ohaozara Local Government Area of Ebonyi State, Nigeria (2015-2019)*. *International Journal of Innovative Analyses and Emerging Technology*, 1(6), 18-27.
- Ren Guangbin. (2018). *Human Resource Training Research*. *Modern Marketing* (Management Edition), 10, 46.
- Tian Jing. (2018). *An Analysis of the Effectiveness of Human Resource Training in Small and Medium-sized Enterprises*. *East, West, North and South*, 13.
- Tomokawa, S., Miyake, K., & Asakura, T. (2020). *Sustainable human resource training system for promoting school health in Japan*. *Pediatrics International*, 62(8), 891-898.
- Wang Tianhua. (2019). *Research on the problems and countermeasures of human resource training in small and medium-sized enterprises*. *Strait Science and Technology and Industry*, 5.
- Wu Xiuqing. (2021). *On my country's Industrial Economy and Human Resource Training*. *Statistics and Management*.
- Yang Yalin. (2020). *Issues and strategies of human resource training and development in small and medium-sized enterprises*. *International PR*.

# PROBLEMS AND COUNTERMEASURES OF HUMAN RESOURCE MANAGEMENT IN HIGH-STAR HOTEL

YAN ZHANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: zh\_yan163@126.com*

## ABSTRACT

Human resources are the most important assets of hotels, and human resources management is the cornerstone of high-star hotels to carry out business services. At present, the human resource management problems of high-star hotels are mainly as follows: high employee turnover rate and serious job-hopping phenomenon, unreasonable employee recruitment and allocation, inadequate employee training, insufficient scientific and rigorous employee performance evaluation, lack of competition in salary management, lack of long-term planning and strong support for employee career development. In response to the current problems, the following measures can be taken. Hotels should scientifically recruit and allocate employees to reduce employee turnover. They also need to optimize training systems and methods, establish long-term incentive mechanisms, improve performance management and assessment mechanisms, and strengthen feedback and communication, improve the salary level of front-line employees, adapt to the epidemic prevention and control, change recruitment methods, optimize post settings, strengthen online recruitment, online training and special knowledge training on epidemic prevention and control, develop cloud office and home office, and train employees to improve epidemic prevention and control working ability.

**Keywords:** high-star hotels, human resources management, employee job-hopping

## INTRODUCTION

### 1. Introduction

On September 4, 2020, the Ministry of Culture and Tourism in China released the Statistical Report on National Star-rated Hotels in the First Quarter of 2020 on its official website. Among the 7,101 star-rated hotels that passed the audit, there are 2,066 four-star hotels and 709 five-star hotels. Guangdong Province still leads in China with 162 four-star hotels and 110 five-star hotels. As an important tourist service carrier of tourist destinations, high-star hotels not only reflect the economic development level of tourist destinations, but also measure the reception image and level of tourist destinations.

From the perspective of the Chinese high-star hotel market, there are numerous international brands and Chinese brand hotels. The intensification of competition has also become an opportunity for hotel employees to change jobs, and the quality of hotel services will be affected to some extent (Zhang, 2022). Although the human resources department of high-star hotels has been working hard to maintain the stability of front-line personnel, the actual human resources management problems often make expectations empty. The loss caused by the loss of excellent employees is not only the

loss of one employee and the hotel's human input in the hotel, but also increased human resource management costs. Giving full play to the dominant role of human resources in the implementation of hotel strategies, maintaining employee stability, and creating employee satisfaction are issues that high-star hotels need to solve urgently in the post-epidemic era. However, many high-star hotels still have insufficient understanding and lack relevant experience in dealing with it.

As the tourism service industry in the midst of economic transformation and change and affected by the new coronavirus, the human resource management of high-star hotels also needs to be constantly changed and adjusted. The lack of hotel talents and human resource management problems will seriously restrict the improvement space and speed of hotel service capabilities and affect the performance of the hotel's maximum efficiency (Zhu, 2021). The hotel service industry under the circumstance of epidemic prevention and control needs to make rapid and efficient changes in response to human resource issues. It is worth considering the main human resource management problems that are common in human resource management of high-star hotels as well as the methods high-star hotels should employ to deal with human resource management issues under epidemic prevention and control.

## **LITERATURE REVIEW**

### **2. Literature review**

#### **2.1. Hotel human resources research**

Effective human resource management can respond quickly to market demands, so it is not easy to be imitated by competitors. Human resources are the first resource of the hotel and have an important strategic position (Xiao, 2021). The existing hotel human resources research are mainly as follows.

First, it is the study on hotel employees. Lam et al. (2001) explored the relationship between the demographic characteristics of hotel employees and job satisfaction based on a sample survey of 288 current and former employees, and found that the hotel employee turnover rate was significantly related to job satisfaction and employee perception. Li Hu and Wang Zhiyi (2016) conducted the empirical research and found that encouraging employees to participate in management, recognize employees, and improve employees' experience and feelings at work can not only increase satisfaction, but also reduce employee turnover. Second, it is the research on the practice of human resource management. Al-Refaie (2015) believes that in today's fiercely competitive environment in the hotel industry, managers should continuously improve hotel performance and enhance hotel competitiveness by providing higher service quality, improving employee satisfaction, and establishing effective human resource management practices. Tian Yalin and Qiu Yong (2015) also found that the lack of human resources is a key issue affecting hotel development, which deserves the attention of hotel managers. Third, it is the research on performance, compensation and leadership style. Patiar et al. (2020) explored the role of compensation and benefits in the relationship between leadership style and departmental performance. Zheng Yong and Zou Wenchi (2011) undertook the empirical research on high-star hotels in Macau and Zhuhai and found that transformational leadership can promote employees' organizational identity and high task performance.

#### **2.2. Research on human resource of high-star hotels**

There are three main aspects of human resources research on high-star hotels. First, it focused on case studies. Wang Ge and Ren Xiaozhen (2012) found that high-star hotels

in Yangzhou City had a serious loss of employees and lacked reasonable employee career development plans. Tong Jing and Li Yang (2014) pointed out that the problems existing in high-star hotels in Dalian City should be handled through the change of concepts, learning, improvement of systems, improvement of employee loyalty and other measures. Second, it is the analysis of a single module of human resources. For example, Xu Aiping et al (2015) studied the relationship between psychological capital and job performance, satisfaction and turnover intention of high-star hotel employees. Wang Yu (2011) analyzed the relationship between high-star hotel employee satisfaction and organizational commitment. It is suggested that high-star hotels should give employees humanistic care and attach importance to the training of young employees. Shi Yu and Luo Jinhua (2017) discussed the human resource management practices of high-star hotels from the perspective of employee training, revealing the relationship between training and employee job satisfaction. Third, it is the analysis of human resource management mode. Xiong Wei and Li Siqi (2013) took the Westin Hotel in Guangzhou, China as a research case, and proposed an information-based human resource management model for high-star hotels. Wang Meiyu et al. (2017) took the Marriott Group as an example, and proposed a flexible management model for high-star hotels.

### **3. Human resource management problems in high-star hotels**

In order to fully grasp the current situation of human resources in high-star hotels, a survey was conducted on high-star hotels in Guangdong, China. Guangdong is the vanguard of reform and opening up and the largest economy in China. The number of high-star hotels leads the country and has obvious representation. This research takes 13 high-star hotels of international brands and Chinese brands in Guangzhou, Shenzhen, Dongguan, Zhuhai, Foshan, Zhongshan, Huizhou, Zhanjiang as samples to conduct research, and summarizes the current human resource management problems of high-star hotels.

#### **3.1. High turnover rate of employees**

The survey results show that most of employees at the grass-root change jobs after working in a hotel for one to three years. On average, employees in management positions have served in three hotels, and most of the reasons for job-hopping are related to salary and job promotion. The high fluidity of hotel staff not only affects staff allocation, but also affects the investment in staff training, and also reduces management efficiency. In general, these groups mainly fall into the following categories.

First, it is university student group. There are two main reasons for the turnover of university students. On the one hand, the hotel arranges most of the newly recruited university students in the catering department, housekeeping department, front office department and other positions, with high work intensity and low entry barriers. University students have learned professional knowledge and have undergone professional training. They believe that they can show their ambitions, but they have been engaged in the role of ordinary waiters for a long time, which has deviated from their expectations. Second, the hotel hopes to import university students with high academic qualifications, but there is a lack of planning on how to cultivate these students. University students with high education are the potential management talents of the hotel in the future. If it only cares about talent recruitment and ignores the long-term development management of talent, it will inevitably lead to brain drain.

Second, it is middle and senior management group. There is no doubt that middle and senior management personnel engaged in the hotel industry are the most sought-after talents for the preparation of new hotels. On the one hand, the target of jumping to a new

hotel is usually the promotion of the position, and it is easier for employees to feel their own value. On the other hand, middle and senior managers also hope to experience different corporate cultures and new jobs experience. Therefore, jumping to another hotel is more in line with their own expectations.

### **3.2. Unreasonable staff recruitment and allocation**

The channels for high-star hotels to recruit employees include online recruitment, campus recruitment, talent market recruitment, internal recommendation, cross-hotel transfer, and headhunting (Sun, 2020). The survey results show that hotel recruitment is mostly carried out to meet the emergency needs of departmental positions, and the recruitment channels are also selected with the goal of quickly replenishing manpower, lacking long-term and systematic planning. Hotels need a large number of grass-roots service personnel, and online recruitment is a quicker way to make up for vacancies. Campus recruitment is a very popular recruitment channel for high-star hotels because of its high application rate and high job matching. However, if university students deviate from their expectations after entering the job, they are more likely to leave in the future. When recruiting in the talent market, hotels pay more attention to the professional skills and work experience of candidates. Generally speaking, job seekers in the talent market are mostly unemployed or need to change jobs, and their willingness to join will be higher. Internal recommendation is a relatively common practice in the hotel industry, especially for the recruitment of grass-roots and middle-level managers (Su, 2021). However, there will also be cases when the introducer leaves the company, it will pose influence to introduced employees. In order to obtain outstanding senior management talents, high-star hotels use professional recruitment agencies (headhunters) to find senior management personnel. It is certain that employees at the level of hotel director and above are very popular in the industry.

### **3.3. Unreasonable employee training and human resource development**

Training is a management tool that can actively guide employees' behavior so that they can better perform their jobs and provide quality services to customers (Gao, 2021). As a basic work of hotel human resource management, hotel training is of great significance to customers, employees and even the hotel itself, and deserves attention. The survey found that many high-star hotels have a very complete training system. In particular, international brand hotels have global training resources and attach great importance to staff training. Due to the high turnover of staff and the lack of manpower in the operation of many hotels, the operation department does not have enough time to train employees. Many employees are driven to work as soon as they join, and the perfect training system cannot be well implemented (Huang, 2018). At the same time, the results of the training of the hotel staff are not obvious, but the overall improvement is slightly improved. The main problems are: insufficient execution of training plans and training standards, deviating training content, unscientific training methods, old-fashioned training concepts, low employee participation, and insufficient training evaluation. These areas need to be improved to make training more efficient and practical.

### **3.4. Unscientific performance evaluation**

Performance evaluation is one of the important responsibilities of high-star hotel managers (Li, 2020). Managers should compare employees' actual work performance with work standards. If the actual performance is higher than the work standards, they should be rewarded. On the contrary, they should strengthen performance feedback and coaching to help employees improve their work methods and improve their performance.

According to the survey results, the main problems in the performance evaluation of high-star hotels are that the evaluation standards are not rigorous and scientific enough, and there is no performance evaluation standard and method from a strategic height. Some high-star hotels evaluate performance as a result indicator, while others consider it from the perspective of behavioral process. Under the existing evaluation model, even if there are high-star hotels that combine the work process and work results, due to the subjective bias of the assessors, it may also have a certain impact on the performance evaluation results and lose impartiality. Performance evaluation errors are mainly manifested in affective effect, centering effect, halo effect, suggestion effect, contrast effect and external pressure (Guo, 2020). Some high-star hotels do not communicate effectively with employees in performance evaluation, which is one of the reasons for evaluation errors. After the evaluation, the evaluators of some hotels did not give performance feedback, and hotels directly dismissed, transferred them or reduced the salary of employees who did not meet the evaluation standards, which lost fairness. If the performance evaluation method is not appropriate, it may cause unfair competition among hotel employees, affect the harmonious development of the hotel, and also create obstacles to employee training.

### **3.5 Human resource management challenges under the background of epidemic prevention and control**

The new coronavirus has brought huge challenges to the human resource management of high-star hotels. Although high-star hotels have more advantages in capital flow than ordinary non-chain and non-group independent hotels, the burden of high operating costs forces them to make changes. Reducing labor costs is one of the important ways out. Some high-star hotels have laid off employees or given employees unpaid leave, but this has accelerated the loss of employees to a certain extent. Faced with the requirements of epidemic prevention and control, hotels need to reduce staff gatherings, and also need to train employees during unpaid leave. However, they cannot continue to use traditional job training or classroom training methods, and there are no more effective alternatives. At the same time, epidemic prevention and control requires employees to master the corresponding knowledge, and it is necessary to improve their work handling and problem-solving capabilities under different levels of the epidemic.

## **4. Countermeasures to improve human resource management of high-star hotels**

Human resources are the most important resources in hotel service activities, and are the basis for high-star hotels to achieve business strategies and goals (Liu, 2019). In response to the current problems, effective improvement measures should be taken to activate the development and management of human resources in high-star hotels, and actively respond to the fierce market competition.

### **4.1. Scientific recruiting and staffing**

Recruiting and allocating staff as well as finding excellent talents for the hotel is a routine work of hotel human resources management and the basic job responsibilities of the human resources department (Wang, 2020). When formulating a recruitment plan, it is necessary to clarify the various requirements of the employment position for employees, and select suitable recruitment channels.

Hotel recruitment is generally divided into internal recruitment and external recruitment (Wang, 2019). When there are vacancies in hotel management positions, internal promotion from existing staff is a more appropriate choice. Internal promotion can retain talent for hotels and motivate employees. Secondly, internally promoted

personnel do not need to undergo induction training, and they can quickly familiarize themselves with new positions, and maintain the internal stability of the enterprise. Internal recruitment can accurately measure the match between positions and employees, reduce recruitment costs and risks, and help employees develop themselves. However, using only internal recruiting misses the opportunity to attract outside talent and introduce new ideas, potentially providing room for inbreeding. Therefore, the human resources department and management should carefully measure whether to adopt the method of internal recruitment. External recruitment includes acquaintance recommendation, talent market recruitment, campus recruitment, online recruitment, and personnel recruitment through career recruitment agencies (Liu, 2020). Various recruitment methods have their own advantages and disadvantages. The hotel should conduct a careful analysis of the job position, accurately determine the employment needs and related requirements of the position, and then select the recruitment channel according to the analysis results. For university students recruited on campus, high-star hotels should determine a reasonable training plan according to their capabilities and characteristics, and they should not be placed in catering and guest rooms for a long time. It is necessary to establish a more efficient talent introduction and retention system, such as building a project system in cooperation with colleges and universities to jointly cultivate hotel talents, allowing students to enter the hotel environment in a task-oriented manner, and speeding up their promotion and salary increase through reasonable evaluation and training (Du, 2019). For internal regular employees, a corresponding mechanism should also be established. For example, if they complete the specified training courses, they can obtain corresponding promotion opportunities.

#### **4.2 Optimizing the training system and establishing a long-term incentive mechanism**

The future of a business depends on intellectual investment in its employees (Ze, 2020). Training and motivation are important means of human resource development, and are crucial to improving the overall quality and competitiveness of hotel staff. In the current situation that the training effect of many high-star hotels is not good, it is particularly important to optimize the training system and improve the training content and methods.

The training needs analysis should be comprehensive (Xu, 2019). Workers from the decision-making level, the management level, down to the front-line employees, should receive corresponding training. In terms of training content, front-line employees should strengthen skills learning to improve their overall quality. Middle-level managers should strengthen the learning and improvement of management and teamwork capabilities, and cultivate multi-functional talents. High-level decision makers must pass training, keep pace with the times, and steer the hotel's future navigation. In terms of training methods, the characteristics of adult training should be mastered, and participatory teaching methods should be used more. At the same time, the training content can also add comprehensive training, such as flower art, tea art, perfume and other quality of life training. On the one hand, it is necessary to increase the willingness of trainees to train. On the other hand, it is necessary to comply with the development of the hotel industry and the needs of guest experience. In terms of training methods, appropriate training methods should be selected according to the different groups and contents of training, such as online learning, multimedia learning, fragmented learning, centralized learning, expansion training, special seminars, etc (Ran, 2020).

#### **4.3 Improvement of performance management and assessment mechanism**

The performance of hotel employees is reflected in many aspects. It cannot be

assessed by a single dimension or simple standard, nor can the final evaluation of employees be determined by one assessment (Ye, 2018). In fact, employee performance may vary with certain conditions. The ultimate purpose of performance appraisal should be to motivate rather than eliminate.

American management expert Michael LeBoeuf pointed out that performance management is not performance appraisal. Managers should pay attention to the performance management process, not just the performance appraisal. The results of performance appraisal are the periodic basis for managers to communicate with their subordinates. They should affirm their contributions, and then help them identify deficiencies and help them improve their performance. Performance evaluation is a part of performance management, and the results of evaluation are the reference factors for hotel human resource development and management. Therefore, high-star hotels should establish a performance management mechanism instead of implementing a separate performance appraisal. In fact, many high-star hotels still use a single performance appraisal to judge employee performance, which needs to be improved (Chen, 2019). According to the characteristics of the hotel, the most suitable and feasible method should be explored. Once the performance review is complete, performance feedback is required to enable employees to continuously improve performance against the hotel's goals.

#### **4.4 Improvement of the compensation and welfare system**

American psychologist Frederick Herzberg believes that factors such as company policies, interpersonal relationships, working environment, and wages are health factors. The groups with high turnover rate of high-star hotels are mainly front-line employees. A reasonable increase in the salary level of front-line employees can enhance the role of health factors. When designing employee salaries, hotels should conduct comprehensive evaluations based on job requirements, responsibilities, work intensity, etc., determine different salary structures, and improve the payment model of direct salary plus indirect salary to ensure stable salary growth for employees. The remuneration and welfare system should match the hotel's business strategy, and employee remuneration should not be static, and should be adjusted appropriately under the hotel's development plan (Shi, 2020). On the basis of good salary cost control, hotels should adjust the salary level and structure of employees according to their own operating conditions and changes in the external market to meet the current development needs of high-star hotels. As a profitable enterprise, hotels need to consider the cost and the increasing labor cost input. On the premise of not affecting the guest experience, the personal income of employees can be increased by reducing the number of employees and energy consumption costs. It not only meets the operational needs of the enterprise, but also better meets the salary demands of employees, and achieves the purpose of stabilizing the workforce.

#### **4.5 Adapting to epidemic prevention and control, and innovating human resource management**

To adapt to the epidemic prevention and control, the human resource management of high-star hotels needs to take the following countermeasures.

First, they should change recruitment methods and comprehensively optimize positions. Traditional recruitment methods are generally online resume delivery, on-site interview invitations or recruitment through other traditional channels (Chen, 2019). Under the epidemic prevention and control, people need to reduce gatherings and maintain distance, and more cloud recruitment methods can be used, such as video presentations, video interviews, etc., to reduce the travel of recruiters and avoid

unnecessary contact with people. Affected by the epidemic, the business of the hotel industry has been affected to a certain extent, and the phenomenon of difficulty in recruiting personnel has become more and more prominent. In terms of position setting, it is possible to consider using robots to undertake simple and repetitive tasks, such as the delivery of goods in the front office, the delivery of food in restaurants. On the premise of not affecting the overall operation, some employee positions can be merged to reduce manpower. They should strive to achieve both the increase of employee income and the reduction of hotel labor costs, so as to achieve a win-win situation for enterprises and employees.

Second, they should change the training method and strengthen the training on epidemic prevention and control. Traditional training is mostly focused on face-to-face training. Under the epidemic prevention and control, face-to-face centralized training can be reduced by recording training videos, live training or online training. At the same time, for training in the context of the epidemic, more safety prevention and control training should be added, such as hand cleaning training, room cleaning service training, hygiene and safety awareness training, etc.

Third, they should adjust the way employees work. The employees of international brand hotels come from all over the world. Due to the impact of the epidemic, some employees cannot return to work in the hotels. In view of this, the hotel can adjust the way of working. For positions in the back-line administrative departments, such as revenue managers, accountants, etc., work at home can be adopted and work hours can be adjusted. A flexible working system can be adopted for some employees, or part-time employment can be changed. It is necessary to ensure the daily operation of the hotel, and to ensure that the employees' jobs will not be lost.

Fourth, they should cultivate and improve the skills of employees to respond to the epidemic. Under the epidemic prevention and control, customer service and explanation are particularly important, and customers also have higher requirements for cleanliness. In this case, the communication and interpretation skills of employees are more important. Daily service facilities and basic daily necessities should also be added in a targeted manner, such as room cleaning recorders, automatic temperature testers, etc. The hotel should also train employees to be familiar with the working rules under different levels of epidemic prevention and control, such as social media operations, customer handling, explanation and sorting, etc. Employees also need to improve organizational coordination, judgment, and self-problem-solving skills.

## CONCLUSION

In the face of fierce market competition, high-star hotels need to change their business thinking and put the interests of employees at a strategic height, rather than just pursuing customer satisfaction. Because of insisting that employees are more important than customers, Haidilao has created one industry benchmark after another and has become a myth in the catering industry. Because of the emphasis on talents, Gree can promise one person to one suite, and aims to create a community of shared destiny between employees and the enterprise with the goal of employees' sense of gain and happiness. High-star hotels also need to strengthen employee thinking, strengthen human resource management, create employee satisfaction, activate drainage, stabilize the team, promote development, and seek the future, so as to lay a solid foundation for the realization of the strategic goals of high-star hotels in the post-epidemic period

## REFERENCES

- Al-Refaie Abbas. (2015). Effects of human resource management on hotel performance using structural equation modeling. *Computers in Human Behavior*, (43), 293 –303.
- Chen Tingting. (2019). Research on Human Resource Management Measures in Tourism Hotels, *Tourism Survey (Second Half Month)*, 6.
- Chen Xiaoying. (2019). Problems and countermeasures in hotel human resource management, *Collection*, 28.
- Du Siyi. (2019). A Brief Analysis of New Thoughts on Hotel Human Resource Management in the Information Age, *Modern Economic Information*, 11.
- Gao Xuhua. (2021). How to innovate the hotel human resources management model, *Human Resources?*
- Guo Jiahe, & Liu Xiaogang. (2020). Analysis of Problems in Hotel Human Resource Management, *Journal of Longyan University*, 38(3), 72-76.
- Huang Lei. (2018). *W Hotel Human Resource Management Research*, Xinyang Normal University.
- Lam T, Zhang H, Baum T. (2001). An investigation of employees' job satisfaction: the case of hotels in Hong Kong. *Tourism management*, (22), 157-165.
- Li Hu, Wang Zhiyi. (2016). An Analysis and Research on Post-90s Employee Satisfaction and Turnover Intention in Hotel Industry, *Journal of Wuhan Business School*.
- Li Shanshan. (2020). A Brief Discussion on the New Path of Hotel Human Resource Management, *Chinese and Foreign Entrepreneurs*, 16.
- Liu Hui. (2020). Challenges and Responses of Hotel Human Resource Management under the New Situation, *Enterprise Technology and Development*.
- Liu Jie. (2019). New Thinking of Hotel Human Resource Management in the Internet Era, *Modern Marketing (Information Edition)*, 6.
- Patiar A, Wang Y. (2020). Managers' leadership, compensation and benefits, and departments' performance: Evidence from upscale hotels in Australia. *Journal of Hospitality and Tourism Management*, (42), 29-39.
- Ran Li. (2020). Exploring the application of flexible management in hotel human resource management, *Collection*, 4.
- Shi Weijun. (2020). Dynamic management of employee mobility in hotel human resource management, *Chinese and foreign entrepreneurs*.
- Shi Yu, Luo Jinhua. (2017). Influence mechanism of high-star hotel employee training on turnover intention, *Journal of Sanming University*.
- Su Zixuan. (2021). A New Probe into the Humanization Path of Hotel Human Resource Management, *Business Culture*.
- Sun Jian. (2020). Squatting down and thinking deeply: How tourism companies can survive under the epidemic, *Journal of Tourism*.
- Tian Yalin, Qiu Yong. (2015). Discussion on Human Resource Management in Beijing Hotel Industry, *Business Economic Research*.
- Tong Jing, Li Yang. (2014). Research on the current situation and countermeasures of human resources in high-star hotels in Dalian, *Business Economics*.
- Wang Ge, Ren Xiaozhen. (2012). Analysis of the development strategy of high-star hotels in Yangzhou based on urban tourism, *Journal of Hebei Tourism Vocational College*.

- Wang Li. (2019). Discussion on the Optimization Strategies of Hotel Human Resource Management in the Internet Era, *Enterprise Reform and Management*, 19.
- Wang Meiyu, Li Wenfang, Liu Jun. (2017). Discussion on flexible management of human resources in high-star Hotels-Taking the school-enterprise cooperation unit Starwood (Xiamen area) hotel as an example, *Journal of Leshan Normal University*.
- Wang Wenyan. (2020). Research on hotel human resource management from the perspective of humanization. *Journal of Liaoning Economic Vocational and Technical College, Liaoning Economic Management Cadre College*, (2), 29-31.
- Wang Yu. (2011). An empirical study on the relationship between employee satisfaction and organizational commitment in high-star Hotels-Taking Tianjin as an example, *Human Resource Development in China*.
- Xiao Ni, & Lu Yao. (2021). An Analysis of the Teaching Reform of Hotel Human Resource Management Course under the Integration of Industry and Education, *Modern Enterprise*.
- Xiong Wei, Li Siqu. (2013). An Exploratory Study on the Impact of Informatization on Human Resource Management in High-Star Hotels, *Journal of Beijing International Studies University*.
- Xu Aiping, Duanmu Hai, Lin Xuqiang. (2015). Research on the relationship between psychological capital and job performance and follow-up behavior of high-star hotel employees, *Enterprise Economics*.
- Xu Hai. (2019). Research on Human Resource Management of Zhengzhou H Business Hotel, *Zhongyuan University of Technology*.
- Ye Wuwei. (2018). JP Hotel Human Resource Management Improvement Strategy Research, *Yunnan Normal University*.
- Zeke Wu. (2020). Problems and coping strategies of hotel human resource management performance appraisal, *Modern Economic Management*, (4), 87-89.
- Zhang Yi. (2022). A Preliminary Study on Hotel Human Resource Management, *Modern Vocational Education*.
- Zheng Yong, Zou Wenchi. (2011). An analysis of the influence of transformational leadership on the socialization of new hotel employee organizations-taking high-star hotels in Macau and Zhuhai as examples, *Journal of Tourism*.
- Zhu Haiyan. (2021). Strategic Analysis of Hotel Human Resource Management to Improve Performance Evaluation, *Fortune Today (China Intellectual Property)*.

# RESEARCH ON ETHICS OF HUMAN RESOURCE MANAGEMENT IN CHINESE ENTERPRISES

**BOHAO ZHANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 15652771023@163.com*

## ABSTRACT

With the continuous progress and development of China, human resources are the first and core resources to achieve innovation and development. It can keep pace with the times and manage human resources of enterprises, continuously meet the development of social economy, and provide more excellent talents, which is also an important issue that needs to be faced in the process of social development. The ethics of human resource management is to start from humanism, strengthen and implement the morality and humanistic care in the process of enterprise human resource management. Raising the ethical awareness of enterprise human resource management, practicing and fulfilling the ethical principles of enterprise human resource management, and improving the systems and regulations related to enterprise human resource management ethics have become the main promotion means in the process of enterprise human resource management ethics.

**Keywords:** human resources of enterprises, ethical principles

## INTRODUCTION

### 1 Introduction

In today's social development and market economy conditions, the competition of talents is an important weight in the competition of enterprises, which can most completely reflect the value and comprehensive ability of enterprises. Therefore, the ethical operation of human resource management not only ensures a firm foothold in the fierce market competition, but also is the only way for our entire society to seek higher, faster and better development. For enterprises, in the process of implementing the ethical work of human resource management, it is necessary to cultivate and establish corresponding concepts and awareness. In this way, it can accurately locate and understand the content involved in the ethical level of human resource management work. Looking at the actual situation of the survival and development of existing enterprises in China, the degree of ethics in human resource management is far from enough, and the lack of ethics in the process of human resource management in enterprises has caused a high degree of public attention. The occurrence of these events has negative impacts on the development of the country and the harmony of the society, and the consequences of lack of ethics must ultimately be repaid by the enterprise itself. It is based on the fact that the occurrence of such incidents has shown a certain scale, so the research on the ethics of human resource management in enterprises has become urgent. In-depth research on this issue needs to be conducted in order to accurately locate

and analyze the causes of ethical problems. Strengthening the research on ethical issues in enterprise human resource management can not only help the internal environment of enterprise development to become stable and harmonious, but also contribute to the harmonious progress of the whole society and the improvement of comprehensive national strength.

The development of an enterprise is inseparable from the great value of its employees. Only when the value of the company's employees has a synergy can the company thrive. Therefore, only by fully respecting the personal wishes of employees and acknowledging their dominant position, and at the same time protecting the basic rights of employees, can employees have a strong sense of belonging, and then can they devote themselves more fully to work. They can also use its own value to create greater economic value and social value for the enterprise. Therefore, whether it is between enterprises and employees, or between employees, there is often a cooperative relationship that relies on each other and forge ahead together, which is also an ethical relationship. A good ethical relationship can lead to better interaction and resonance between enterprises and employees. Therefore, companies also need to shoulder ethical responsibilities.

## **LITERATURE REVIEW**

### **2 An overview of the ethics of human resource management in enterprises**

The ethics of enterprise human resources management refers to the realization of the ethical adjustment of various management behaviors of human resources, that is to say, the ethics of enterprise human resources management is the ethical pursuit of enterprise human resources management.

#### **2.1 The concept of ethics of enterprise human resource management**

Ethics is the link between people and society, and it is another way to adjust the values, morals and behaviors between people and between people and society. With the progress of society and the continuous development of enterprises, enterprises continue to carry out human resource management practices and improve management models, forming a special ethics based on enterprise human resources development, namely human resource management ethics. When it is applied to enterprise human resource management, the original concept of managing human resources has undergone a qualitative change, and human resources management has an ethical nature, such as the principles of fairness, equality, and humanity. This kind of human resource management's implementation and application of ethical principles is the ethics of enterprise human resource management. That is to say, we implement the ethical principles approved by social ethics and morality into enterprise practice, and use ethics and morality to standardize the management behavior of enterprises, so that enterprises can obtain legal standards in a fair, just and healthy condition. It is a positive approach to human resource management that combines ethics and management. This approach can promote the ethics of managers' management methods and results. Legal norms can build a framework for corporate management, but ethics make this framework more cultural and fulfilling. The good use of moral principles is of great significance to the operation of enterprises and the management of human resources. After long-term exploration and continuous development, the ethical issue of human resource management has become a very important factor in the business development of enterprises, which is of great significance to the sustainable, stable and healthy development of enterprises.

## **2.2 The basic function of ethics of enterprise human resource management**

### **2.2.1 Enhancing the core competitiveness of the enterprise market**

With the deepening of reform and opening up, China's national economy has developed by leaps and bounds. Especially after 2001, when China joined the World Trade Organization (WTO), a large number of foreign-funded enterprises entered the Chinese market, which intensified the competition among enterprises in the market. This is both an opportunity and a challenge. The entry of foreign-funded enterprises also brings high-tech and high-level corporate talents. With the advent of the new era, what we need to do is to attract and retain these excellent technical talents, thereby driving the development of China's own industrial chain. Correspondingly, a scientific and reasonable management mechanism is the hardware condition for retaining these talents. Only by forming a scientific and reasonable management mechanism can enterprises form their own competitive advantages in this competitive environment.

### **2.2.2 Improving the scientificity and correctness of enterprise decision-making**

With the continuous development of corporate human resources ethics, a culture that is compatible with corporate characteristics and spirit is born. Therefore, ethical analysis is a must when making day-to-day decisions and deployments in an analytical enterprise. The decision-making and deployment of an enterprise should take into account the interests and social responsibilities of relevant personnel in the enterprise. The social responsibility shouldered by operators is becoming more and more important with the development of the times, especially in terms of ethics. This is the standard for evaluating corporate decision-making, the premise for corporate progress, which lays a firmer foundation for corporate development.

### **2.2.3 Conducive to enhancing the cohesion within the enterprise**

Paying attention to the subjectivity of people and respecting every employee in the enterprise is the progress of civilization of the times. People's calls for respect in corporate work are getting louder and louder. On the other hand, it also reflects that the influence of ethical management on human resource management is also increasing. Respect is mutual, and respect for others is also an expression of respect for oneself. This principle also applies to the individual's choice of a company. Candidates will consider the company's credit, whether it abides by the law and public morals. If the image of the company itself in the society is good, it will give a good impression to the candidates, and at the same time bring a certain sense of honor and belonging to the employees of the company. With the increase of this sense of honor and belonging, the corresponding mission and responsibility in the hearts of employees will become stronger and stronger, and finally the interests of the company and their own interests will be linked together. The fate of the two will be linked, and eventually a strong force will be formed.

### **2.2.4 Establishing a good image of the enterprise and promoting the further development of the enterprise**

In today's society, the competition of enterprises can be divided into two aspects. One aspect of competition is the company's hard power such as the market output value, and the other is the soft power of the enterprise's human environment. An excellent humanistic environment can bring a strong competitive advantage to an enterprise, which requires an excellent management model and corporate culture. At the same time, ethics plays a crucial role in this. Ethical management can see whether there is a conscience and morality between the company and its employees, and whether they abide by ethics for management. With the improvement of material living standards, more and more people begin to pursue spiritual life, which is followed by the improvement of people's pursuit of spirit and taste. And facts show that, whether it is consumption or personnel

application, they are more willing to choose those companies with a good image for consumption, or to participate in the construction of the company. An excellent company with a good reputation and reputation will also be a company that respects the interests of employees. Therefore, employees will also independently maintain the company's image externally, thus forming a virtuous circle. With the help of an ethical management model, domestic enterprises can create an environment full of humanistic care that helps each other, and each employee in the enterprise will independently tie his own interests and destiny to the interests and destiny of the enterprise together. This is a precious asset for the enterprise. Enterprises should combine their own image construction with social development and morality. When the ethical and moral construction of this enterprise is thoroughly integrated into the norms advocated by this society, the reputation of this enterprise will be an invaluable asset.

### **3 Ethics of human resource management in Chinese enterprises**

Nowadays, in the human resource management activities of Chinese enterprises, managers and employees are becoming more and more dissatisfied with the traditional human resource management model. In the process of transforming the traditional management model to the ethical management model, there will inevitably be contradictions and conflicts in the human resource management of enterprises. Conflicts create a series of problems.

Ethics runs through almost all aspects of human resource management, from the initial recruitment and selection of job applicants to dismissal, retirement or dismissal. Since ethical problems appear in all aspects, when enterprises face the ethical problems in personnel management, they should use the means of combining relevant laws and regulations with morality and ethics.

#### **3.1 Discrimination in corporate recruitment**

One of the more common ethical issues in corporate human resource management is discrimination. Discrimination exists in all aspects of our life and work, and also seriously affects our daily life and work. Discrimination has always been a phenomenon that is contrary to moral behavior, no matter how to explain the phenomenon of discrimination or to analyze the nature of discrimination in various ways. The emergence of discrimination has seriously affected the equality of rights, people's livelihood and democracy, and social opportunities. Discrimination may manifest itself in various specific forms in the process of enterprise human resources management, such as equal treatment, health discrimination, regional discrimination, gender discrimination, political discrimination, age discrimination, cultural discrimination, ability discrimination, employment discrimination, and racial discrimination.

#### **3.2 Distributive injustice in human resource management**

##### **3.2.1 Unfair job post assignment**

Most companies have established many systems to constrain employees, and most of these regulations are only to constrain employees' work attitude and work efficiency. There are few constraints on the fair distribution of jobs. Even if some enterprises have established a relatively fair post distribution system, they are often shelved. The management of the enterprise mainly depends on the will of the owner of the enterprise. The person with the most decision-making power is powerful, because everything else is in his hands, forming a unified voice. Employees who have opinions on corporate management and want to report will be fired first, leading to the collapse of some originally very good state-owned enterprises. Such CEOs of state-owned enterprises are more comfortable than capitalists. They can enjoy the rights of investors indefinitely without the need for investment, and there is no risk of investors. In terms of promotion, it is like the caste system in India. No matter how strong your ability, you will miss

opportunities. Those who have a so-called relationship can be a regular worker as soon as they work, but those who have no relationship can become regular workers only if they have worked in these companies for more than ten years and have been rated as excellent employees of companies for many times. Welfare fees for regular employees are higher than all income for contract workers. In enterprise management, especially managers of some private enterprises, they will arrange their relatives, friends and other people in some special positions, and they are mixed with supervisory factors when evaluating the performance of employees. The dignity and rights of individual enterprise employees will be violated due to justice issues in the process of enterprise human resource management.

### 3.2.2 Injustice in pay

The injustice of human resource management is also manifested in the imperfect performance evaluation and salary incentive system. It emphasizes academic qualifications while ignoring abilities. In addition, the integrity system of some companies is incomplete, causing employees to lose trust in the company, such as failing to honor the rewards promised to employees, which seriously dampens the enthusiasm of employees to work. In monopoly industries such as PetroChina, Sinopec, and banking and telecommunications, regular employees and contract workers have the same job content but the income difference is not a little bit, but doubled or tripled. Fresh college graduates do the same work as regular workers when they do internships in companies, and even work longer hours and work harder than regular workers, but they get half or even less than regular workers. The emergence of various injustices of unequal pay for equal work not only blows the inner feelings of employees, but also makes the working atmosphere within the enterprise disharmonious, and even leads to instability in the social order.

## 4 Coping strategies for ethical human resource management in Chinese enterprises

The ultimate goal of enterprises to build an ethical system of human resource management is to serve the development of enterprises. Companies should make the ethical management system more in line with the trend of social development and the needs of human development. To achieve the goal of ethical construction of human resource management, the enterprise must establish a human resource management system in line with ethical management in the process of enterprise development, plan and carry out various tasks scientifically, and enhance the enterprise's awareness that human resource management must be ethical, in order to maximize the motivation and creativity of employees, enhance employees' sense of responsibility, and help the development of enterprises.

### 4.1 Raising the ethical awareness of human resource management in enterprises

People are the first element of productivity. Human beings as a participant in an enterprise are the foundation of an enterprise. The overall quality of employees in an enterprise is related to whether an enterprise can operate smoothly. Therefore, the primary task of enterprises in the process of operation is to strengthen the shaping and application of humanistic spirit. Only by ensuring the real people-oriented, can those scientific and practical management systems be popularized and applied well.

#### 4.1.1 Establishing a people-oriented management concept

If enterprise managers want to improve their organizational ability and management level, they must cultivate their own forward-looking vision, and manage employees fairly and justly. There will definitely be many obstacles in the process of improving and promoting the ethics of human resource management in enterprises. At this time, it is very critical whether employees can share weal and woe with the company. To improve

employees', support and loyalty to the company, the following two points should be undertaken.

First, the enterprise should strengthen the propaganda of the people-oriented concept, so that the concept can penetrate into all aspects of enterprise production, so that employees and managers can consciously accept this concept. Enterprises learn from their excellent management methods, combine these new management methods with their own conditions, and create their own, scientific and practical management methods, so that individual interests and collective interests are closely combined. It is necessary to strengthen the development of the potential of employees and optimize the allocation of jobs, so that every employee can be perfectly integrated with the job position and give full play to his full strength and level.

#### 4.1.2 Increasing the training of employees' ethics and morality

Enterprises must strengthen the shaping of their internal ethical environment, because only in this way can the employees and management personnel of the enterprise fully realize the importance of cultivating their own ethical awareness. Companies should improve their enthusiasm for participating in collective training, and strengthen the restraint of employees or managers on their own behavior. At the same time, enterprises should also strengthen their investment in human resource management ethics. A strong and high-level management can promote the process of human resource management within the enterprise, so those large enterprises or those with huge output value have strengthened the human resources management process. It is also necessary to do a good job in the supervision of funds, avoid waste of funds, and let every penny invested by the enterprise be implemented. At the same time, enterprises should also keep learning the cutting-edge ideas of human resource management, and pay attention to propaganda and education on corporate ethics and morality for every employee. Employees should fully understand in thought, fully feel in action, and then make it clear that the overall interests of individuals and the enterprise are one and inseparable, so as to improve the collective awareness of employees and their enthusiasm for work.

### **4.2 Creating ethical human resource management mechanism**

#### 4.2.1 Creating a people-oriented corporate culture

In the process of managing employees, enterprises should stand from the perspective of employees, understand the needs of employees and formulate a suitable development plan for them. There is no doubt about the efficiency of the internal staff in a work environment with a good atmosphere. The corporate culture should show people-oriented atmosphere. They should not only pay attention to the improvement of management personnel and employees own learning ability, but also improve their moral and cultural literacy. At the same time, the team spirit should be brought into play effectively, and the concept of cooperation, mutual assistance and high efficiency should be advocated, so that the interpersonal relationship between managers and employees would be harmonious. The concept of mutual assistance and win-win has been carried forward, so that the competitiveness of enterprises has been improved.

#### 4.2.2 Perfect employee incentive mechanism

Combined with the actual development status of human resources of the enterprise, the corresponding incentive mechanism will be established and improved. Through the reward and punishment mechanism, every employee can get the remuneration they deserve, so as to achieve fairness and justice in human resource management, and stimulate the enthusiasm of employees in the enterprise, and strengthen employees' recognition and support for the enterprise itself. In terms of incentive methods, companies should strengthen the external incentives for employees, and let those employees with outstanding abilities take up some more meaningful jobs. This can

strengthen the exercise of those excellent employees, improve their ability and level. It can also enable enterprises to strengthen the use of human resources, avoid waste, and improve the work efficiency of the entire enterprise. In the process of human resource management, enterprises should start from the perspective of employees, and put the enhancement of employees own ability.

## CONCLUSION

Human resources are an indispensable and important resource for an enterprise in the process of stable operation, and it is also an important foundation for the continuous growth and improvement of an enterprise. Strengthening the ethical management of employees and creating a fair and just working environment for them is the goal of every company. People-oriented human resource management has become a must for every enterprise, and every enterprise must take into account its own employees, as well as the market environment and living environment. Human resource management has gradually become a very hot topic in China. Many related scholars have begun to study it, and various enterprises have gradually increased their emphasis on it. It is believed that in the near future, human resource management will become more and more mature and perfect in China.

## REFERENCES

- Boon, C., Den Hartog, D. N., & Lepak, D. P. (2019). A systematic review of human resource management systems and their measurement. *Journal of management*, 45(6), 2498-2537.
- Chen, Gang, & Guo, Xiaoyang. (2018). Research on Human Resource Management Ethics in Small and Medium-Sized Enterprises in my country. *Collection*, 27.
- Cheng, He. (2018). Research on the relationship between corporate human resource management ethics and employee satisfaction (Master's thesis, Northeast Normal University).
- CHEN, S., ZHANG, G., & LIU, W. (2020). Multi-level mechanism of ethical human resource management practice: Based on social context and social cognitive theory. *Advances in Psychological Science*, 28(11), 1800.
- Guo, Zhiwen, Wang, Da, & Wu, Jiahui. (2020). A study on the measurement of ethical sensitivity of human resource managers. *Modern Commerce and Industry*.
- Hanić, A., & Jevtić, D. (2020). Human resource management between economy and ethics—research of Serbia and Bosnia and Hercegovina.
- John R. Deckop. *Human Resource Management Ethics (Hc)[M]* United States of America. Information Age Publishing, 1998.
- Khan, S. I., Bartram, T., Cavanagh, J., Hossain, M. S., & Akter, S. (2019). “Decent work” in the ready-made garment sector in Bangladesh: The role for ethical human resource management, trade unions and situated moral agency. *Personnel Review*.
- Liu, Qian, & Fang, Yue. (2019). On the Ethical Path of Human Resource Management in the Public Sector. *Market Weekly*, 6.
- Liu, Zhan. (2019). An Empirical Study on Human Resource Management Ethics and Employee Satisfaction (Master's thesis, University of International Business and Economics).
- Macke, J., & Genari, D. (2019). Systematic literature review on sustainable human resource management. *Journal of cleaner production*, 208, 806-815.

- Michael, A. (2019). A handbook of human resource management practice.
- Mujtaba, D. F., & Mahapatra, N. R. (2019, November). Ethical considerations in ai-based recruitment. In 2019 IEEE International Symposium on Technology and Society (ISTAS) (pp. 1-7). IEEE.
- Nankervis, A., Baird, M., Coffey, J., & Shields, J. (2019). Human resource management. Cengage AU.
- Ombanda, P. O., & K'Obonyo, P. Critical Analysis of Ethics in Human Resource Management and Employee Performance.
- Pande, G. (2020). Human Resource Ethical Dilemmas in Healthcare. *International Journal of Marketing & Human Resource Research*, 1(01), 24-33.
- Soleimani, T., & Mirzaee Daryani, S. (2020). Human Resource Productivity Indicators Factor Analysis: Emphasizing Scientific and Ethical Factors. *International Journal of Ethics and Society*, 1(4), 45-35.
- Taamneh, M., Athamneh, S., & Nsairat, B. A. (2017). The effect of administrators' work-related ethics on practicing human resource management functions at Jordanian universities. *International Journal of Public Sector Performance Management*, 3(3), 337-354.
- Wang, Jun. (2018). Ethical Research on Enterprise Human Resource Management (Shenyang Normal University).
- Wu, Jiahui. (2018). Human Resource Managers Ethical Sensitivity Measurement and Intervention Research (Master's thesis, Hubei University).

# RESEARCH ON MANAGEMENT METHODS OF ENTERPRISE TECHNOLOGICAL INNOVATION SCHEME

**LUO HAIYUN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1219558481@qq.com*

## ABSTRACT

Enterprise technological innovation is the source power of economic growth and economic development. Enterprise is the carrier of economic growth and economic development. The technological level and technological innovation ability of enterprise not only directly determine the competitiveness of enterprise, but also play an important basic role in the development of the whole industry and economy. Large enterprises have strong capital and technical strength, which enable them to engage in product innovation and large-scale process renewal. Many small scientific and technological enterprises are founded by scientific and technological personnel with innovative consciousness and ability, with flexible mechanism and decisive decision-making. Once there is financial support, they will be more willing to engage in innovation, improve the company's core competitiveness and enrich the connotation of corporate culture. To sum up, enterprises must pay attention to science and technology management. Enterprises use resources to plan, organize, coordinate and control in order to realize science and technology management innovation. Resources are limited. Enterprises must cherish resources and cannot take them seriously. Science and technology management innovation in turn will promote the achievement of enterprise strategy. Technological innovation is the development and utilization of technology, and scientific and technological management is the guarantee to ensure the success of technological innovation. Good scientific and technological management can promote the realization of production benefits, economic benefits and comprehensive benefits of enterprises, so that enterprises can develop sustainably and healthily.

**Keywords:** technological, innovation, competition, basic scale

## INTRODUCTION

Improve and improve the incentive policies for enterprise technological innovation and enhance the "power source" of enterprise technological innovation. The government can support enterprises through direct or indirect measures, such as direct subsidy, tax policy, government procurement, industrial policy, coordination role, infrastructure services, etc. Direct support means that the state directly encourages and supports the technological innovation activities of enterprises through financial means and industrial policies. This method generally works quickly. The adverse factor is that it is easy to increase the dependence of enterprises and weaken the ability of market regulation, and the government's support is difficult to ensure fairness. The construction of enterprise technology development center or technology alliance is not only an important link of

enterprise technological innovation ability, but also the internal demand of enterprise self-development and improving competitiveness and the inevitable choice to become the main body of technological innovation.

Figure 1: Table 1: work quality value table

Serial number	clause	Responsibility content	person liable	Amount (yuan)	Inspector	Amount (yuan)
1	4.3	Not submitted on time	Center / department head	-50	Person in charge	-20
2	4.4.1-- 4.4.3	Not evaluated on time	Team leader	-50	CEO	-20
		Not published on time	Manager of Administrative Personnel Center	-50	vice president	-20
4	4.5	The innovation scheme was not implemented on time	Center / department head	-50	Person in charge	-20
6	4.6.2	Not published on time	Manager of Administrative Personnel Center	-50	vice president	-20
7	4.8.3 A	Number of outstanding reports	Center / department head	-50	Person in charge	-20
8	4.8.3 B	Not up to standard	Center / department head	-100	Person in charge	-40

Source: innovation management plan

### 1.1 scope of enterprise innovation scheme management:

Enterprise innovation scheme management is oriented to all employees of the company, whether management or ordinary employees, who can innovate in management. The innovation scheme is formulated by the human resources department of the headquarters, and all branches and departments can effectively implement the innovation scheme.

### **1.1.1 responsibilities of enterprise innovation scheme management:**

The administrative personnel department is responsible for the formulation and supervision of this system; The administrative personnel shall formulate rules and regulations for the specific scheme, innovate the submission scope of the scheme, and supplement the system that has not been formulated by the company; Reasonable suggestions on the company's planning; Improve the existing production process and technical innovation; Suggestions beneficial to the company to reduce operating costs and establish a unique corporate culture (including innovative working ideas of weekly director's meeting, innovative scheme of monthly inquiry meeting, and improvement scheme of quarterly comparison between each center / department and industry advanced units); The innovation scheme of monthly inquiry meeting shall be submitted by each center / department in the form of monthly inquiry meeting report materials (PPT file); The improvement plan for the gap compared with the advanced units in the industry shall be reported by each center / department in the form of written report; Submission time of innovation plan: the weekly directors' meeting innovates the working ideas, and each center / department shall submit the report along with the weekly summary and weekly plan according to the submission time specified in the weekly directors' meeting system; All branches and departments are responsible for specific implementation.

### **2. Contents of enterprise innovation scheme management:**

2.1. Submission method of innovation scheme; The innovation scheme shall be submitted in the form of formal written materials of the company; The innovative work ideas of the weekly director meeting shall be reported by each center / department in the form of weekly summary and weekly plan; The innovation scheme of monthly inquiry meeting shall be submitted by each center / department in the form of monthly inquiry meeting report materials (PPT file); The improvement plan for the gap compared with the advanced units in the industry shall be reported by each center / department in the form of written report.

2.2. Time of innovation scheme; Innovative work ideas of weekly directors' meeting: each center / department shall report along with weekly summary and weekly plan according to the submission time specified in the weekly directors' meeting system; Innovation scheme of monthly inquiry meeting: each center and department shall submit the innovation scheme plan and expense budget to the administrative personnel center on the 25th of each month according to the requirements of the table of proposals for innovation schemes of each center and department; The proposer shall discuss the feasibility of the innovation scheme involving other centers and departments with the departments involved, and the proposer shall put forward the feasible scheme, and submit the innovation scheme plan, cost budget and the feasibility proposal of the scheme involving departments to the administrative personnel center on the 25th of each month; Improvement plan for the gap compared with the advanced units in the industry: each center / Department will investigate, analyze and discuss the actual operation and work of the center / Department on the 20th of each quarter (March, June, September and December), draw the gap compared with the advanced units in the industry, list the aspects of the gap separately, and put forward improvement measures / plans for the gap; According to the comparative analysis with advanced units in the industry, this paper puts forward an innovative scheme to optimize the work efficiency of the Department and catch up with the gap with competitors. Regulations on the current situation of the Department, specific improvement measures / schemes for the next step, specific completion time, responsible person, achieved effect and how to assess if the expected effect is not achieved after improvement.

2.3 approval of innovation scheme; Working ideas of weekly director meeting: the

working ideas proposed by the weekly director meeting of each center / department shall be evaluated by the meeting host and submitted to the president for approval; Before 16:00 p.m. every Monday, the host of the meeting will submit the evaluation results to the administrative personnel center, which will publish the results; Innovation scheme of monthly inquiry meeting: the administrative personnel Center shall establish a leading group for the implementation of innovation scheme for evaluation, with no more than 5 personnel each time; The leading group for innovation scheme implementation shall complete the review before the 27th of each month and submit the review results to the president, who shall complete the reply before the 28th of each month; The administrative personnel center publishes the results on the 29th of each month; Based on the comparative analysis with the advanced units in the industry, the innovation scheme surpassing the competitors: the innovation scheme implementation leading group shall review the innovation scheme of each center / department before the 26th of each quarter (March, June, September and December), and submit the review results to the president, who shall reply before the 29th; The administrative personnel center publishes the reply results on the 29th of the current month (postponed on holidays). If the innovation scheme is approved and implemented and evaluated as excellent, the submitter and the head of the center and department will be rewarded. If it fails to pass the approval, the head of the center and department and the director in charge will be punished in accordance with the provisions of the weekly director's meeting management system; For the weekly evaluation of the working ideas of the weekly director's meeting, the meeting host shall organize the heads of each center / Department (no less than five people) to select 1-3 schemes with great value (or benefit) among the schemes agreed to be implemented within three working days after the end of the weekly meeting (before Wednesday of the next week) (Note: the scheme proposer will be rewarded with 80 yuan and the Department Manager / center director will be rewarded with 50 yuan.) And report the selection results to the administrative personnel center. Reward method: the administrative personnel center issues a reward notice through the intranet. The reward amount will be organized by the president's office at the next week's meeting and distributed in cash.

2.4 implementation of enterprise innovation plan; The approved innovation scheme shall be implemented by the proposing Department on the 30th of each month according to the innovation scheme; If it is not implemented on time, the person in charge of the Department and the director in charge shall be punished; The administrative personnel Center shall supervise its implementation.

2.5. Evaluation criteria of innovation scheme; There is a specific implementation scheme to facilitate operation and evaluation; Clear expense budget for cost control; Improve the existing process and technical level of the company and bring higher production benefits. Greatly improve the operation status of the company and reduce the operation cost; Conducive to the standardized operation of the company; The new system has been put into operation and initially achieved the expected objectives.

2.6 evaluation criteria of enterprise innovation scheme; Conducive to the standardized operation of the company; The new system has been put into operation and initially achieved the expected objectives; 2.7 reward and punishment of innovative schemes. According to the evaluation results, the proposer and department head will be given a certain reward, with a reward ratio of 4:6: at the end of the year, the innovation scheme implementation leading group will convene relevant personnel to re evaluate the innovation proposals approved for implementation this year, and the top three will be evaluated according to the comprehensive situation such as economic benefits and medium and long-term impact after the implementation of the proposals, Special rewards will be given after being reported to the president for approval: punishment measures: if

the specified number of innovative schemes is not completed within the specified time, the department head and the director in charge will be punished. If the innovation scheme is not implemented or fails to achieve the expected effect due to subjective reasons of the implementation department, the person in charge of the implementation department and the director or person in charge shall be punished.

Table 1: work quality value table

### **3. Significance of enterprise innovation scheme management:**

Facing the fierce market competition and enhancing the vitality of enterprises, enterprises must face the market and carry out continuous management innovation in order to improve their competitiveness. Technological innovation ability is one of the important indicators to measure the development speed of a country, and it is also one of the important indicators to measure the competitive strength of an enterprise. Therefore, it is of great practical significance to study the technological innovation strategy of enterprises. Enterprise management innovation is created on the basis of traditional enterprise management, which integrates the limited resources of enterprises more effectively and creates new management means. Enterprises must pay attention to science and technology management. Enterprises use resources to plan, organize, coordinate and control in order to realize science and technology management innovation. Resources are limited. Enterprises must cherish resources and cannot take them seriously. Science and technology management innovation in turn will promote the achievement of enterprise strategy. The development and management of new technologies are not smooth sailing. Although the successful development will bring great benefits and returns to enterprises, the risk of failure and the resources invested in R & D are also deterred by many enterprises. Not all inputs will reap, not all innovations will succeed in the end, and there are too many uncertainties in the process of technological innovation. It is necessary to plan science and technology projects according to the enterprise strategy, make effective and reasonable layout, and gradually implement them in an orderly manner; Carry out pre event, in-process and post event management to realize fine management; Focus on the result acceptance of science and technology projects and the popularization and application of achievements. First, carry out science and technology project planning to ensure full preparation before project approval. According to the enterprise strategy, carefully integrate the needs of technological innovation, and then determine the scientific and technological projects to form a mutually supportive and integrated project initiation and planning system. Due to the limited and scarce resources, it is necessary to position each project accordingly and invest different human, material and financial resources according to the positioning. Technological innovation is the development and utilization of technology, and scientific and technological management is the guarantee to ensure the success of technological innovation. Good scientific and technological management can promote the realization of production benefits, economic benefits and comprehensive benefits of enterprises, so that enterprises can develop sustainably and healthily.

## **REFERENCES**

- Tian Liyuan Enterprise management innovation in the new economic era [J] Operation and management, 2001, (2)
- Sun Yong. Enterprise management innovation under the condition of "new economy" [J] Journal of Northeast University of Finance and economics, 2002, (11)
- Li ronghua Enterprise management innovation in the information age [J] Guangdong science and technology, 2003, (11)

- Teng Jiadong Enterprise information construction and enterprise management innovation [J] Business research, 2004, (1)
- Wang Jiaxiang, Yu Xiaorui Analysis on several aspects of enterprise science and technology management [J] Science, technology and innovation, 2019 (8): 107-108
- Peng hailing, Wang Baosen, Mo Renjie Enterprise science and technology management guided by technological innovation [J] Scientific and technological innovation and application, 2019 (15): 38-40
- Wang Weifeng On the innovation of enterprise science and technology management in the era of knowledge economy [J] Scientific and technological innovation and application, 2019 (2): 37-38
- Wang Xiao, Hu Jun Social capital structure and innovation of small and medium-sized enterprises -- An Empirical Study Based on structural equation model [J] Management world, 2005 (07)
- Xibao, Yang tingshuang Enterprise integrated innovation: concept, method and process [J] China soft science, 2003, (06)
- Zhang Wei A new category of innovation management in the new economic era -- innovation management of complex product systems [J] Economic management, 2001, (16)
- Ni Xiuying, he Jundong Promote the innovation of marketing channels and expand domestic consumption demand [J] Jiangsu business theory, 2011, (02)
- Yin Yan. Problems and Countermeasures of human capital management in private enterprises in China. Private science and technology, 2007 (7)
- Su Zhaolin. On human resource management innovation [J], 2003 (2)
- Ou Yangsheng, Li Zhengbang. A new theory on human resource management of private enterprises in China [J]. Science and technology and management, 2006 (1)
- Liu Zhiyong. WTO and human resource management of private enterprises [J]. Private economy of township enterprises, 2002 (5), photocopy of the National People's Congress
- Fu Shidong. Current situation and development strategy of human resource management in private enterprises in China [J]. Economist, 2008 (5)
- Lu Caimei, Liang Jiahua. Human resources problems and Countermeasures of Chinese private enterprises [J]. Science and technology and management, 2003 (1)
- Yang Wenshi, Li Xiaoguang Principles of management China finance and Economics Press
- Fu Jianhua, Han Wenliang, Huang Wenzhuo Research on the development strategy of small and medium-sized enterprises in Shanghai Shanghai University of Finance and Economics Press
- Xiang run, Gao Yuan Competition and development of small and medium-sized enterprises Enterprise management press
- Wen Chihong, Bi Xinhua How to build the core competitiveness of small and medium-sized enterprises Enterprise research
- Zhu Wenshuang How to strengthen the intensive management of enterprise funds, monthly journal of Finance and accounting (comprehensive), issue 1, 2007
- Yike et al Research on corporate capital intensive management, contemporary managers, issue 8, 2006

# RESEARCH ON THE FUNCTION OF HUMAN RESOURCE MANAGEMENT IN ENTERPRISE STRATEGIC REFORM

HUI ZHANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: jasonzhang8067@sina.com*

## ABSTRACT

Human resource management plays an increasingly important role in strategic change. Once an enterprise decides to implement a new strategic goal, it means that the enterprise needs to readjust and allocate the resources it has. The change of enterprise strategy will inevitably require enterprises to adjust or even rebuild on the basis of the original human resource management. This paper further discusses the problems faced by human resource management in strategic change management. In order to increase the added value created by human resources in change management, the senior human resource managers of enterprises need to seek solutions in many aspects.

**Keywords:** enterprise, enterprise, strategy

## INTRODUCTION

### 1 Introduction

After entering the 21st century, with the advent of the knowledge economy and the information age, as well as the overall continuous advancement of economic globalization, the market competition faced by enterprises has become increasingly intensified. Against this background, China is currently in a period of transition in its economic system and the renewal of its growth model. With the deepening of reform and opening up and China's entry into the WTO, Chinese enterprises have been involved in the fierce competition in the international market. The survival and development of enterprises are also experiencing an unprecedented complex and changeable environment. Strategy is an organic system that coordinates the adaptive relationship between enterprises and the environment to effectively manage uncertain environments. When the corporate environment changes, companies will be required to transform or change the original strategy.

After nearly a hundred years of development, human resource management theory has evolved from the initial simple mechanical personnel management to today's high-level complex strategic human resource management that affects the overall situation of the enterprise, which provides a scientific theory for the human resource management of enterprises in the period of strategic transformation. More and more enterprises are increasingly realizing the strategic and transformative functional value of human resources and their management in the enterprise, realizing that human resources are the most core resources of enterprises, and human resource management is no longer just a department's affairs. It is a strategic partner and a change agent for the development of the entire enterprise, which has the same height as the enterprise strategy and is closely

related to the strategy.

Once an enterprise decides to implement a new strategic goal, it means that the enterprise needs to readjust and allocate the resources it has, and clarify how to better select, cultivate, use and retain talents in the special period of strategic change, and adjust and improve the core functions of human resource management such as personnel planning, recruitment and selection, training and development, performance evaluation, and salary management mechanisms. At the same time, it realizes the consistency and balance of the organizational structure, system, management style, common values and other organizational systems of the enterprise under the changing environment. Therefore, the change of enterprise strategy will inevitably require enterprises to adjust or even rebuild on the basis of the original human resource management.

To sum up, continuous change has become an indispensable feature of an organization, and the essence of corporate strategic change is the change of people's behavior, thinking, and habits. Any change management process includes a high level of people management skills, in order to guide employees to recognize change, accept change and promote change in organizational change, so that the organization can add vitality to the change and avoid the reef of change crisis. Therefore, it is particularly important to analyze the functions, roles and roles of human resource management in the strategic transformation of enterprises.

## **LITERATURE REVIEW**

### **2. Challenges faced by human resource management under strategic change**

#### **2.1 Changes in human resource management roles and responsibilities**

Although human resource management is presented to people as a simple administrative function in the beginning, in order to adapt to the continuously changing objective environment of enterprises brought about by global economic integration and knowledge economy, the importance of the strategic and transformative functions of human resource management has become increasingly apparent. The role of the human resources department in the new era is as follows.

1. Corporate strategic partner. Participants in corporate strategic decision-making, provides strategy-based human resource planning and system solutions, assists in diagnosing organizational problems, formulates corporate organizational structure, and ensures the effective implementation of corporate human resource strategies. This requires that the work of human resource managers and departments must be guided by corporate strategy.
2. Human resources specialist. For many years, people in the human resources department have always thought of people as executives. However, as the new role of human resource experts, they need to efficiently design and implement various human resource management systems and policies, and implement human resource process service management. In order to transit roles from executive to HR specialist, HR departments must improve their own productivity and that of the organization as a whole.
3. Employee motivator. Human resource managers and departments should build a psychological contract between employees and the enterprise, and stimulate employees' dedication through various means, so that they can work more proactively.
4. Revolution facilitators. The fourth new responsibility is to help enterprises develop the ability to cope with and utilize changes. Human resource managers and departments should actively promote the implementation of organizational

changes. The development of an organization needs to adapt to changes in the internal and external environment and make continuous strategic changes, and all changes require the participation of employees. Human resource managers must ensure that the company's new vision can be translated into specific change actions by employees. Therefore, human resource managers and departments need to be able to act as catalysts for change.

The transformation of the roles and responsibilities of the human resources management department not only requires business leaders to change their inherent views of the human resources department and the way they communicate with the human resources department, but also put forward higher-level requirements for them to regard the human resources department as a business to invest so they can provide more added value to businesses, customers, investors and employees. At the same time, it also requires human resource professionals to completely change their way of thinking and behavior, so that their knowledge structure and skills can be improved and improved.

## **2.2 The requirements of the strategic change trend to human resource management**

Human resource managers should keep a high degree of vigilance for the development of enterprises, pay close attention to the changes in the internal and external environment, timely evaluate various human resource problems caused by the change of enterprise strategy, and adjust human resource policies and activities at any time, and always maintain the coordination of human resources strategy and internal and external environment.

Many companies are experiencing rapid growth and change, especially in the international market. Their corporate strategies require timely adjustments to accommodate increasingly complex corporate activities, and companies undergoing these changes emphasize staffing and changing the way people are managed. The necessary talent must be recruited in accordance with the volume required and changing skill requirements, retraining those who do not meet the needs, designing new compensation systems to attract and retain key talent, and changing the way organizations are managed to ensure competition.

Best-in-class companies are focusing on introducing new products and technologies. Corporate strategies call for a shift to shorter product cycles and the use of new technologies such as artificial intelligence, expert systems, and fiber chemistry. Human resource strategy is fundamentally to update the skills of all personnel, and make changes in recruitment, education and training, collaboration and technology transfer, organization and staffing, project management and interdisciplinary integration, and assessment of personal skills and development needs.

Inter-enterprise mergers and acquisitions and strategic alliances are two strategic choices that organizations often make in the process of gaining competitive advantage. Its operation involves two or more enterprises. Therefore, it is also faced with a series of human resource management problems. It is necessary to formulate a human resource strategy that matches the integration goals, and solve the conflict between individual employees and cultural integration in the whole process.

For many companies, there is an increasing emphasis on cutting production costs. For companies that want to make such strategic adjustments, reducing direct production costs and indirect costs or general management expenses and avoiding future costs or special expenses are the main points of concern. The role of human resource management in supporting this strategic alignment is also evident, namely: controlling and reducing personnel-related costs, streamlining the organization and personnel (maintaining the

right size), eliminating unnecessary work, reducing benefit costs, implementing pay-for-performance schemes, etc.

### **2.3 Conforming to the new trend of human resource management development under changing conditions**

With the increasingly fierce market competition, enterprises have put forward higher requirements for human resources. Human resource management has far broken through the shallow-level personnel management model, and has developed into an in-depth and all-round development of enterprise management. Management methods and concepts have shown new trends.

Faced with the challenge, human resource management has gradually freed itself from transactional work and some traditional work, so that the time and resources saved can be used for transformative work that can bring high added value. The outsourcing of many human resource management activities used to provide a good mechanism for reducing such daily affairs. However, with the advent of e-HR, the procedures of human resource management have been greatly simplified, and the human resource management personnel have been improved. The high work efficiency enables the human resources management department to preside over or participate in various activities that support the overall strategy of the enterprise from a higher perspective. By strengthening strategic and transformative management work, the human resources department can provide more value-added services for enterprises, play a role in the enterprise value chain, and help enterprises create more wealth.

The boundary practice of human resource management is becoming increasingly blurred. Human resource management is no longer only the responsibility of the human resources functional department, but also the responsibility of all managers and employees. From company leaders to management departments, production workshops to production lines, everyone plays the role of human resource managers. A fundamental task of developing human resource management is how to promote and help managers at all levels of the enterprise and all employees to undertake the responsibilities of human resource development and management.

Human resource management has changed from the administrative power type to the service support type in the past, from the power center status of welfare management and personnel management to the service center status of providing consulting for corporate strategic planning, focusing on improving employee satisfaction, and assisting enterprises in harmonious employee relations.

Human resource management was originally an administrative subsidiary department of the enterprise, and its power source is exogenous and has considerable uncertainty. Now that the human resources department plays the key roles of the enterprise's strategic partner, change agent, human resources expert, and employee motivator, its power will be endogenous. This is derived from its own professional knowledge, skills, strategies and changes. The service function can create value for the enterprise and provide constructive services, which makes human resource managers and departments occupy a real position and power in the enterprise.

### **3 Function adjustment of human resource management under the condition of strategic change**

For the realization of corporate strategic change, resource preparation is only an external condition. In addition, it must be recognized by all employees. Only after employees internalize the enterprise's strategic goals of change into their own personal goals and codes of conduct, can the realization of enterprise strategic change have

internal motivation. Therefore, it is also very important to pass the enterprise's strategy change to each employee and get their approval, and this process also needs the support of human resource management practice. When an enterprise implements a strategy change, the first thing to think about is what kind of talent is needed to be competent for such a job.

### **3.1 Re-planning of corporate human resources**

If an enterprise wants to survive, it must change with the change of the environment. If an enterprise wants to develop, it must continuously adapt to the needs of the environment and even carry out strategic reform and innovation before the changes of the environment. For example, the expansion of the production scale of the enterprise and the adjustment or upgrading of the product structure, and the adoption of new production processes, etc., will cause the adjustment of the human resource structure of the enterprise, and bring great difficulties to the planning of the number, quality, type and ability of the personnel required by the enterprise in the future.

The feasibility and practicability of human resource planning depend not only on the accuracy of environmental analysis and forecasting of supply and demand, but also on the stability of the internal and external environment. This makes human resource planning must face great challenges. The external environment and competitive strategy of enterprises are changing rapidly, and it is very difficult to accurately predict the future supply situation of the labor market and the demand situation within the enterprise. Therefore, it is necessary to improve the ability of human resources department to predict and plan, so that human resource planning can more accurately reflect the requirements of enterprise strategic change and development on the quantity, quality and ability of personnel, and make human resource planning more accurate in the analysis and prediction of the environment. In addition, in order to enhance the flexibility and adaptability of human resource planning, in the face of rapid changes in the environment (especially changes in labor market supply and demand) and changes in corporate business strategies and development changes, human resource planning must adapt to changes and the needs of enterprises. The strategic change is to provide services and preliminaries.

### **3.2 Adjustment of staff recruitment and selection criteria**

The strategy change will inevitably lead to changes in organizational personnel. The vacancies caused by such changes will inevitably lead to the demand for recruitment. This requires the adjustment of the human resources structure. This structural adjustment will also generate the need for recruitment accordingly. Therefore, identifying job vacancies is the starting point for the entire recruitment exercise, both quantitatively and qualitatively. Effective recruitment can only be started after a clear understanding of the vacancies in the strategic change of the enterprise and the specific requirements of the positions. It should be emphasized that the changing environment of the enterprise may lead to constant changes in the connotation of work, and even cross-departmental work. At this time, enterprises can save a lot of manpower and material resources for recruitment, and choose a better way to solve the problem of job vacancies. For example, it should be more effective to expand and enrich jobs.

Many companies often experience layoffs in the process of strategic change. The exit mechanism of employees directly affects the mentality and career development planning of the incumbent employees, thereby affecting the smooth progress of the change. Therefore, the timing of layoffs, the selection of objects, the formulation of methods, and the matching of measures are all work content that human resource management must pay attention to. In the practice of layoffs, companies strive to be scientific and reasonable, and minimize the negative effects of layoffs. It is not only

necessary to avoid the pain of change caused by layoffs, but also to pay attention to the communication with the remaining employees, to guide them in thinking from the level of corporate culture, and ensure the continuous career development of the current employees.

### **3.3 Enhancing employee training and development**

As a basic functional activity of human resource management, training and development is an important way to realize the value-added of human resources. With the gradual increase of the contribution of human resources to value creation, the significance of the value-added human resources to the strategic transformation of enterprises is also increasingly important. Therefore, more and more companies begin to pay attention to training and development when they encounter changes. Training is the main way to motivate and assist all employees to develop attitudes, knowledge, skills and behaviors that are consistent with the company's strategic goals. In the special period of enterprise's strategic adjustment, in order to make it gain a competitive advantage under the conditions of continuous change, training plays the role of an incubator for the enterprise to break the old and establish the new.

Training needs analysis is the most critical step in effectively transforming training, because the analysis of training needs determines whether the training is pertinent, and determines the final effect of the training. Training is directly related to the success of the enterprise reform as well as the survival and development. In addition, the choice of training method directly affects the trainee's attitude towards reform training.

For the top managers of the enterprise, the requirements for leadership skills and characteristics are different from those in the stable period when the organization changes. Transformational leadership entails instilling ideological and ethical values in employees. In addition to guiding subordinates to complete various tasks, their personal charm is particularly important, for example, ideal influence, strategic vision, coordination ability, etc. They make up for these deficiencies in the following ways: participating in advanced workshops, presentations, exchanges between enterprises, hot case studies, EMBA and other forms. Through continuous learning, they can lead the entire enterprise in the right direction of change.

### **3.4 Building a new performance evaluation system**

Performance appraisal can discipline and monitor employee behavior to ensure that organization's strategic change efforts are not skewed. Markets are changing, strategies are changing, and more managers are starting to reshape their evaluation systems. The most common way to use an evaluation system to drive change execution is to change the evaluation criteria and goals of employees. Companies change the assessment criteria by redefining the skills, abilities or behavior that need to be considered in the assessment. Companies change the assessment objectives by redefining the tasks that employees must complete. Change requires constant review to ensure it is moving in the right direction. It requires real and measurable evidence, and establishing measurement indicators is one of the primary responsibilities of managers.

Employees are resistant to any form of change. It is especially obvious when performing performance appraisal under reform. In order to alleviate this situation, employees should be motivated to participate in the performance management process as much as possible, and managers need to appropriately delegate authority. For example, if necessary, companies ask individual employees to evaluate their short-term work performance, and explain where they excel in their work and where they need to be improved. Using this method not only significantly reduces employees' unnecessary self-protection alertness when facing changes, eliminates their anxiety and tension, but also improves their sense of work responsibility and awareness of participating in changes.

Managers are reducing work burdens. At the same time, managers can free up more energy to grasp the major events in the change strategy.

### **3.5 Implementing effective compensation incentives**

In today's fast-changing world, enterprises are required to survive and develop, and must constantly change. The change will inevitably bring mental pressure and changes in the interests of employees. Employee resistance to change is inevitable. If the behavior of change is not advocated in the distribution of values, there will be no mass basis for change. Therefore, the strategic change of an enterprise is inseparable from the support of the compensation system. Compensation can effectively promote the implementation of change by acting on individual employees, work teams and the enterprise as a whole to create an internal and external atmosphere suitable for change. The scope of compensation is very broad, including external rewards such as salary, bonuses, vacation, etc., as well as internal rewards such as recognition, participation in decision-making. All of these compensation forms can be used to help companies recruit and retain employees with diverse needs, and when used properly, they can mobilize and motivate people to embrace change.

It is self-evident that compensation can motivate people in the midst of change. If used properly, it can effectively promote and strengthen employees to form and maintain new behavior patterns, and can also serve as a strong support and guarantee for helping enterprises achieve new performance goals. Therefore, formulating and effectively implementing a scientific compensation plan has a huge impetus to strengthen employees' acceptance and recognition of changes. In this sense, compensation cannot simply be seen as a cost concept, but rather as an investment in the changes to come.

## **4 Human resource management functions in the strategic change management process**

The essence of strategic change is a contest between old and new ideas, new and old mechanisms, as well as new and old orders. The key to the success of the human resource management department in promoting the change is that it can start from the start of the change, gradually expand the team of change supporters, and establish an internal mechanism to promote the continuous and in-depth progress of the change. The responsibilities of human resource managers in the strategic change management process are analyzed in the following stages

A team should be constructed. Changes must be promoted by appropriate candidates. As for the preparatory work in the early stage, as well as the implementation and control process of the change, a temporary and flexible change leadership team must be implemented. The human resources department must first determine the functions of the change team and the ability and quality requirements of the team members through job analysis, and select suitable personnel to form a change team. The problems involved in the change are often comprehensive and cross-domain, so it must be composed of representative personnel at all levels in the organization. People with different skills need to work together to complement each other's advantages. Finally, human resource managers should efficiently allocate their roles within the team according to individual characteristics.

Team members should help employees change. Passing on a vision and getting employees to realize it is ineffective if the employee doesn't want to. The human resources department should rebuild the organizational structure according to the requirements of these changes, and then build a series of measures such as the corresponding training system, performance management mechanism, fair and reasonable salary and reward system, and evaluation of job analysis based on the ability to change,

so as to smoothly guide employees to accept and facilitate change.

Team members should consolidate the results of change. Human resource managers need to take advantage of their growing credibility to change systems, structures and policies that do not fit the vision. And they should carry out deeper reforms by hiring and promoting new people, identifying selected employees to support further reforms.

## CONCLUSION

The survival and development of modern enterprises are experiencing an unprecedented competitive environment. As an organic system that coordinates the adaptive relationship between the enterprise and the environment to effectively manage the uncertain environment, when the enterprise environment changes, it will propose transformation or reform. Enterprises often need to achieve a new balance through changes to adapt to changes in the market. In order to adapt to the continuously changing objective environment of enterprises brought about by global economic integration and knowledge economy, the importance of strategic and transformative functions of human resource management has become increasingly apparent. When the external environment changes rapidly, the human resources department can play a greater role for the enterprise. In an era of change, when HR can influence the development of the enterprise from a strategic level, the higher status of the HR department will follow. To meet the change from a strategic perspective has become a problem that human resource managers in all walks of life in China need to spend more time facing. To meet the issue of change from a strategic perspective has become a problem that human resource managers in all walks of life in China need to spend more time facing.

## REFERENCES

- Aburumman, O., Salleh, A., Omar, K., & Abadi, M. (2020). The impact of human resource management practices and career satisfaction on employee's turnover intention. *Management Science Letters*, 10(3), 641-652.
- Armstrong, M., & Taylor, S. (2020). *Armstrong's handbook of human resource management practice*.
- BHASIN, S., & DHAMI, S. (2018). Business Process Reengineering–The Role of Human Resource Function: A Comprehensive Review of Literature. *International Journal of Business Management & Research (IJBMR)* ISSN (P): 2249-6920; ISSN (E): 2249, 8036, 1-18.
- Bi Xinwei. (2019). The impact of strategic human resource management on HR practitioners' prospective behavior (Master's thesis, Zhongnan University of Economics and Law).
- Cooke, F. L., Dickmann, M., & Parry, E. (2020). Important issues in human resource management: introduction to the 2020 review issue. *The International Journal of Human Resource Management*, 31(1), 1-5.
- Cooke, F. L., Schuler, R., & Varma, A. (2020). Human resource management research and practice in Asia: Past, present and future. *Human Resource Management Review*, 30(4), 100778.
- Fapohunda, T. (2021). Greening the Compensation Design and Management of the Human Resource Function. In *Human Resource Management Practices for Promoting Sustainability* (pp. 157-175). IGI Global.
- Guo Changchang. (2020). A Study on Organizational Change of Human Resource Management in Company A (Master's thesis, Nanchang University).

- Haak-Saheem, W., & Festing, M. (2020). Human resource management—a national business system perspective. *The International Journal of Human Resource Management*, 31(14), 1863-1890.
- Hamadamin, H. H., & Atan, T. (2019). The impact of strategic human resource management practices on competitive advantage sustainability: The mediation of human capital development and employee commitment. *Sustainability*, 11(20), 5782.
- Hermans, M., & Ulrich, M. D. (2021). How symbolic human resource function actions affect the implementation of high-performance work practices: The mediating effect of influence on strategic decision-making. *Human Resource Management Journal*.
- Legge, K. (2020). *Human resource management: Rhetorics and realities*. Bloomsbury Publishing.
- Liu Yanlong. (2019). A Brief Talk on the Function and Operation of Human Resource Management in Smart Technology Companies. *Public Investment Guide*, 24.
- Kaufman, B. E. (2019). 3. The Roots of the Human Resource Management Function. In *Managing the Human Factor* (pp. 55-135). Cornell University Press.
- Michael, A. (2019). *A handbook of human resource management practice*.
- Parry, E., & Battista, V. (2019). The impact of emerging technologies on work: a review of the evidence and implications for the human resource function. *Emerald Open Research*, 1, 5.
- Singh, B., Dabde, T. D., & Kumar, A. *Employee Performance As A Function Of Human Resource Management*.
- Vrchota, J., & Řehoř, P. (2019). The influence of a human resource strategy to the function of human resource processes in small and medium-sized enterprises (SMEs). *Serbian Journal of Management*, 14(2), 299-314.
- Wilkinson, A., & Dundon, T. (Eds.). (2021). *Contemporary human resource management: text and cases*. SAGE.
- Zhao, Y. (2018). Managing Chinese millennial employees and their impact on human resource management transformation: an empirical study. *Asia Pacific Business Review*, 24(4), 472-489.

# RESEARCH ON THE IMPORTANCE OF HUMAN EFFICIENCY MANAGEMENT SYSTEM TO ENTERPRISE LISTING

YANJUN.LIU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: meihaoderen@yeah.net*

## ABSTRACT

Kaixue Cold Chain has been operating under the old model for a long time without change. In the past three years, due to the listing requirements, Kaixue Cold Chain needs to constantly improve its operating capacity, so as to achieve a market value of no less than 800 million yuan, an operating income of no less than 200 million yuan in the last year, and a total r&d investment of no less than 8% of the total operating income in the last two years. The business environment of an enterprise is the root cause of HR transformation [1]. In the process of our actual listing, we found that people were the most critical factor, because human resources is a business problem [2]. However, the original solid human resource management has been far from meeting the requirements of our listing, and in many cases, it is even a drag. In order to promote the sound development of Kaixue Cold Chain, with the continuous maturity and practical application of the HUMAN efficiency management system, we find that the human efficiency management system brings us the possibility of shock listing. The human efficiency management system brings both opportunities and challenges to Kaixue Cold Chain, which makes the competitiveness of Kaixue cold Chain increasingly improved.

Through the analysis of the human efficiency management system [3], this paper puts forward the problems encountered by enterprises in the listing process: insufficient talents, backward organizational structure, low human efficiency, weak competition, etc. And put forward the solution. Studies show that human efficiency management system can help enterprises find the root of low efficiency and make their personnel management simple and efficient, so as to realize the innovation of traditional human resource management [4] and solve the personnel management problem of "employing people, basing on 'human efficiency'". So as to simplify and optimize the management functions of the human resources Department close to the trend, help enterprises to speed up the performance requirements of listing, and finally successful listing.

**Keywords:** human efficiency management system

## INTRODUCTION

### 1.1 Background of the study

The listing of enterprises can extensively absorb social funds, rapidly expand the scale of enterprises, enhance their visibility, and enhance their competitiveness. The key

before and after the listing of an enterprise is business operation, and the two key elements of business operation are respectively the pursuit of maximization of operating income and control of operating cost minimization, both of which are operated by people. In terms of personnel management, although the existing management methods are constantly developing, the personnel management of enterprises has always been in the inertial thinking of "emphasizing management and neglecting operation", or in the management professional field of "narcissism", which is disconnected from the enterprise operation, and is becoming more and more complex, and the degree of separation is becoming more and more serious. How to manage people effectively? How to improve the human efficiency of enterprise management? Is the methodology of personnel management advanced or backward, and what is the final evaluation method based on business performance? This list of problems, naturally placed in front of enterprise experience and managers. In this context, "people work management system arises at the historic moment," it is a kind of "constantly ask for most optimal" new logic and new model of management, it is not simply to achieve lower employee compensation way, but the concept, objective, direction, purpose, process, structure, content, examination, appraisal and summary in the integration of system. After exploration and practice, it finally plays a huge role in the process of enterprise listing, and makes the enterprise listing successfully.

## **1.2 Problem statement**

Can effect the operation of the management system, process and results of the enterprise personnel management work experience is closely related to business activities, with the enterprise and effectively guide the managers at all levels to set up the consciousness of "people management is responsible for the department, help them to change and get out of the habit of rely on the human resources department, push them use" is the administrator of choose and employ persons, The manager focuses on the new personnel management thought of human efficiency.

## **1.3 Research questions**

At present, in the actual operation process of Kaixue Cold Chain, we find that the existing human resource management mode can no longer meet the needs and requirements of the company's listing, and the prominent problems are as follows:

- (1) The content of management work is disjointed from the business activities of enterprises, which only consumes management costs but produces no management benefits
- (2) The process of management work is far from the business department, which makes the overall personnel management efficiency of the enterprise low. ◦

Now, we introduce the human efficiency management system into Kaixue Cold Chain to reform and simplify the enterprise personnel management mode.

## **1.4 Research objective**

The core goal of constructing and operating human-efficiency management system is to cultivate and deeply cultivate the management culture of enterprises. Business culture is the subject of corporate culture<sup>[5]</sup>and the product of business. To make the economic culture of an enterprise a huge driving force in the enterprise, our research objectives are as follows:

(1) Form the "central axis" of enterprise experience management, which is used to unify the business thought of the whole enterprise, "force a hole", and make concerted efforts to achieve the business objectives of the enterprise. Highly unified, decentralized.

(2) Form the "language system" of enterprise experience management, which is used for communication, coordination and decision-making between cross-departments and cross-industries, that is, to understand each other quickly without delay.

(3) To form an automated and visual "data network" for the data information flow of enterprise operation and management<sup>[6]</sup>, which is used to highly transmit all the data information of operation and management, so that enterprises can quickly respond to customer feedback and market changes and quickly deal with problems in operation. The main reason for doing this is that through customer analysis, it is found that 20% of customers support 80% of the enterprise's performance, and these customers are crucial to the enterprise's competition and success<sup>[7]</sup>.

### 1.5 Significance of Research

Human efficiency management system can help enterprises to quickly and effectively improve their efficiency and speed up the pace of listing by subdividing human efficiency accounting system, human efficiency analysis system, human efficiency guidance system and human efficiency improvement system.

- (1) Effective accounting system to make each business line, product line, and the functional departments responsible (i.e., managers) for management personnel, have echoes the business direction of thinking, and transfer it to the enterprise of each employee, form an atmosphere for everyone to speak effect, as the guidance, through to include enterprise management budget plan and results in the final accounts of the activities. In order to cope with the demand for management talents in order to cultivate "boss-type managers" and form a flat organizational structure, lay the foundation of "growth and supply of management talents".
- (2) Effect analysis system through the three paths (management present situation analysis, problem analysis and future prediction analysis), the effect of data information to the person<sup>[8]</sup> minimum granularity analysis, namely let managers at all levels to stand in the perspective of enterprise management, reflecting, find and solve problems, to maximize the use of human resources, in-depth "dig".
- (3) The human effectiveness indicator system includes the employee terminal, the manager terminal and the senior decision-maker terminal. Its data analysis report, the time to find problems is more and more "advance" and "prediction", so that all kinds of information needed for enterprise management can be synchronized and shared by all personnel. This system data visualization kanban prompt and alert, can simplify the organizational structure of enterprise management. Optimize the management process so as to reduce the use of intermediate "pass-through personnel" and ultimately achieve the purpose of improving human efficiency.
- (4) Human efficiency improvement system through the management tools, used to inform and guide managers to improve the human efficiency management problems used in the path and the content involved. For example, the quality requirements of personnel in functional departments are relatively high, and they

should have diversified knowledge and skills, so as to reduce the ratio of personnel in functional departments and reduce labor costs. With fewer personnel in functional departments, the frequency and extent of management will decrease, intervention will decrease, and ineffective communication in management will decrease. In the rapid transformation of enterprises to adapt to the new era, in terms of personnel management, it can guide employees to spontaneously transform, rather than waiting for the arrangement of enterprises.

## LITERATURE REVIEW

### 2.1 The significance of the human-effect management system

Human efficiency management system is the upgrade and reform of human resources [9]. This reform brings the following benefits to enterprises:

- (1) Managers at all levels of the enterprise conduct human-efficiency management of their departments for the purpose of realizing business objectives.
- (2) The workload of personnel management in the functional departments of the enterprise is reduced, which can be simplified or "sunk" to each department, which can not only quickly solve the personnel management problem of each employing department, but also reduce the cost of enterprise management institutions.
- (3) The original "formalist" performance management model [10], in which KPI scores everyone is excellent but business objectives are not achieved, was abolished, and the "human-efficiency management" model oriented to achieve business objectives was strengthened.

After the establishment of the HRM system, the personnel management mode of the enterprise has been upgraded from the original "six modules" to "three main lines" (as shown in Figure 1). With simplified management contents, the communication between the managers of various departments of the enterprise and the finance and HUMAN Resources department has become very smooth.

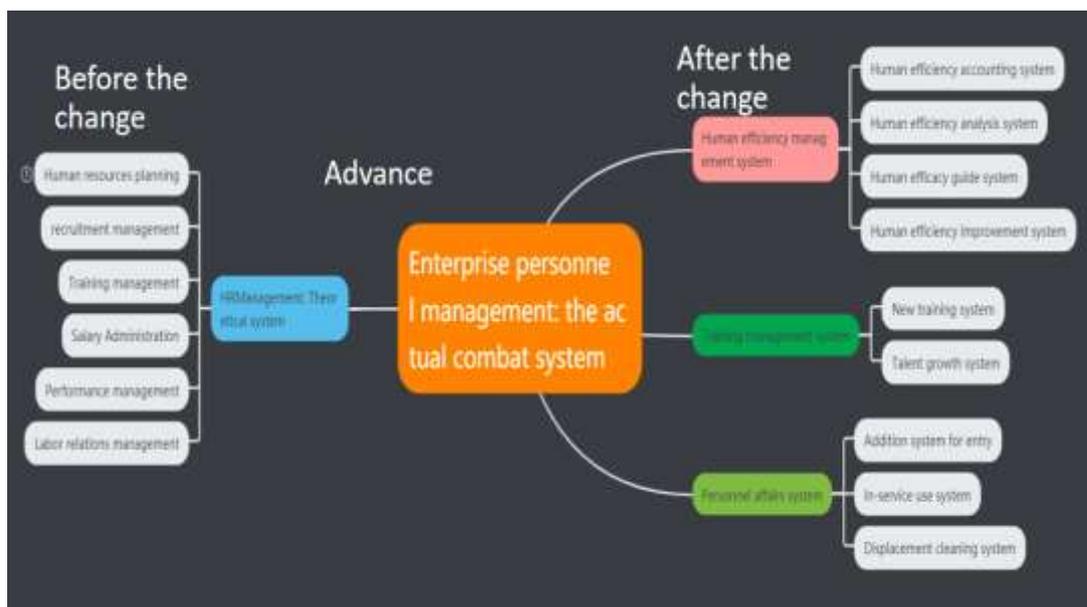


Figure 1

## 2.2 Characteristics of human efficiency management system

Hierarchical service management for target customers			
Customer classification	Target customer classification	Employee classification	Main contents of employee services
1	Social natural population	Employee in the customer	1.All kinds of media, push enterprise products and services; 2.Update customer information database
2	Ordinary customers with consumption intention Customers with average spending power		1.Call back regularly 2.All kinds of media content push 3.Update customer information database
3	Customers with strong consumption intention Customers with strong spending power	Grade 2 senior employee	1.Introduction of product functions and services 2.Experience Data Collection, Update customer information database
4	Ordinary experience customers	First-level new employee (First-level senior employee leadership)	
5	Customers with high consumption experience	Grade 2 senior employee	
6	First-time consumer	Level 2 New employee (First-level senior employee leadership)	1.Start sales and after-sales service 2.Recycle sales and after-sales service content, update customer information database. 3.Receive and deal with customer complaints
7	Second consumption customer	First-class senior employee	4.Real-time push of enterprise new product and promotional activity information, 5.Organize customers to participate in corporate activities 6.Update customer information database
8	Loyal customers	Second-level and third-level senior employees	1.Come and see you 2.New product Push 3.Update customer information database
9	VIP customers Corporate clients	Grade 3 Senior employee, managers	
10	Sleep customer Expiring clients	Grade 3 Senior employee	1.Telephone pays a return visit 2.Make an appointment to interview
11	Loss of customers	First-level new employee	

Note: The new employees, old employees and managers in the table refer to the employees and managers of the sales department.

Figure 2

Operation and operation, a new attempt at zero marginal cost. In the traditional business model, when the operating benefit<sup>[11]</sup> cannot be "marginal cost optimization" after investing manpower and material resources (without labor), that is, when there is a bottleneck in human efficiency improvement, we need to achieve the improvement of human efficiency by changing the business model or increase the "advanced conditions". In today's Internet era, with the emergence of drones, drones, robots, intelligent devices, big data platforms, 5G technology and sharing economy, the possibility of "marginal cost becoming zero" and new economy appear. In the context of this new economy, the only enterprise to do is to build their own management information automation system, which contains the human management system (because the future manpower is more and more expensive resources), and then use the Internet and Internet of things big data flow and enterprise data to guide enterprise management, reduce the "marginal cost" of enterprise operation to zero.

### (1) Unified managed "language department".

A. Horizon communicates complex issues of accounting decision making. Enterprise departments are roughly divided into two camps: the first camp is the business department (including sales, marketing, Product, customer, quality control, procurement, transportation, etc.); The second largest group is functional departments (including business administration, strategy, planning, finance, HUMAN resources, administration, legal, public relations, logistics, etc.). In the process of enterprise operation and management, horizontal or vertical communication between the departments of the two camps is very frequent in order to solve a certain problem in operation or management. Management issues

are relatively complex, and will be even more so if there is poor communication. Now the application of human efficiency management system, we spread out the human efficiency data, with the data for accounting, dialogue and decision-making. If the human efficiency data of the business department is within a reasonable range, but the personnel management standard does hinder the development of the business, then the standard can be applied for adjustment. Functional departments should make appropriate adjustments to personnel management standards of different business departments according to the quality of the actual human-efficiency data and the balance of the overall business benefits of the enterprise. After many discussions and communication, the seemingly complicated problems were finally unified through the human efficiency management system. After a while, Fisher grew accustomed to the scientific model for making people management decisions.

B. Division of labor and cooperation, instant communication and quick solution. With the gradual expansion of Business scale, business processes and departments increased, so did the problems of division of labor and cooperation. In the past, the management meeting at the beginning of each month was divided in order to coordinate the division of labor. Everyone just goes through the motions, and the boss talks at the end. Now, at the beginning of each month, the directors of all business departments and the heads of functional departments attend the regular business meeting. The meeting focuses on discussing and reviewing the human efficiency analysis report on the completion rate of the business goal <sup>[12]</sup> plan last month, finding out the problem that the human efficiency of some personnel shown in the analysis report is lower than the target plan, and providing solutions. Meetings are now very simple and efficient, with no bickering and buck-passing. Through the human performance data prompt, warning and result ranking presented on the "Human performance Indicator System", people can timely communicate and solve problems found in human performance data. Gradually, the mode of "centralized meeting and discussion" was replaced by the mode of "self-convened discussion", which completely benefited from the function of the "language department" formed under the human efficiency management system.

C. Staffing and staffing of expected benefits. Through the human efficiency accounting system, managers can avoid the irrationality of the "simple and broad" personnel allocation based on business estimation. In this way, the reasonable increase of personnel in the guarantee is used to support the realization of the department's business goals and plans, and the realization of the overall business benefits (gross profit margin) of the enterprise is also guaranteed.

D. Lift and adjust, contributing to the objectivity of evaluation. Before the human resource efficiency management system, the managers and each employee in Kaixue were faced with the problem of promotion or demotion. The managers of the HUMAN Resource Department evaluated the promotion or demotion through time, ability, assessment and norms, but due to the lack of database support for related processes and results, It will appear that the above evaluation content is not very related to the business target plan (total sales revenue target, gross profit margin target, gross profit net profit target) set by the enterprise at the beginning of the year. This results in the "disconnection" between our management and operation, which, over time, will lead to the "separation of the flesh and the flesh"

between operation and management, and even the undesirable phenomenon that the way of personnel management hinders the operation process and affects the operation results. Now KaiXue application effect management system, the personnel (whether what kind of personnel) management effect data (minimum average, historical peak, history, currently ranked, within the team, in the department, business line, line, area, the business enterprise inside) is added to the personnel to upgrade or downgrade the solution of problems. Personnel upgrade or demotion without asking enterprise leaders, through the human efficiency management system data display, the reasons are objectively and fairly placed in front of all people, so as to eliminate the incentive of labor conflict, but also reduce the difficulty of dealing with conflicts caused by misunderstanding.

E. New employee management, the positive guidance of "herding". The process of new employees from entry to maturity and then to success includes their own efforts and enterprise cultivation. Enterprise training includes training<sup>[13]</sup> and on-the-job practice. At present, Using the "job description" in the human efficiency system as a tool, Kaisheng has developed the general knowledge and job skill knowledge base of the enterprise, as well as the special knowledge and skill database of each position, and compiled the "competency model" to guide and help new employees to grow. Although this method is good, it lacks the content of enterprise management benefit. Although the responsibilities of new employees are not directly related to the operation of the enterprise for the time being, and it is not appropriate to ask them with the benefits of the enterprise, we need to broaden our thinking and guide them to grow up with objective data in the human efficiency analysis system. In recent years, we can see that some new employees work very hard and reach the excellent standard in the third month. A very small number of new employees who work very hard meet the standard of outstanding performance in the third month. The human performance data of these new employees are presented through the human performance indicator system, which is like a "signal lamp", prompting other new employees. Through the positive guidance of the "herd effect", the new employees believe that the transparent evaluation method is objective and fair, so as to avoid disputes and enhance and strengthen the enthusiasm and sense of direction of the new employees.

F. Incentivizes management: Rewards on the merits of comparative advantage. As a result of going public, the number of talents and departments involved in Snow has increased. Some of them are good at sales, some are good at RESEARCH and development, some are good at management, and some are good at finance. At this point, attention should be paid to the definition of "comparative advantage" of different talents when using talents. Incentive management and risk prevention management of personnel management are carried out through the following methods to realize the way of making use of its advantages and rewards based on merits.

- a. "all hands do work" is not necessarily an effective way to manage people.
- b. Reduce the number of people employed by using the method of "multi-tasking".

- c. One should not use the strength of a talent to measure the weakness of another talent; Or the incentive plan for this type of person is determined by what one is good at.
- d. It is a good way to make good use of "comparative advantage" to entrust professional work to professional people.
- e. For the training of cadres, we can increase the content of human-effect management system oriented to achieve business goals, and train them to become "boss-style" managers.

G. Management culture, professional habits of path dependence. Enterprises build corporate culture in order to better unite people. Hope every employee in accordance with a standard of professional habits to do things and do good. Corporate culture as far as possible with simple, practical and direct expression. Use data to inform employees about their actions and the results of their actions. Over time, see where you fit into the overall team or organization. Compared to others, what are the behaviors and habits of others worth learning from yourself? In what way do other people's achievements result from their efforts to serve their customers well? Where is the gap? What is the direction of change? In this way, employees will gradually develop a professional habit advocated by the enterprise, and then employees will learn and grow up along this path.

- a. Brand and image -- Material culture.
- b. Etiquette and customs -- behavioral culture.
- c. System and norm -- norm culture.
- d. Ideas and principles -- spiritual culture.

Core of enterprise culture: unify the thought and behavior of all staff.

The corporate culture is clear: what is advocated and what is opposed.

(2) Set up the "data network" shared by all staff. The objectives of constructing "data network" are as follows: First, through the high-speed transmission and sharing of data information in the human effect guidance system, it can save the use of operation personnel of data transmission in various departments. Second, through the network terminal antenna of human efficiency management system, to realize the flattening of enterprise organization structure, so as to save the use of personnel. Thirdly, the process optimization of the system of "top-down leadership and bottom-up reporting"<sup>[14]</sup> can be realized through the pathway of the human efficiency management system, so as to save the use of middle-level personnel.

- A. Data network, rapid interaction of data informatization. In the process of enterprise operation, data information of customers, products, employees, supply chain, logistics, sales, marketing, brand, finance and business plan will be generated. Through the analysis of these data information, kessel can bring the following benefits,
- a. Status analysis. Further measure the operation and management of the enterprise.
  - b. Cause analysis. Good reason continues. A bad cause ameliorates or changes a cause or condition in a good direction.

- c. Predictive analysis. To predict the future trend of enterprise operation and management, provide practical reference for the new round (or new cycle) business objectives and business strategies of enterprises, so as to ensure the healthy and sustainable development of enterprises.
- d. Improve human efficiency. Through the above analysis, each dimension has a common purpose, telling enterprises whether the number of employees in operation and management is "optimal"; Whether the potential of personnel can be tapped; The next step is to maintain or reform this "optimal" state; Whether the existing personnel can ensure the enterprise business information "optimal".

The automated data and information system developed with computer technology can realize "analysis, visualization and prediction" in a few minutes and reduce the use of personnel by at least 50 percent. In the future, we will also be able to use the Internet and Internet of Things technology to achieve the use of "unmanned operating system". This can bring savings to enterprises in terms of labor costs, as well as other hidden costs, such as communication costs, meeting costs, information transmission costs, training costs, delayed customer feedback costs and disputes costs.

B. Organizational structure, flattening and systematization combined. The construction, operation and maintenance of human efficiency management system emphasize the matter of "operating efficiency oriented personnel use the best program". On the premise of establishing data and information automation system, only the flattening of organizational structure and network can achieve the expected goal of human efficiency management system. In the past, the company had an organizational structure of 15 levels from top to bottom, with a total of 789 employees. Now the human resource management system, the flat organizational structure is only 5 layers, the total number of employees of 523. How much manpower input can be saved after the reform, and how much management cost can be saved after the reform, it is clear at a glance. This flat organizational structure emphasizes the use of "systematic data and information" to drive the independent execution and management of all staff, rather than relying on "managers" to supervise.

C. Terminal granular, data segmentation, transparency and synchronization. In view of the source of business benefits, there are two terminals: one is the customer, the other is the employee. The enterprise customer management system has been more mature, while the employee relationship management system did not exist before. But in fact, the maturity of the employee relationship management system has a great impact on the improvement of human efficiency. The reason is that it can reduce a large number of managers, reduce the cost of management. Employee management system has two terminal objects: one is managers at all levels, the other is individual employees. If the granularity of the data analysis system for these two objects is not subdivided or shared in real time, the realization of the overall business plan objectives will be delayed.

Data segmentation, transparency and synchronization of the management terminal. The main responsibilities of managers are shown in Figure 3.



Figure 3

What are the processes and outcomes of the manager's primary responsibilities? Why is this the result of the process? What are the likely next steps? These problems need to be reflected through data information. Therefore, data information must be segmented, transparent, and synchronized. Subdivision refers to subdivision of granularity. Transparency refers to the sharing of data and information related to objectives, benefit indicators, customers and employees according to certain permissions. Synchronization means synchronizing with the requirements of the upper layer of the enterprise, the operations of the lower level of the department, the needs of customers, and the business cycle goals.

Now, KaiXue data information automation system was used to construct the "data", and managers of terminal equipment "" such as desktop computers, notebook computers, mobile phones connected to managers can open at any time, receiving real-time reports, and visualization of data information interaction, more intuitive to give managers the data information analysis results" replacement ", So that managers can use data analysis reports to make efficient and accurate decisions.

Data segmentation, transparency and synchronization of employee terminals.

Through their own terminal devices (mobile phones, essential computers, etc.), employees can understand the information that is biased to "self-related". Design<sup>[15]</sup>data to facilitate staff to read (that is, the estimated employees share), can inspire staff to read data information after positive thinking (pay special attention to cause negative emotions of employees), these data can accurately tell the staff what is current status (what is compared with their differences, compared with the best what is the difference, What are the reasons for these differences, and what are the next steps to adjust and strive for?), these data information can show the correlation between employees' work results and personal income. These contents are granularity segmentation of the employee terminal.

"Data", set up enterprise management of managers and employees perform or fast or slow, fully guided by data, thereby reducing invalid meeting, less configuration function departments, ultimately save a lot of management costs, more can save the

enterprise decision makers to more energy, so they have the energy to enterprise development and the future of the enterprise.

### **2.3 How to improve the human efficiency management system**

- (1) Knowledge system: knowledge related to financial management. Knowledge of human resource management. Business and product knowledge. Knowledge of statistical analysis. Computer application knowledge. Knowledge of logical thinking. Comprehensive innovation knowledge.
- (2) Action system: it is divided into organization system <sup>[16]</sup> and path system. Organizational systems include objects and patterns. The path system consists of five cyclic steps: finding gaps in benchmarking plans, finding key points in analyzing data, finding causes from cross perspectives, finding solutions after model prompts and finding improvements after implementation.
- (3) Organizational system: its construction includes two key points: organizational object and organizational model. The organization object includes enterprise boss and managers at all levels and all employees should pay attention to human efficiency. The organizational model adopts the mode of "point to line" and "line to surface". By point to line, managers at all levels should first get familiar with and master the content and tools of the human efficiency management system, and then drive their business lines, product lines and customer lines and other vertical business lines. These business lines are then used to drive personnel at all levels horizontally to form the overall effect of coordinated action of all staff.
- (4) Path system: The five points of attention are to compare the daily, weekly and monthly business process and results to find out the gap. Through the human effectiveness analysis system and human effectiveness guidance system to share with managers and employees at all levels of terminal equipment to find gaps. Find out the reason for the gap by comparing the perspective of horizontal or vertical, present and past tense. The mathematical model (or relational model) of the solution is constructed to guide the implementation of the solution. Through the application of the HUMAN efficiency improvement system, track the implementation of the solution to see whether the human efficiency has been improved or enhanced. If it has been improved, it will cycle to the next round. If it has not been improved, it will continue to find gaps, key points and reasons, and so on to achieve the final set human efficiency goal.

## **RESEARCH METHODOLOGY**

### **3.1 Research methods**

The overall construction of human efficiency management system includes project team building, overall project planning and arrangement, overall project process design [17], sorting out key issues of human efficiency management, modeling of the four major systems, verification of the system after initial construction, and operation and maintenance of the training and coaching system, etc. It is not difficult to build a human efficiency management system. As long as the direction is clear, the goal is clear, the method is appropriate, the logic is careful, and the rest is persistent practice and improvement. These are the methodologies for building human-efficiency management systems as a whole.

(1) Method discussion: thinking and preparation before the start. Application work successful methodology, by defining management goal (purpose) to the need for which management, design a set of execution system (including attack and defense), to perform a set of monitoring system (including checking system and tracking system), to perform a system evaluation<sup>[18]</sup>, so as to realize the circulation of the cycle. This is how businesses grow and grow.

(2) Team building: project member building and preparation.

Human efficiency management system is a comprehensive management tool, enterprises need to set up a project team to build, later also need to have a special team to operate and maintain. There needs to be a person involved in the transition between the construction and operation phases to facilitate the human management of the daily work of the razor. The project construction team consists of the project leader and business leader. Financial director, IT director and hr director. The project operation and maintenance team consists of the person in charge of the HUMAN resources Department, financial personnel, IT personnel and business personnel. Project leaders fall into two categories: internal and external experts. The entry of external experts can be divided into the entry of one expert into the enterprise (composed of a mixed team with relevant personnel within the enterprise) and the entry of experts with a small team of several people into the enterprise (composed of a professional team). Due to the fast construction speed of the "mixed community pair" project, its high conformity with the actual situation of the enterprise, the synchronous growth of the four-way project of talents within the enterprise, and the daily operation and maintenance in the later stage of the project, enterprises generally choose the way of the mixed team.

(3) Clear thinking: general idea and path of the project.

- a. Article 1 Route is tating -- defining. This line starts from the project establishment based on enterprise needs to the definition of project objectives and problem boundaries. The contents that need to be considered include: What is the starting point of enterprise needs? What are the intended goals and outcomes of the business? What do you want to improve? What conditions has the enterprise evaluated by itself? What resources does the enterprise intend to invest? When does the enterprise expect the project to be completed? Other issues of concern to the enterprise.
- b. Article 2 Route, definition - research. Some things to consider: Is the starting point of the enterprise's requirements real? Are the desired goals and outcomes of the enterprise feasible? Is it feasible for companies to want to improve in some way? Is it true that the enterprise has certain conditions for its own assessment? Is it feasible for companies to invest in certain resources? Is it realistic that the company expects the project to be completed? Does the problem of low human efficiency really exist in enterprises?
- c. Article 3 Route, research -- analysis.
- d. Article 4 Route, analysis -- design.
- e. Article 5 Route design -- test. The sequence of design ideas is human effect change -- human effect analysis system -- human effect guidance system -- human effect improvement system. The four systems are interrelated and organically combined.

- f. Article 6 Route, test -- trial.
  - g. Article 7 Route, trial - adjustment.
  - h. Article 8 Route, adjustment -- training.
  - i. Article 9 Route, training -- Delivery.
  - j. Article 10 Route, delivery -- end.
- (4) Framework building: overall project planning and arrangement. According to the three purposes of project construction, the needs of enterprise construction of human efficiency management system are sorted out to complete the construction task. Help enterprises identify the causes of low human efficiency and provide key improvement measures. Training enterprise backbone, make them master the human efficiency management system construction principle, clear daily operation and maintenance should pay attention to matters. The overall plan of the project is divided into five stages: investigation and inventory, system modeling, testing and debugging, training and guidance, and delivery tracking. Overall project workflow: the establishment of the project team. Develop the master plan of the project. Research and inventory the strategic development plan, organizational structure, process management, main business, project segment, financial management and personnel management of the enterprise. Human efficiency accounting system modeling. Human effect analysis system modeling. Human effect guidance system modeling. Human performance improvement system modeling. The semi-automatic module of human efficiency management system. Debug and test each system. Train and coach terminal personnel (managers, functional personnel, some employees) to use the system. Track and coach project delivery and system daily operation and maintenance. Specific arrangement of project time. The purpose of each stage of the project is as follows: the purpose of the survey is to find out the current situation of enterprise operation and management. The second is to find the problems and causes of human efficiency management in enterprises. Third, evaluate the feasibility of improving human efficiency management. The purpose of system modeling is to construct each system module of human-efficiency management system completely. There are two purposes of debugging test: one is whether the constructed system module can run successfully. The other is the consistency and accuracy of the constructed system module in the actual operation of the enterprise. The three purposes of the training and guidance are as follows: first, let enterprise managers and employees establish the concept of "paying attention to the operating efficiency of the enterprise, paying attention to the human efficiency, and measuring the work results with the human efficiency". The second is to teach enterprise managers and employees to learn to use the relevant systems in the human efficiency management system. The third is to teach the operation and maintenance personnel (hr department and IT department) of the enterprise human efficiency management system how to carry out the daily operation and maintenance of the system. The purpose of delivery tracking is twofold: one is to deliver all the documents (including electronic versions) and template information of the project construction process to the enterprise for archiving. The other is to track the enterprise for a period of time (specific to the requirements of the enterprise), to deal with and solve the problem of the operation and maintenance process of the human efficiency management system.

(5) Level: overall design and configuration of the project.

Human efficiency management system construction technology design, application and configuration, is accompanied by the business management activities of the enterprise, from the initial construction, after the "initial construction - growth - maturity - development" cyclic precipitation, step by step, rather than in place. Therefore, the human efficiency management system is also hierarchical, and the hierarchical level is mainly determined by the objective conditions of enterprise management, rather than relying on the "rigidity and rigidity" of the human efficiency management system's own model. Generally speaking, the progressive level is divided into initial level, semi-automatic level and fully automatic level. The initial stage shows the following phenomena: Non-internet operating enterprises, traditional enterprises, labor-intensive enterprises, enterprises with low per capita wage level, enterprises with bureaucratic (bloated) organizational structure, enterprises with ERP systems but often used, IT departments, But the personnel configuration is just to do simple network and computer operation and maintenance, the application of less or no application software system of the enterprise, all data information only rely on manual statistics tabulation and mail sharing of the enterprise, in the management of the application conditions of computer technology and the use of computer technical personnel are relatively weak. The first key is data-driven "proactive" design and configuration. The second key point is the design and configuration of double data transmission speed. Full automatic level performance phenomenon: IT staff by the enterprise to participate in, the people of the four systems and enterprise management system of the business system of original data information (such as enterprise resource planning), customer relationship management, supply chain management, logistics management, office management, financial management and human resources management, etc.) through links and automatically.

### 3.2 Data collection <sup>[19]</sup>

Data was collected using the following models:

- (1) Inventory model of corporate profit model.
- (2) Inventory model of enterprise strategic planning.
- (3) Inventory model of enterprise organizational structure and process management.
- (4) Inventory model of main business and project.
- (5) Inventory model of financial management in the past three years.
- (6) Inventory model of personnel management in the past three years.
- (7) Inventory model of enterprise computer technology application.

## CONCLUSION

The human efficiency management system was applied in the process of being listed. The human efficiency of factory employees increased from 520,000 to 890,000, and that of salespeople increased from 1.3 million to 3 million. Kaixue Cold Chain will submit materials to BSE at the end of 2021. According to the feedback from the guidance institution <sup>[20]</sup>, the fundamentals of all data and indicators required for The listing of

Kaixue are all good, and the final goal of listing on BSE can be achieved from April to August 2022. The contribution of these data comes from the use of human efficiency management system in the early stage of listing, and the continuous improvement and persistent implementation of human efficiency management system in the whole process of listing. Through the case of our enterprise, the human efficiency management system plays a very important role in the listing stage of the enterprise, even decisive!

## REFERENCES

- Dave Ulrich, Transformation HR: A new model of HR from the Outside in[M]. USA. China Machine Press.2020.05.18:114-115.
- Dave Ulrich, Mike Ulrich, VICTORY Through Organization[M]. USA. China Machine Press.2019.08.01:370-389.
- Dave Ulrich, Mike Ulrich, VICTORY Through Organization[M]. USA. China Machine Press.2019.08.01:53-61.
- Dave Ulrich, TRANSFORMATION HR: A new model of HR from the Outside in[M]. USA. China Machine Press.2020.05.18:369-374.
- Reed Hastings, Erin Meyer, No Rules Rules Netflix and the Culture of Reinvention[M]. USA.Citic Publishing Group.2020.11.01:334-430.
- Dave Ulrich, TRANSFORMATION HR: A new model of HR from the Outside in[M]. USA. China Machine Press.2020.05.18:314-315.
- Dave Ulrich, TRANSFORMATION HR: A new model of HR from the Outside in[M]. USA. China Machine Press.2020.05.18:208-209.
- Dave Ulrich, Mike Ulrich, VICTORY Through Organization[M]. USA. China Machine Press.2019.08.01:242-289.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:135-141.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:59-63.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:102-116.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:119-120.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:2059-2122.
- Dave Ulrich, TRANSFORMATION HR: A new model of HR from the Outside in[M]. USA. China Machine Press.2020.05.18:359-360.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:708-757.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:765-775.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:903-938.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:1298-1434.
- John M. Ivancevich, Human Resource Manager[M].12th Edition.USA.China Machine Press.2016.01.01:841-855.
- Reed Hastings, Erin Meyer, No Rules Rules Netflix and the Culture of Reinvention[M]. USA.Citic Publishing Group.2020.11.01:738-794. Corresponding author

# RESEARCH ON THE IMPORTANCE OF INNOVATION MANAGEMENT UNDER THE NEW ENVIRONMENT

RAN LU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: angoooooooo@gmail.com*

## ABSTRACT

With the development of science and technology in the world, the competition among enterprises is becoming more and more fierce. Before, enterprises generally competed in their industrial growth rate, product characteristics and so on. When the products of enterprises have certain characteristics and the industrial growth rate tends to be stable, the managers of enterprises increasingly change the direction of competition to the management concept. The more scientific and advanced the management concept of the enterprise, the more dominant it will be in the competition with other enterprises. The old enterprise management concept limits the pace of enterprise development. Advanced and scientific management concept is the magic weapon for enterprises to win. Therefore, enterprise managers must make a breakthrough in the innovation of management concept.

**Keywords:** Innovation, Administration, Technology research and development, enlightenment

## INTRODUCTION

### 1. Overview

#### 1.1 concept of innovation management

Enterprise innovation is an important content of enterprise management. It is the key factor to determine the development direction, scale, and speed of the company. From the management of the whole company to the specific business operation, the innovation of the enterprise runs through every department and every detail. Enterprise innovation involves organizational innovation, technological innovation, management innovation, strategic innovation, and other aspects. Moreover, the problems in all aspects are not to consider one aspect of innovation in isolation, but to consider the development of the whole enterprise, because all aspects of innovation are strongly related. All decision-making starts from the problem, and the beginning of innovation decision-making is to find the bud of innovation. The so-called innovation bud is to put forward the gap between the due situation and the actual situation of the current enterprise's operation or management or find new opportunities for the development of the enterprise. Decision makers should find and confirm the germination of innovation on the basis of comprehensive investigation and research. Grasping the characteristics of innovation and accurately grasping the germination of innovation will help to improve the efficiency of decision-making and ensure the quality of decision-making scheme.

## **1.2 importance of enterprise innovation management**

Advanced management concept is the key factor for the rapid and stable development of enterprises. It can inject vitality and vitality into enterprises. For an enterprise manager, he needs to reform the backward management mode, learn from foreign advanced management experience, find an advanced management mode in line with his own enterprise development in combination with the domestic and foreign markets, and comply with the trend of business development in the era of big data, to continue to develop in the fierce market competition.

In the case of both opportunities and challenges, it is particularly important for enterprises to strengthen management innovation. Through innovation, enterprises can master many important information resources, tap the potential value of data, make flexible use of information, actively respond to market changes, and make them invincible in development.

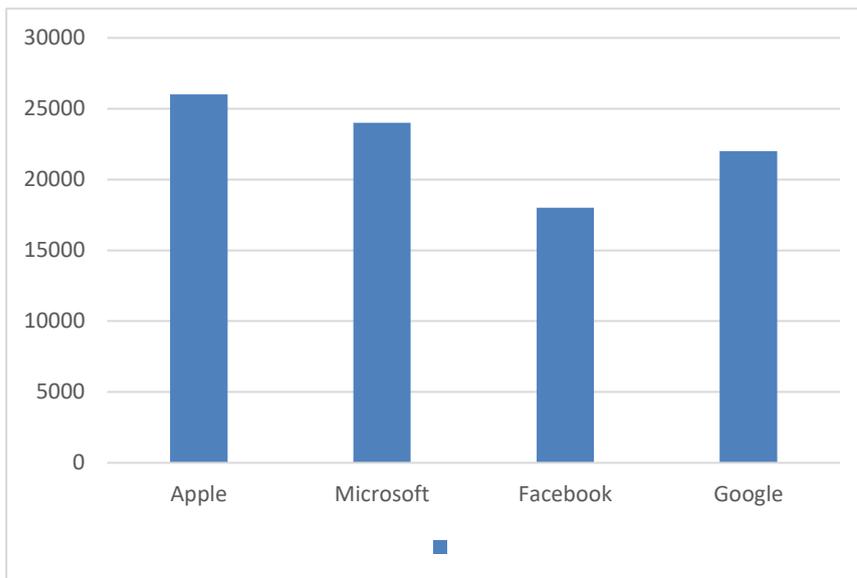
Innovation is the source for enterprises to survive and develop in the fierce market competition. On the basis of big data, the innovation of enterprise management mode can further improve the management level of enterprises, improve market competitiveness, and launch goods satisfactory to customers to meet the needs of the market. At the same time, innovative management can also reduce the dependence of enterprises on traditional management experience, change management concepts, effectively mine information resources through data, improve the accuracy and sales volume of operation, and make enterprises take the lead in the market competition.

At present, different enterprises adopt different technologies for data integration, but it is generally independent integration, and there is a lack of effective communication between various departments of enterprises. Therefore, the integrated data is often lack of real-time, which is not conducive to the scientific decision-making of enterprises. Through enterprise management innovation and the establishment of reasonable operation mechanism, it is helpful to realize data sharing, promote enterprise cooperation, jointly resist external risks, reduce external pressure and promote the development of enterprises.

## **2 Apple's innovative management measures**

### **2.1 Apple's innovative management in human resources**

IHR human resource management system is a new human resource management mode based on advanced software system and high-speed and large-capacity hardware. Through centralized personnel core information base, automatic information processing, employee self-service desktop, internal and external business collaboration and information sharing, we can reduce management costs, improve management efficiency, improve employee service mode, and enhance the strategic position of organizational talent management. The implementation of differentiation strategy especially needs innovative talents. To this end, apple is unique in human resources construction and has made great efforts to build an IHR human resources management system.



*Figure 1: 2021 average annual income of employees in apple and other companies*

According to the statistics of the U.S. trade union, the average monthly income of Apple employees in 2021 was as high as \$28000, which was much higher than that of technology giants such as Microsoft, Facebook and Google. It can be seen that Apple retained talents, trained talents and promoted the innovation of human resource management through high salary measures, which is very effective. Apple's turnover rate is the lowest in the United States. Apple not only gives high salaries to employees, but also has a lot of vacation benefits, working from home and so on.

Apple has set up a special employee help center to deal with employees' daily learning and consultation. If employees encounter any problems in work and study, they can ask the employee Help Center for help at any time through iPod, iPhone and iPad. After receiving the help signal from the employee, the help center will answer in time. If the employee is not satisfied with the reply, he can ask further questions until the problem is completely solved. This brings great convenience to employees' study, work and life.

Due to the efficient operation of the employee help center, HRM finally has enough time for strategic thinking and overall planning. In addition, the employee help center has become an induction training base for new employees of the human resources department. New employees can quickly learn the daily work of the human resources department in the help center.

In 1996, apple first ran the benefit registration system FBE (flexbenefit enrollment) on the company's intranet, replacing the original cumbersome written registration system and providing employees with efficient, accurate and interactive registration methods.

Since then, apple began to emphasize the self-management of employees rather than relying on human resources representatives for management. This change has made the vast majority of employees gradually develop the habit of using the website as the main source of information and trading place, and have a strong interest in their own welfare management. Apple continues to launch new online applications, including family status change registration software and retirement plan registration software, to strengthen the software environment for employee self-service operation.

For example, if an employee chooses a lower cost medical plan or chooses another more expensive medical plan, he can immediately see the different impact of different medical plans on his salary. In order to encourage employees to innovate boldly, apple created the apple Fellows Program. "Apple researcher" is the highest honor given by

apple to electronic scientists and awarded to employees who have made outstanding contributions to apple.

"Apple researcher" is not only an honor, but also means high salary and a large number of stock options. Moreover, "Apple researchers" have the right to do things freely and can do anything they are interested in, so as to stimulate the creativity of researchers to the greatest extent.

By implementing the "Apple researcher program", apple provides R&D personnel with all the conveniences in work and life. Because Apple knows that stabilizing these technicians and preventing them from changing jobs is the key to Apple's future research and development of new products.

## 2.2 Apple's innovation management in technology R & D

Apple first made its fortune as a computer company, but in the subsequent development process, the continuous introduction of innovative products is an important reason for Apple's standing. From iPod, iMac, iPhone to iPad, apple continues to innovate and lead the trend. Apple has also gradually transformed from a single computer company to a high-end consumer electronics and service enterprise.

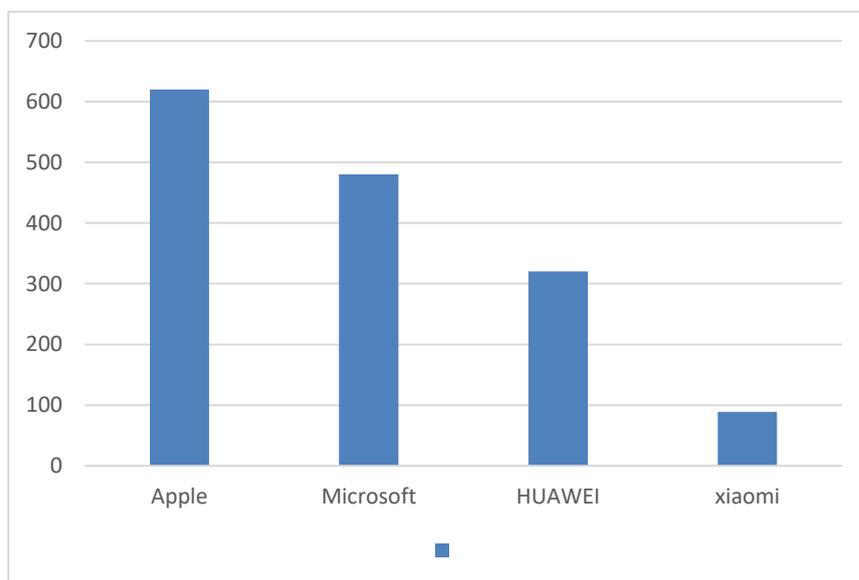


Figure 2: 2021 Enterprise R & D investment amount

According to figure 2, Apple's R&D investment in 2020 is as high as US \$62 billion, far exceeding Microsoft, Huawei, Xiaomi and other enterprises. According to the statistics of the US Department of Commerce, Apple has the highest R & D investment among high-tech enterprises, which proves that Apple's scientific and technological innovation is inevitable.

More importantly, when Microsoft Windows operating system and Intel processor dominate the market, apple still insists on launching its own independently developed system and processor. At first, it was favored by a large number of designers, and finally recognized by the public.

Among these products, the most important is the launch of iPhone. Mobile phone intelligence is the development trend of the mobile phone market. Apple is seizing this opportunity, or apple has promoted the popularization of this trend. In January 2007, Apple announced its entry into the iPhone field for the first time and officially set foot in the mobile phone market. After Apple's great success in the MP3 market relying on iPod + iTunes, it immediately beat other competitors in one fell swoop by relying on the

combination of iPhone + app store in the mobile phone market through differentiated positioning in terms of products, performance, operating system, channels and services. In February 2011, apple broke Nokia's monopoly in sales for 15 consecutive years and became the world's largest mobile phone manufacturer. At present, with the launch of iPhone13 series, Apple has performed well in the high-end mobile phone market, far surpassing mobile phone manufacturers such as Samsung, Huawei and Xiaomi. The iPhone series adopts Apple's own chip technology, which is beyond the capabilities of other similar enterprises except Samsung and other mobile phone manufacturers.

The innovation of products based on technological innovation is the magic weapon to win the market competition in the industrial era. Through technological innovation, new products are created to stimulate demand, occupy the market and lead economic development. In the information age based on highly developed industrialization, people's material life has been basically guaranteed, and their living standards have been continuously improved. The demand for products is no longer to meet the basic needs of life, but has become diversified, and the pursuit of aesthetics and value has become more and more intense. In the information age, the continuous introduction of various application products has fundamentally changed the way people all over the world communicate with each other, obtain information and entertainment. When people buy products, they no longer only focus on their functions, but also pay more attention to the value embodied in the products themselves and the self-improvement and Realization of personal value in use. Therefore, although product technological innovation is important, it does not play a decisive role. Blindly pursuing technology leadership and technology is too advanced, the result is often difficult for consumers to "digest" and the market to accept. For example, Motorola's "Yixing" product is a memorable failure lesson.

When explaining the basic concept of Apple's product innovation, Jobs said: "Apple's gene believes that focusing on technology alone is not enough. Science and technology must be combined with humanities, art and humanity to form the result of touching the heart." Jobs regarded customers as people with flesh and blood, emotion and dreams. Therefore, Apple sold not products but dreams. Each of its products was art. Such products won the hearts of users. Apple's products are not sold for buying, but to enrich the user's life experience. When users choose products, they are essentially choosing dreams. They hope that the products they buy will not only reflect their own value, but also help customers stimulate their potential talents and create and realize their own value. If technological innovation can not reflect the value of human beings, no matter how good technology is, it will be ruthlessly abandoned.

### **3 Inspiration from Apple's innovation management**

#### **3.1 enterprise management concept should keep pace with the times**

The reason for the rapid economic development of developed countries is that they rely on scientific and technological advantages rather than simple labor force. It can be seen that science and technology is the primary productive force, and the driving effect of science and technology on economic development is obvious, which explains why the central government puts forward that innovation activities must be led by science and technology, and why more and more attention is paid to the cultivation of students' innovation ability and experimental practice in the field of education. The strategic innovation of enterprises is to provide enterprises with clear direction, design clear implementation steps and plan effective methods, so that they can not only complete short-term economic benefits, but also plan the rational operation of enterprises from a long-term perspective and surpass competitors. Therefore, enterprise strategic innovation is the decisive factor to make it break through thorns and thorns in this field.

With the prosperity of cultural industry and the development of knowledge economy, knowledge management has formed an independent management field. In the past, the focus of enterprise management was on operation and management. With capital and energy, enterprises could operate, and a large number of enterprises also rose rapidly with the advantages of capital and energy. Now there is knowledge management, which is different from operation management. Its function mode is to integrate information resources and human resources and maximize the utilization of people and things by using the background of big data. Therefore, the key work of enterprises is constantly changing from operation management to knowledge management. The continuous innovation of knowledge management with the times can continuously improve the driving force and adaptability of enterprises to deal with various challenges.

### **3.2 enterprises should increase investment in technology R & D**

Strengthening the dominant position of enterprise technological innovation has always been the key point of the combination of industry, University and research, and it is also the core content of the reform of science and technology system. China should increase R & D investment and continuously improve the independent innovation ability of enterprises.

Strengthening the dominant position of enterprise technological innovation has always been the key point of the combination of industry, University and research, and it is also the core content of the reform of science and technology system. As an important investment behavior for enterprises to achieve sustainable development, R & D investment can improve enterprises' independent innovation ability and product added value. Improving the independent innovation ability of enterprises and establishing a technological innovation system with enterprises as the main body, market orientation and the combination of industry, University and research are the fundamental way for enterprises to survive, develop and improve their core competitiveness. It is also an urgent task to deal with the current complex and changeable international economic situation and promote the stable and rapid development of China's economy.

### **Summary**

Advanced management concept is very important for enterprises, because thought is the guide of action. The height of thought determines the depth of behavior. Advanced management concept can make enterprises develop steadily in the right direction. If the whole enterprise wants to develop stably and rapidly and want to be in an advantageous position in the fierce competition of its peers, it needs not only elite talents, advanced instruments and equipment, but also scientific and effective management ideas. Enterprise leaders need to fully integrate all kinds of resources and talents through scientific management concepts to maximize their development space. They also need to size up the situation, appropriately adjust the enterprise development strategy with the pace of the times, and promote the long-term development of the enterprise by optimizing the internal structure of the enterprise, formulating long-term and short-term objectives of enterprise development and market competition countermeasures.

## **REFERENCE**

- Ting Hsiu-I, Wang Ming-Chun, Yang J. Jimmy, Tuan Kai-Wen. Technical expert CEOs and corporate innovation[J]. Pacific-Basin Finance Journal,2021,68:
- Jintao Zhang, Zhen Yang, Li Meng, Lu Han. Environmental regulations and enterprises innovation performance: the role of R&D investments and political connections[J]. Environment, Development and Sustainability,2021, (prepublish):

- Xu Xiaofeng, Zhang Wenyan, Wang Tao, Xu Yi, Du Huanzheng. Impact of subsidies on innovations of environmental protection and circular economy in China[J]. *Journal of Environmental Management*,2021,289:
- Yun JinHyo Joseph, Liu Zheng, Zhao Xiaofei, Xiaolan Lin. Multiple-case Research on University: Enterprise Innovation Chain ‘Fractures Repair’ in China[J]. *Science, Technology and Society*,2021,26(2):
- Vrontis Demetris, Morea Donato, Basile Gianpaolo, Bonacci Isabella, Mazzitelli Andrea. Consequences of technology and social innovation on traditional business model[J]. *Technological Forecasting & Social Change*,2021,170:
- Chu Chien-Chi, Li Yong-Li, Li Shi-Jie, Ji Yun. Uncertainty, venture capital and entrepreneurial enterprise innovation—Evidence from companies listed on China's GEM[J]. *Pacific-Basin Finance Journal*,2021,68:
- Jiang Cailou, Liu Dehai, Zhu Qin, Wang Lu, Tabak Benjamin Miranda. Government Subsidies and Enterprise Innovation: Evidence from China's Photovoltaic Industry[J]. *Discrete Dynamics in Nature and Society*,2021,2021:
- Wang Sheng-Yuan, Chen Wan-Ming, Wang Rong, Wu Xiao-Lan, Ragusa Maria Alessandra. Multiobjective Evaluation of Coevolution among Innovation Populations Based on Lotka–Volterra Equilibrium[J]. *Discrete Dynamics in Nature and Society*,2021,2021:
- Li Zhuohang, Keita Nomiyama. Analyzing the relationship between managers' working pressure and creative behavior from the social network perspective. [J]. *Work* (Reading, Mass.),2021,69(2):
- Wang Tian. Top Managerial Oversea Social Capital, Firm Network Position and Innovation: The Mediating Effect of Prestige and Power from Firm Network Position[J]. *Journal of Service Science and Management*,2021,14(03):
- Hou Li, Liu Qin. Analysis of the Impact of Fiscal Policy on the Innovation Performance of New Energy Vehicle Companies-An Empirical Analysis Based on Panel Data of Listed Companies[J]. *IOP Conference Series: Earth and Environmental Science*,2021,787(1):
- Shuai Yan, Fengqin Sun. Literature Review on the Impact of Overseas Mergers and Acquisitions on Corporate Innovation Performance[J]. *Scientific Journal of Economics and Management Research*,2021,3(6):
- Liu Liangcan, Guo Wenming, Li Ruowei. A Research on CEO power and corporate performance model based on data analysis[J]. *Journal of Physics: Conference Series*,2021,1941(1):
- Lin Tong. Research on the Impact of Mixed Reform of State-owned Enterprises on Enterprise Innovation Capability[J]. *Frontiers in Economics and Management*,2021,2(6):
- Li Xing, Guo Yue, Hou Jiani, Liu Jun. Human Capital Allocation and Enterprise Innovation Performance: An Example of China’s Knowledge-Intensive Service Industry[J]. *Research in International Business and Finance*,2021, (prepublish):
- Li Jing, Wang Jun. Does the Technological Diversification and R&D Internationalization of eMNCs Promote Enterprise Innovation? An Empirical Study on China's Publicly Listed Companies[J]. *Journal of Global Information Management (JGIM)*,2021,29(5):
- Hou Li, Liu Qin. Analysis of the Impact of Fiscal Policy on the Innovation Performance of New Energy Vehicle Companies-An Empirical Analysis Based on Panel Data of Listed Companies[J]. *IOP Conference Series: Earth and Environmental Science*,2021,787(1)

- Wanshu Wu, Kai Zhao, Lei Li. Can government subsidy strategies and strategy combinations effectively stimulate enterprise innovation? Theory and evidence[J]. *Economia Politica*,2021, (prepublish):
- Sakawa Hideaki, Watanabel Naoki. Family Control and Corporate Innovation in Stakeholder-Oriented Corporate Governance[J]. *Sustainability*,2021,13(9)
- Benetyte Raminta, Gonenc Halit, Krusinskas Rytis. Corporate Governance vs. Financial Performance for Intensity of Innovation Investments[J]. *Sustainability*,2021,13(9):

# RESEARCH ON THE CURRENT SITUATION, PROBLEMS AND COUNTERMEASURES OF HUMAN RESOURCES MANAGEMENT IN PRIVATE HOSPITALS

**XIAOYU WANG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wangxiaoyu@udesk.cn*

## ABSTRACT

Health human resources are the key resources for the development of private hospitals. The management of health human resources is one of the bottlenecks faced by many private hospitals, which seriously restricts the healthy development of private hospitals. It has become an important research at home and abroad to promote the healthy development of private medical institutions by studying the current situation and existing problems of human resource management in private hospitals, analyzing the causes of the problems, and using management theory to explore the health human resources management model suitable for the sustainable development of private hospitals. Through the discovery of existing problems, this paper deeply thinks about the human resources management of private hospitals, and puts forward reasonable countermeasures and suggestions to promote the further development of human resources management in private hospitals.

**Keywords:** private hospitals, human resources

## INTRODUCTION

### 1. Introduction

The reform of China's medical and health system continues to deepen. The reform work has always adhered to the basic principle that the diversification of medical and health care depends on the market and vigorously promote the development and reform of the diversification of investment subjects and investment methods in China's medical system. Since the founding of New China, especially since the reform and opening up, China has continued to develop in terms of politics, society, economy, and culture. People's quality of life continues to improve, and living standards continue to improve. The concept of health is also undergoing subtle changes, and people's medical service needs are constantly changing, increasingly showing the characteristics of multi-level, diversified and personalized development. Diversified medical service needs require the diversified development of the medical service market to meet. Private hospitals are a key part of the diversified development of the medical service market. Vigorously promoting the healthy development of private hospitals and continuously improving the development quality of private hospitals is of great significance for promoting the realization of the modernized medical system.

Human resources for health are crucial to the technology-oriented medical services

industry. Private hospitals are developing rapidly under the background of the continuous deepening of the reform of the medical and health system, but there are still many restrictive conditions for their overall survival and development. The issue of health human resources has always been one of the major development bottlenecks that it has to face and explore. Hospital authorities should efficiently introduce outstanding external health talents, break through the traditional personnel management system, truly integrate modern human resource management concepts into practical operations, and give full play to the role of human resource management in promoting the development of the hospital. And they should also promote the development of internal health human resources, focus on the personal development of employees, and design a competitive salary system, a fair and just promotion system, and a humanized working environment. Scientific management methods should be adopted to further stimulate the enthusiasm and creativity of employees, so as to promote the healthy development of private hospitals.

The research on human resource management in private hospitals mainly focuses on the following aspects: current situation and problems, countermeasures and suggestions, comparative research with public hospitals, field research in private hospitals, and summary of foreign health human resource management development experience, etc. The research needs to be further in depth. Compared with the research on human resource management in public hospitals, the number of research literatures on human resource management in private hospitals is less, and the research efforts need to be further improved. In addition, after the integrated analysis of the proposed countermeasures and suggestions for human resource management in private hospitals, it is found that there is a lot of room for improvement and innovation in the exploration of countermeasures and suggestions.

## **LITERATURE RIVIEW**

### **2. Status Quo of Human Resource Management in Private Hospitals in China**

#### **2.1. China's continuous development of health human resource management**

Human resource management is a very important link in the scope of modern scientific management, and it plays an important role in the effective development of human resources, the rational allocation of health human resources, and the improvement of the utilization rate of health human resources. Since the founding of New China, especially after the reform and opening up, in order to better serve the lives and health of the people, the government has been exploring and promoting the further development of health services. The exploration in human resource management is also constantly advancing, improving the development of the management level of human resources, and promoting the scientific and professional level. After the founding of the People's Republic of China, especially after the reform and opening up, China opened its doors nationwide, learned from foreign advanced development experience, and learned foreign advanced human resource management concepts.

China has always insisted on exploration and reform, and has been striving to promote the sustainable development of health human resources management, continuously realize the sustainable and comprehensive development of China's health human resources in terms of quality and quantity, and play a role in safeguarding the lives and health of the people.

## **2.2. Status Quo of Human Resource Management in Private Hospitals in China**

### **2.2.1. Development Status of Human Resource Management in Private Hospitals in China**

Compared with human resource management in public hospitals, there are many differences in human resource management in private hospitals. The difference between the two is mainly manifested in the following aspects.

#### **1. Different concepts of health human resources management**

China's private hospitals are of the nature of enterprises. They implement an enterprise-oriented management model, adhere to the guidance of modern human resource management theory, and focus on human resource management under the principle of people-oriented. The modern human resource management model pays attention to the development of human capital potential, pays attention to the needs of employees, and carries out scientific and reasonable design for employees' career planning. Goals and organizational goals are aligned to create a win-win situation. Studies have shown that some domestic public hospitals have changed the names of relevant departments to human resources department, but they have done a good job of updating and upgrading their management concepts. They are still stuck in the traditional transactional management stage and have not given full play to the positive role of modern personnel management concepts.

#### **2. Different health human resource management systems**

The planned economic system has played an important role in the development of my China's health services. The vast majority of public hospitals are state institutions, which have undergone continuous and in-depth advancement of the reform of the medical and health system. Public hospitals are constantly undergoing reform and innovation. However, to a certain extent, public hospitals still inevitably have the problem of backward management. Different from public hospitals, enterprise-type private hospitals adopt a corporate governance structure, make independent decisions, take responsibility for their own profits and losses, operate and manage independently, pay close attention to and quickly adapt to changes in the medical service market, and have many advantages: flexible and flexible operating mechanism, with high-quality service awareness.

#### **3. Different operating mechanisms of health human resource management**

Most of the personnel management of public hospitals is characterized by large institutions, posts due to personnel, redundant staff, lack of internal competition mechanism, and poor personnel flow. In the long run, the situation of "difficult to enter and difficult to exit" for health personnel has been formed, and is subject to the constraints of the system and mechanism, which has not yet been realized. Many public hospitals have not really established and implemented a standardized, scientific, and strategic human resource management mechanism. The hospital's employment and talent needs do not match. Problems such as seniority ranking and egalitarianism still exist, which seriously weakens the enthusiasm and creativity of employees and causes human resources. The structure and layout of health human resources are unreasonable, and the utilization efficiency of hospital human resources is inefficient. Different from public hospitals, private hospitals have a more flexible management mechanism, which can achieve the principle of fairness and justice to a large extent in terms of talent introduction, talent flow, and employee promotion.

#### **4. Different distribution systems of health human resources management**

At present, the overall salary level of public hospitals is low, and the salary distribution system implemented is not competitive enough, which cannot stimulate the enthusiasm and creativity of employees, and is not conducive to the realization of work

efficiency and higher organizational goals. Different from public hospitals, private hospitals have faced the objective environment of lack of health personnel from the very beginning. In order to survive, excellent health talents must be introduced. Hiring excellent health talents with high salary is one of the most important talent introduction methods for private hospitals. Private hospitals should give full play to the advantages of modern enterprise management mode in the design of salary distribution system, achieve fairness and justice to the greatest extent, and fully mobilize the enthusiasm and creativity of employees as much as possible.

#### 2.2.2. China's private hospitals of challenges of Human Resource Management

##### 4. Human resource management in private hospitals lacks talents

The lack of talents in human resource management in private hospitals is mainly manifested in the lack of health technical talents and the lack of professional management talents. With the continuous development of private hospitals, the demand gap for health personnel in private hospitals will continue to increase and form a demand peak in a certain period of time, maintaining and evolving into a period of talent shortage. In the development of China's health undertakings, the shortage of health talents has always been a thorny problem. The entry of private hospitals as a supplementary part of the health system has further expanded the demand for health talents, resulting in a larger demand gap for China's overall health talents. Private hospitals currently employ senior experts and emergency health personnel supply methods, which are really slow tactics. In order to solve the talent problem of private hospitals, it is necessary to implement strategic measures in talent construction, build a private hospital's own talent pool, and build a human resource ecosystem suitable for the sustainable development of private hospitals.

Private hospitals lack professional health management personnel. Private hospitals implement enterprise management, and human resource management has the advantages of flexibility, and innovation. However, due to factors such as streamlining the structure and maximizing the reduction of hospital operating costs, it is still in its infancy, with small scale and few employees, lack of available resources and self-cultivation capabilities, and outdated human resource management concepts. Most of the private hospitals in the construction of a professional health management talent team are mostly due to the lack of strategic cognition, lack of investment, lack of innovation and other defects, resulting in results that the human resources management of private hospitals has been in the traditional transactional human resources, caring more about the management of things, not the management of people.

##### 5. Private hospital human resources management lack of policy

Compared with the development of public hospitals, private hospitals have always played a complementary role and received far less government support than government-run public hospitals. Existing studies have found that private hospitals are highly dependent on policies, and policies are the key factor affecting the development of private hospitals. Unlike other developed countries, China's health human resources have not been socialized, and the degree of freedom of personnel movement is low.

The inherent constraints of various institutional mechanisms also aggravate the external obstacles of human resource management in private hospitals. Compilation, rating and scientific research are closely related to the development of human resources in private hospitals, and are also three magic weapons for public hospitals to attract and bind physician resources. The promotion methods for health personnel that have been formed, such as the qualification standards and development platforms required for scientific research project applications and health personnel ratings, are all lacking in most private hospitals. Private hospitals have low social recognition, and strict

supervision and competitive and conditional access with preferential policies are necessary. The uneven development of private medical institutions and the diversification of capital entities have objectively raised the threshold for obtaining policy support. Policies allow and encourage the reform and opening up of the medical market, but when government policies are implemented in the actual development of private hospitals, various shackles that restrict development have been formed.

#### 6. Lack of management in human resource management in private hospitals

Private hospitals lack advanced human resource management concepts. Private hospital management insists on people-oriented, but it has not been well practiced in the development of human resource management. First of all, the people-oriented concept should be practiced on every employee, not just the health personnel hired with high salaries. Secondly, private hospitals should thoroughly implement the modern human resource management concept into the hospital management system. Ignoring the personal development of the company's on-the-job employees makes it difficult to keep people in the hospital's development and has high staff turnover. Thirdly, the management system of private hospitals still needs to be further improved. A large number of private hospitals in China are small in scale and have a small number of health human resources. In the construction of human resources management system, the system is not perfect and too simple. Inadequate and outdated problems will directly lead to the stagnation of HRM development.

The premise of running a private hospital as a market economy body is that it exists as a medical institution, and it must take into account the economic value and social benefits of medical services. The management is more complicated, and the management methods and systems of ordinary enterprises cannot be simply implemented. From the management concept to the formulation and implementation of the specific management system, it should be scientifically and rationally designed. Looking back on the development history of private hospitals, except for policy factors, the level of management of private hospitals determines their development status.

### **3 Countermeasures and suggestions for promoting the development of human resource management in private hospitals**

#### **3.1. Breaking institutional barriers and creating an open talent market**

With the continuous advancement of the reform of the medical and health system, relevant policies and regulations for the development of talents in private hospitals have been promulgated at the national level, gradually weakening and eliminating the development obstacles existing in the external systems, mechanisms and policies of private hospitals in terms of health human resources. Chinese government encourages the free flow of health technical personnel between public and non-public medical institutions. Among these mobile talents, their working years can be calculated continuously if they meet the requirements of the policy. And China supports non-public medical institutions to vigorously develop clinical scientific research and technological innovation, non-public medical institutions in technical title evaluation, scientific research project bidding and achievement appraisal, medical school clinical medical school teaching base qualification certification, resident standardized training base qualification certification. Besides, the government improves the level of protection for health personnel, including encouraging non-public medical institutions to vigorously introduce high-level medical and health teams and professional and technical personnel to meet the employment and education needs of household registration, spouses and children. For medical and health academic organizations, committees and other organizations or groups at all levels and types, it is encouraged to strengthen the

absorption of staff from non-public medical institutions in the corresponding fields.

These policies that are conducive to the development of talents in private hospitals have been introduced one after another, which will promote the gradual improvement of the policy environment faced by private hospitals and gradually ease the disadvantages of talent development. However, the implementation of policies is an important part of policies. The government should promote the implementation of policies, accelerate the formulation and specific implementation of relevant supporting policies, ensure the realization of policy objectives, continuously enhance the level of free social mobility of national health personnel, and truly realize that fairness and justice of private hospitals and public hospitals from policies and regulations to specific operations.

### **3.2.Updating the management concept and consolidating the strategic development position**

Private hospital health personnel have more prominent needs for personal development of employees. According to Maslow 's Hierarchy of Needs Theory, the traditional transactional management methods of human resources can no longer meet the needs of employees. Private hospitals should timely change the traditional concept of talent management, improve the level of human resource management by designing more modern scientific management methods, and better meet the development needs of employees. Strategic human resource management emphasizes the establishment and implementation of strategic human resource management methods, pays attention to the strategic and systematic characteristics of health human resources, promotes the strategic position of human resource management, pays attention to the guiding role of management goals, and is committed to exploring new form of human resource management.

Most private hospitals are still in the early stage of development, and they pay too much attention to the introduction of health personnel and neglect the value-added development of their own internal health human resources. The stability of the health personnel team is poor, and the enthusiasm and creativity of employees cannot be effectively improved. In order to realize the transformation of health management methods and achieve hospital development goals, private hospitals should change their management concepts, based on the perspective of employees, fully understand and attach great importance to the needs of employees. In the process of carrying out specific management practices, more attention should be paid to the internal talent development of the hospital, the realization of organizational commitments, the design of systematic human resource management practices, and the continuous optimization of a positive working environment suitable for employees' personal development and value realization. Private hospitals should stimulate employees' work enthusiasm and creativity, promote employees and the organization to achieve a win-win situation, and promote the high-quality realization of organizational goals. They should also design a fair and just promotion mechanism, implement a competitive salary incentive mechanism, and further consolidate the strategic development position of health human resource management through the improvement of a series of modern personnel management systems, and promote the healthy development of private hospitals.

### **3.3.Building a health talent pool and expanding talent development**

Whether it is international or domestic, many medical institutions are designing and constructing their own talent pool in combination with their own development design and development strategy in terms of talent development, so as to further expand their own development. The cooperation between hospitals and medical schools has become

the form of cooperation between the designated internship units of medical schools. And they cooperate to build a shared, relatively fixed or moderately mobile health talent pool. Hospitals build and develop their own talent pools, which can effectively meet the needs of medical institutions for their own health talents and expand the depth of talent development. However, domestic successful cases are very rare and are still in the exploratory stage. The strategic human resource management theory emphasizes the strategic and systematic nature of human resources, and pays attention to the strategic and systematic play of management. The construction of the health talent pool is an important measure to practice the strategic human resource management theory. The construction of health talent pool has strategic and systematic significance for the planning, training, development and value-added of health personnel in private hospitals.

## CONCLUSION

Health human resources are the most basic elements of health resources, and an important part of a country's health system, which plays a key role in maintaining and strengthening the health system's own functions. Since the reform and opening up, China's private hospitals have developed rapidly, and the number of human resources in private hospitals is also increasing. Focusing on the management of this group is of great significance to the overall development of the nation's health workforce.

In the long run, it is an arduous task to promote the further development of human resource management in private hospitals. It needs the continuous policy support of the government and the mature development of the medical service market. Private hospitals must speed up the updating and upgrading of management concepts and the continuous improvement of management capabilities. At the same time, it also needs continuous support for economic development and strong support from the public. In addition, it is also necessary to use the advantages of modern science and technology such as the Internet to create an integrated talent management model that is more adaptable to the changes and development needs of the times, carry out continuous research, and continuously promote the improvement of the management level of health human resources.

## REFERENCES

- Armstrong, M. (2020). Human resource management practice. Kogan page limited.
- Boon, C., Den Hartog, D. N., & Lepak, D. P. (2019). *A systematic review of human resource management systems and their measurement*. Journal of management, 45(6), 2498-2537.
- Chams, N., & García-Blandón, J. (2019). *On the importance of sustainable human resource management for the adoption of sustainable development goals*. Resources, Conservation and Recycling, 141, 109-122.
- Cooke, F. L. (2018). *Concepts, contexts, and mindsets: Putting human resource management research in perspectives*. Human Resource Management Journal, 28(1), 1-13.
- Pak, K., Kooij, D. T., De Lange, A. H., & Van Veldhoven, M. J. (2019). *Human Resource Management and the ability, motivation and opportunity to continue working: A review of quantitative studies*. Human Resource Management Review, 29(3), 336-352.

- Gallo, P., Mihalcova, B., Vegsoova, O., Dzurov-Vargova, T., & Busova, N. (2019). *Innovative trends in human resources management: Evidence for the health care system*.
- Gile, P. P., Buljac-Samardzic, M., & Van De Klundert, J. (2018). *The effect of human resource management on performance in hospitals in Sub-Saharan Africa: a systematic literature review*. *Human resources for health*, 16(1), 1-21.
- Haneda, S., & Ito, K. (2018). *Organizational and human resource management and innovation: Which management practices are linked to product and/or process innovation?* *Research Policy*, 47(1), 194-208.
- Hao Yongrong. (2019). *Common problems and countermeasures of human resource management in private hospitals*. *Wisdom*.
- Hewett, R., Shantz, A., Mundy, J., & Alfes, K. (2018). *Attribution theories in human resource management research: A review and research agenda*. *The International Journal of Human Resource Management*, 29(1), 87-126.
- Jiang, K., & Messersmith, J. (2018). *On the shoulders of giants: A meta-review of strategic human resource management*. *The International Journal of Human Resource Management*, 29(1), 6-33.
- Michael, A. (2019). *A handbook of human resource management practice*.
- Opatha, H. H. D. N. P. (2019). *Sustainable human resource management*. Sri Lanka: Author.
- Pak, K., Kooij, D. T., De Lange, A. H., & Van Veldhoven, M. J. (2019). *Human Resource Management and the ability, motivation and opportunity to continue working: A review of quantitative studies*. *Human Resource Management Review*, 29(3), 336-352.
- Stewart, G. L., & Brown, K. G. (2019). *Human resource management*. John Wiley & Sons.
- Tursunbayeva, A. (2019). *Human resource technology disruptions and their implications for human resources management in healthcare organizations*. *BMC health services research*, 19(1), 1-8.
- Wilkinson, A., & Dundon, T. (Eds.). (2021). *Contemporary human resource management: text and cases*. SAGE.
- Zhang Yan. (2019). *Research on Human Resource Planning of HY Private Hospitals* (Master's thesis, Harbin Institute of Technology).
- Zheng Wanhong. (2018). *The dilemma and breakthrough of human resource management in private hospitals under the new situation*. *The world of labor security*.
- Zheng Wanhong. (2018). *Research on the current situation and countermeasures of human resource management in private general hospitals*. *Modern Communication*, 20.

# FROM HUMAN CAPITAL MANAGEMENT PERSPECTIVE: A COMPARATIVE STUDY ON THE EMPLOYMENT RIGHTS OF THE FLOATING POPULATION WITH AGRICULTURAL AND NON-AGRICULTURAL HUKOU

XINXIN WANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wangxx0404@126.com*

## ABSTRACT

The reviews of the thesis about floating population health and family planning dynamic monitoring data and the comparative study on the employment status including chance, benefits, security among rural migrant workers examine the relationship of domicile certificate and employment rights. The findings revealed agricultural population enjoy less employment rights than non-agricultural one considering the lower end jobs, heavier workload, less welfare, lack of security. Since the education level of migrants with different hukou differs significantly, the difference in employment rights is likely to be caused by human capital, and the nature of hukou plays more of a signaling role, implying that non-agricultural migrants are of better quality Labour, deserve better jobs. Realization of employment equity can be a huge gap of human capital management for the whole society, it calls for the joint efforts as well as multidimensional advancement.

**Keywords:** human capital, employment status, floating population, hukou

## INTRODUCTION

According to the "China Migrant Population Development Report 2015" released by the National Health and Family Planning Commission on November 11, 2015, the average annual growth of my country's floating population is about 8 million, reaching 253 million by the end of 2014. Gradually increased to 291 million. With the development of the market economy and the accelerated pace of urbanization, my country has shown a trend of large-scale migration of population across household registration locations, and the household registration reform system has also continued to advance. The "Opinions of the State Council on Further Promoting the Reform of the Household Registration System" pointed out that a unified household registration system for urban and rural areas should be established, the distinction between agricultural household registration and non-agricultural household registration should be abolished, and efforts should be made to achieve the goal of 100 million agricultural migrants and other permanent residents settling in cities and towns.

However, the current household registration management system often causes migrants to suffer discrimination in education, employment, housing, social security and many other fields due to agricultural household registration. In terms of employment, the household registration system has shaped a dual labor market. The exclusion and

discrimination of employment opportunities, employment benefits and employment security for migrants have damaged the employment rights and interests of migrant workers. In terms of employment conditions, salary levels or welfare benefits The differential treatment of peasants hinders the goal of peasants' urbanization. Nowadays, there are situations in the employment field of floating population, such as single scope of employment, unequal employment opportunities, low employment benefits, low pay for long working hours, marginalized employment security, and difficulty in realizing employment rights. The case" exposed the long-standing problem of employment discrimination against migrants in the current household registration system. Therefore, at the moment of deepening the reform of the household registration system and promoting the integration of urban and rural economic and social development, it has become a top priority to pay attention to maintaining the equal employment rights of the floating population. (Qi Yangyang, 2015)

Based on this, this paper intends to use the latest data to examine the employment inequality of the floating population. In the context of the reform of the household registration system, are the employment rights of the floating population guaranteed? Are there significant differences in employment opportunities, employment benefits, and employment security enjoyed by agricultural hukou and non-agricultural hukou? Which aspects of the gap need to be improved?

## **LITERATURE REVIEW**

With the advancement of China's urbanization and industrialization, the employment of floating population has attracted much attention, and rich research results have been achieved. In addition to performing the functions of registering and managing the population, the household registration system is also closely related to the benefits that can be enjoyed (Wang Meiyan and Cai Fang, 2008). Many studies have pointed out that the difference in wages between migrant labor and urban labor is mainly due to discrimination in household registration. Deng Quheng (2007) believes that 60% of the income difference between urban residents and floating population should be attributed to discrimination. The researches of Xie Guihua (2007), Yuanxin and Han Liang (2009) also support the above viewpoints to varying degrees. Wei Wanqing used the propensity score matching method and the self-sampling method to obtain from the data of the China Household Income Survey that the household registration system has a very significant impact on the income of the floating population, and this adverse effect becomes more significant with the advancement of the marketization process. Other researchers have found that the income difference of the migrant population lies in the quality of the labor force. Xing Chunbing (2008) used the 2005 census data to find that education level has a decisive effect on income, and Li Peilin and Li Wei (2007) found that the main constraints on migrants' wage income are human capital (educational level and labor skills), Discrimination in labor remuneration due to household registration status is not obvious.

Generally speaking, the current research has made a deep excavation on the floating population, household registration system and other related topics, providing a historical, staged and diversified perspective for further thinking and analysis. In the existing research, there are many qualitative evaluations of the overall hukou benefits, but less quantitative analysis for specific aspects, more attention to social integration, and less material support for integration - comparative analysis in the field of employment, the data

used are also relatively outdated, which may overlook some new opportunities and challenges brought about by economic growth.

## **RESEARCH DESIGN**

The labor market is an important factor for population mobility between regions, and there is a certain internal gap in the employment rights enjoyed by the floating population due to the dual household registration system. On the basis of the existing theoretical research, this paper examines the employment rights and interests of the floating population from four aspects: employment opportunities, employment benefits, employment security.

Employment opportunities refer to the right to work and develop based on performance, ability and potential, including free choice of industries and types of work, regardless of occupational access types unrelated to the work itself. Employment benefits include wages and bonuses, rest and vacation, working environment, incentives and promotions and other welfare subsidies. Employment security is mainly about risk control, which can be considered in terms of social insurance, that is, the participation rate of work-related injury, unemployment, maternity, pension, and medical insurance, the rate of signing labor contracts, and the popularity of free training.

This paper uses the data from the National Health and Family Planning Commission's 2014 National Health and Family Planning Commission's Floating Population Health and Family Planning Dynamic Surveillance Survey, and uses methods such as descriptive analysis, hypothesis testing, variance analysis, and contingency analysis to compare the employment rights enjoyed by migrants with agricultural and non-agricultural hukou. Taking the nature of hukou as the independent variable and the employment rights and interests as the dependent variable, the employment rights and interests are operationalized into three indicators: opportunity, treatment, and security. Combined with the questionnaire information, employment opportunities are viewed through occupation and industry distribution, employment benefits are viewed through personal monthly income, average weekly working hours, and unit accommodation, and employment security is viewed through social insurance, government free training, and employment contracts. In addition, discuss the workplace to reduce the interference of the exogenous variable of regional differences in the degree of development on the relationship between the nature of hukou and employment rights.

According to the purpose of the research, the author selects the “reasons for this current migration” as the floating population who do business and work, and excludes samples whose reasons for migration are marriage, joining relatives, studying, and joining the military, which are not directly related to employment. Considering the small sample size (about 1% in total) of agricultural and non-agricultural relocation, and the complex situation, it is not clear when and where to change the hukou, and it is not easy to compare, so only the nature of the hukou is agricultural and non-agricultural. Agricultural population sample. The final number of samples entered into statistical analysis was 14,996. Among them, the sample of agricultural household registration is 13088, and the sample of non-agricultural household registration is 1908.

## RESULT ANALYSIS

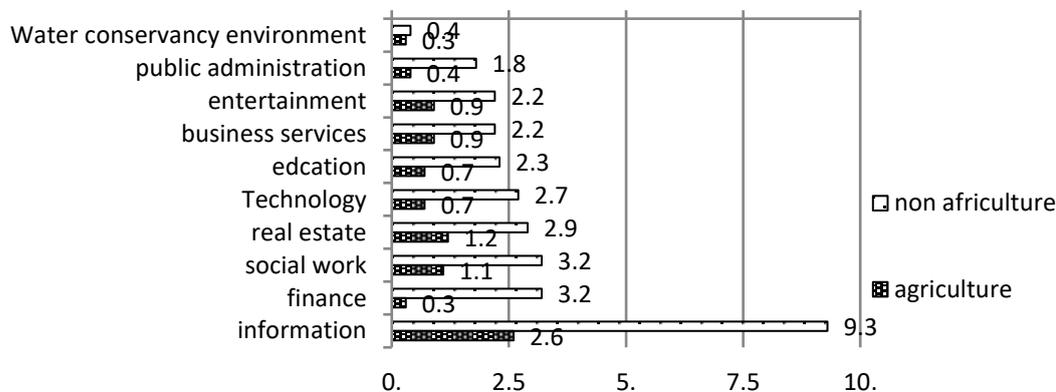
Among the floating population, the proportion of men (about 57.51%) is higher than that of women, and the inflowing workplaces are mainly in urban areas (about 53.56%). Migrants with different hukou types have similar distributions in gender and workplace, and there are significant differences in education levels. Among the floating population with agricultural hukou, the education level is more than 4/5 of the junior high school, and less than 1% of the junior high school or above, while among the non-agricultural hukou, about half of the people have the education level of the junior college or above, and the education level is relatively ideal. See Table 1 for details.

table1: Sample basic information

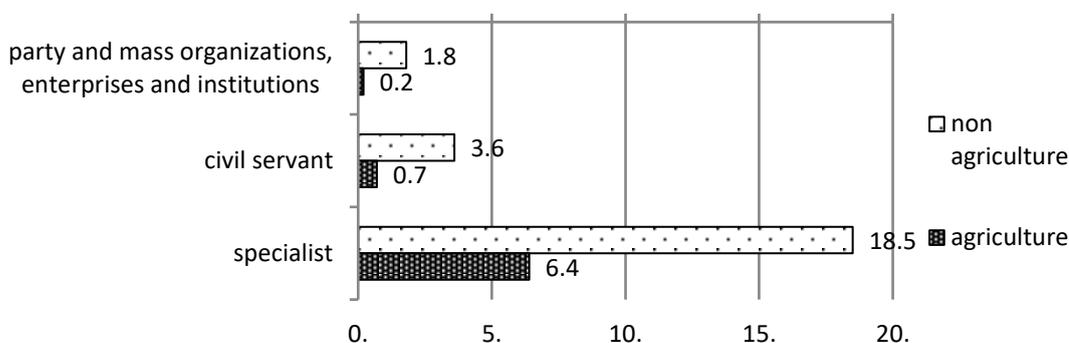
	unit: people, %			
	agriculture		Non agriculture	
	people	propotion	people	proportion
<b>gentle</b>				
male	7420	56.69	1113	58.33
female	5668	43.31	795	41.67
<b>workplace</b>				
city	5870	44.85	1188	62.26
county	2650	20.25	294	15.41
Town	3812	29.12	311	16.30
<b>Education level</b>				
Below junior high school	1359	10.38	50	2.62
middle school or high school	10475	80.04	903	47.33
Specialist	1254	.58	955	50.05

In industries with relatively favorable conditions, such as information, finance, scientific research, education, management, and commerce, the proportion of floating population is relatively low, while the proportion of agricultural floating population is significantly lower than that of non-agricultural floating population (Figure 1), more than 3/4 of agricultural migrants are engaged in lower-end industries such as manufacturing, catering, retail, and repair. In relatively high-level occupations, especially professional and technical jobs, the proportion of agricultural migrants is significantly lower than that of non-agricultural migrants (see Figure 2). It can be seen that the employment

opportunities of non-agricultural migrants are more ideal, while agricultural migrants are less likely to obtain good jobs. Since job choices are largely determined by education level, agricultural migrants are relatively under-educated, and their employment opportunities are naturally inferior to non-agricultural migrants. This gap is reasonable.



Picture 1: High-level industry distribution of agricultural and non-agricultural household floating population (%)



picture2: High-level occupational distribution of agricultural and non-agricultural hukou migrants (%)

In terms of working hours, remuneration, and welfare, migrants with agricultural hukou are at a disadvantage (Table 2). The average weekly working hours of the agricultural floating population is 57.4 hours (standard deviation 18.57 hours), and the average weekly working hours of the non-agricultural floating population is 49.4 hours (standard deviation 17.33 hours). The working hours of the agricultural floating population is significantly higher than that of the non-agricultural floating population,  $t(2589) = 18.70, p < 0.001$ . After excluding more than 99% of the extreme values (more than 16,000 yuan), the average monthly personal income of agricultural and non-agricultural floating population was 3482.33 yuan (standard deviation 1776.65 yuan) and 4615.82 yuan (standard deviation 2633.71 yuan), respectively. Lower than non-agricultural,  $t(1999) = -17.52, p < 0.001$ . The average value of the non-agricultural floating population in terms of food and lodging is slightly higher than that in agriculture, but there is no significant difference between the two,  $t(2858) = -2.30, p > 0.05$ . There is no significant difference between the two in terms of unit coverage,  $t(2858) = 0.618, p > 0.05$ . In terms of unit coverage, the average converted amount of non-agricultural floating population is significantly higher than that of agriculture,  $t(2858) = -3.349, p = 0.001$ . However, 23.2% of the non-agricultural floating population and only 7.3% of the agricultural floating population have purchased commercial housing, policy-supported housing and self-built housing. Considering that there are 2,658 people in the sample who

are included in the calculation of the mean, and many non-agricultural migrants live in the unit but not in the unit, they are included in the mean of the unit, and the mean value is lowered. The unit housing conditions will be better than the agricultural floating population. It can be seen that the employment benefits of agricultural migrants are not as good as those with non-agricultural hukou.

Table 2: Employment Treatment of Migrants with Agricultural and Non-agricultural Hukou

unit: people, hour, yuan

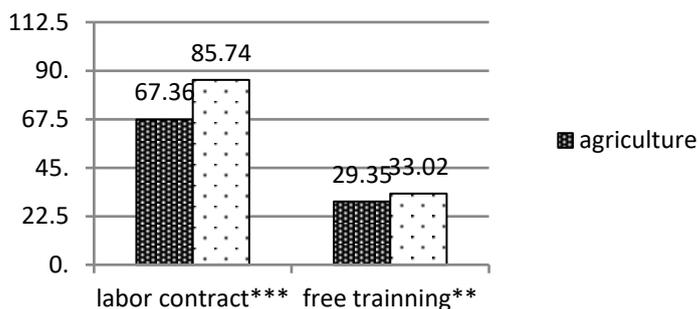
	people	mean	Standard deviation
<b>Work hour/week***</b>			
Agriculture	13088	57.44	18.57
Non agriculture	1908	49.43	17.33
<b>Month salary/prrson***</b>			
agriculture	12389	3482.33	1776.65
Non agriculture	1765	4615.82	2633.71
<b>Unit includes room and board</b>			
agriculture	2574	671.58	664.17
Non agriculture	286	765.17	553.53

notes: \*\*\*- $p < 0.001$

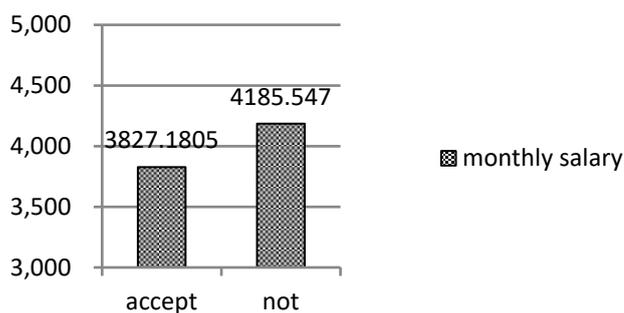
The social security participation rate of non-agricultural hukou is significantly higher than that of agricultural hukou. It can be seen from Figure 3 that 22.18%, 71.93%, 28.27%, 18.68%, and 26.03% of the agricultural floating population enjoy unemployment, pension, work-related injury, maternity, and medical insurance, respectively, and 51.26%, 78.88%, and 26.03% of the non-agricultural floating population. 52.57%, 42.40%, 57.50%, the insurance participation rate of the latter is higher than that of the former, and all reach  $p=0.000$ .

The proportion of agricultural floating population who signed labor contracts (67.36%) was significantly lower than that of non-agricultural population (85.74%),  $t(2183)=-16.95$ ,  $p=0.000$ . The proportion of agricultural floating population receiving free government training (29.35%) was slightly lower than that of non-agricultural population (33.02%),  $t(2457)=-3.20$ ,  $p=0.001$ . And because of Figure 4, the average monthly income of individuals who have received training is lower than that of those who have not received training. It is inferred that the free training provided by the government is more basic and basic, which is for relief rather than development. The need for this type of training is small, and the needs of agricultural migrants are large but opportunities are small. The function of free training has yet to be developed, and it may be possible to improve the

technical content or strengthen the penetration rate or combine the two to provide training at different levels.



picture4: Labor contract and free training acquisition rates for agricultural and non-agricultural migrants (%)



picture5: Personal monthly income of floating population with or without training (yuan)

## SUMMARY AND DISCUSSION

The employment problem of floating population cannot be ignored in the process of urbanization. Whether they can enjoy legal employment rights or not is related to social stability and harmony. By analyzing the differences in employment rights and interests enjoyed by migrant workers with different hukou types, this paper examines the employment discrimination in household registration among the floating population, and reveals that under the dual household registration system, migrants with agricultural hukou have development opportunities, salary benefits, security and other aspects. In a disadvantaged position, there is a phenomenon that the right to equal employment is violated, and there is a long way to go to eliminate employment discrimination in household registration.

Although the nature of hukou has a certain impact on the employment rights and interests enjoyed by the floating population, the specific impact path remains to be further explored. Since there are obvious differences in the education level of the floating population with different hukou, the difference in employment rights is likely to be caused by human capital, and the nature of the hukou plays a more signaling role in it, implying that the non-agricultural floating population is of better quality Labour, deserve better jobs. In addition, employment rights and interests are linked in series, and it is difficult to divide them into several isolated indicators. There is a close relationship between opportunities, treatment, and security. For example, if you have the opportunity to enter a high-end industry, you will naturally receive generous treatment and comprehensive protection. The measurement of equity needs to be improved and needs to be controlled more precisely. In addition, there is also an exogenous variable in the region. Considering the development

model of the region, the polarization between the rich and the poor, and the level of urban-rural integration, the employment rights of the floating population will be violated to varying degrees, and the external environment should be included in the analysis.

## REFERENCES

- Yang Juhua. Research on the Social Integration of China's Floating Population. Chinese Social Sciences, 2015; 2
- Wang Yu, Tong Hui. China's household registration system and its reform status. Journal of China Agricultural University (Social Science Edition), 2016;2:100-108.
- Deng Quheng. Income difference between urban residents and floating population: Decomposition based on Oaxaca-Blinder and Quintile methods. China Population Science, 2007;2:8.
- Chen Wei, Liu Yangyang. Effectiveness analysis of the impact of labor contracts on the income of migrant workers. Economics, 2010: No. 2.
- Li Peilin, Li Wei. The Economic Status and Social Attitudes of Migrant Workers in China's Transformation. Sociological Research, 2007: No. 1.
- Xie Guihua. Migrant workers and urban labor market. Sociological Research, 2007: No.5.
- Tian Feng. Research on the income gap between urban workers and migrant workers. Sociological Research, 2010: No. 2.
- Yuan Xin, Han Liang. Analysis of employment and income discrimination of migrants from the perspective of multiple segmentation. Population Research, 2009, No. 1.
- Xing Chunbing. The income gap between migrant workers and urban workers. Management World, 2008, No. 5.
- Wei Wanqing. Research on the impact of household registration system reform on the income of floating population. Sociological Research, 2012; 1.

# INNOVATIVE HUMAN RESOURCE MANAGEMENT

**HAILI CHENG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email:391476444@qq.com*

## ABSTRACT

With the rapid development of China's economy, the demand for talents is also rising, which also poses new challenges to the human resource management of enterprises. Only by constantly carrying out scientific reform and innovation in human resources management, can enterprises give full play to the potential of talents, improve work efficiency, and ensure that the maximum profit of enterprises is realized. By analyzing the current situation and existing problems of enterprise human resource management in China, discussing the necessity of enterprise human resource management reform and innovation, and exploring the feasible way for enterprise human resource management in China

**Keywords:** enterprise management, human resource management, management innovation

## INTRODUCTION

With the further development of China's social economy, the current social talents have become an important strategic resources. If enterprises want to get better development, they cannot be separated from talents. The advantages and disadvantages of talents have become the key factor to determine whether an enterprise has the core competitiveness. The current changes in China can be said to be changing with each passing day, and in this background also poses new challenges to the human resources management of enterprises. How to reform and innovation of human resource management to adapt it to the social situation of China is an urgent problem to study. By analyzing the problems existing in the current enterprise human resources management and studying the effective solutions, it should be necessary to provide certain help for the enterprises to improve the human resources management, and realize the organic integration of the self-needs of talents and the enterprise development.

Productivity determines the relationship of production, and the history of human development is mainly caused by the change of production tools. With the rapid development of production tools and the wide application of new technologies, human beings have now entered the information era and the Internet era. The advent of the Internet era is changing globally with the power to change everything. The economic development of the Internet era is based on big data and connectivity is an open and shared era. In the Internet era, those knowledge-based talents who master cutting-edge technology are the key factors to win the market competition. The position of human capital in enterprises has been further enhanced, and the human resource management of enterprises is facing

brand-new innovation and changes. The traditional management and working methods are too backward to adapt to the trend of social development. To ensure that our competitiveness is developing in a better direction, we need to strengthen human resources management, break the previous management methods, and maintain innovation. In terms of human resources management, it is necessary to strengthen technological innovation, analyze it from a professional perspective, find out the prominent problems existing in the traditional human resources management, and actively look for solutions. In this way, the problems existing in human resource management can be solved. It provides so much experience for many managers. Therefore, studying innovative management ideas is a very important task.

## **LITERATURE REVIEW**

### **2. Characteristics of human resource management in Chinese enterprises**

The management concept connotation of human resource management innovation. The concept of human resources management plays an important role in employment, namely the consideration of integrated capacity in employment. Stable and sustainable development needs the support of human resource management philosophy. Relying on this method, we can improve the overall quality of students. Human resource management in the management system not only refers to the education and working ability of employees, but also includes ideological quality and comprehensive quality. Only by strengthening human resource management can we be invincible in the fierce competition. Nowadays, with the continuous improvement of the social and economic level, we should get rid of the traditional human resource management mode, innovate from a more modern perspective, discover the existing shortcomings, and make it more valuable. The innovative management concept of human resource management has become the main driving force for the future development and plays an important role. Innovation in modern human resource management concepts includes many aspects, including the following aspects. First, the update of the management concept, to start from the concept, to break the shackles of the traditional management mode. Traditional HR management often focuses on managing staff. On this basis, the employee's own sense of innovation is limited, and it should be transformed from management to incentive. Employee-centered, while developing professional technology, we should pay attention to the cultivation of comprehensive quality. This management concept is in line with the needs of the contemporary society, and should be popularized and applied. The second aspect is to innovate the relationship between managers and employees, and enhance the service awareness of managers. And constantly update the service mode, to make the human resource management more diversified and comprehensive. Nowadays, with the increasingly fierce market competition, human resource management has become an important part of the development, and has attracted more and more attention from managers.

#### **2.1 Modern human resource management takes "human beings" as the core**

Modern enterprise human resource management has fully realized the importance of "people" to the survival and development of enterprises, and fully realized that "people" is the economic lifeblood of enterprises, the core competitiveness of enterprises, and the only pillar of the sustainable development of enterprises. Therefore, the enterprise regards "people" as the core, as the first "capital" of the enterprise, and fully develops the potential

value of the people, in order to achieve greater benefits. In the process of human resource management, the enterprise not only selects people due to posts, but also establishes posts due to people, to fully mobilize the enthusiasm of employees, so that employees can work harder to create value for the enterprise. Modern enterprise human resource management "people-oriented", "people" focus on, make full use of individual differences in the knowledge level and character level to meet the different requirements of employees, at the same time, the enterprise human resources get full use of reasonable, make the enterprise resources optimized allocation, for the enterprise has achieved greater economic benefits and social benefits.

## **2.2 Enterprise human resource management has a flexible employment mechanism**

Under the condition of market economy, most enterprises have clear property rights, have less government intervention, and can choose the talents needed by enterprises independently. Combined with the development goals of the enterprise and the personnel own situation, conduct dynamic management of human resources, constantly carry out psychological adjustment and development of human resources, and select employees suitable for the development of the enterprise. In the process of selecting and training enterprise employees, through career planning, continuous training, and continuous job adjustment and reorganization, so that "make the best use of things, make the best of their talents". In the process of mutual adaptation and running-in between enterprises and employees, the enterprise has cultivated the most suitable employees for the development of the enterprise, and eliminated the unsuitable employees. The flexible employment mechanism of human resource management is not only reflected in the selection and training of talents, but also reflected in the salary system. Modern enterprises have flexible salary standards and reward and punishment system, formulate flexible salary standards according to employees' work performance, ability, size and position level, and encourage talents who have the courage to pay, innovate and have excellent performance. In the form of compensation payment also reflects the characteristics of flexible. In addition to material bonus and welfare, there will be spiritual affirmation and encouragement, certificate of honor, honor title is the best spiritual reward. In addition, in addition to material and spiritual salary standards, the enterprise will also give competent and capable employees and give them more management power and responsibilities through promotion means, so as to encourage them to create greater value for the enterprise.

## **2.3 The personnel mobility of enterprises has been significantly strengthened**

Compared with the traditional human resources management, the human resource management task of Chinese enterprises is more arduous, with richer work content and more workload. With the development of economy, people's education degree improves, and talents have higher and higher requirements for the working environment and content. For example, some high-level managers and technicians, when their enterprises cannot meet their broader vision and higher material and power requirements, they will not hesitate to turn away and go to a larger stage to find their development space. And such as, just graduated with no work experience graduates face their first job, with ignorant and aggressive carefully treat this job, when they gradually understand the business content and working environment, they have a new judgment to work, have a new understanding of their positioning, which undoubtedly increased the liquidity of enterprise personnel. In the case of two-way choice of human resources, enterprises have also become more "picky" about the choice of employees. Academic requirements are a hard requirement for

enterprises to choose employees, ability requirements are the assessment standard for the use of employees, and moral behavior is the value judgment criterion of corporate culture to employees. Under this series of requirements, employees seeking suitable for the development of the enterprise will also pay certain manpower, material and financial resources.

## **2.4 Diversification of knowledge employees poses higher challenges for enterprises**

In the social background of our era, the demand for talent and talents obviously presents a diversified trend, which will bring great challenges to the human resource management of modern enterprises. How to meet the diversified needs of knowledge-based employees and how to retain the advanced knowledge-based talents with diversified needs is the problem that enterprises should think about. The formulation of practical incentive mechanism is a crucial link of enterprise human resource management. The more perfect the incentive mechanism, the more it can attract and retain talents. So, before formulating and implementing incentive mechanisms, the first thing to consider is what aspects of the diversified needs of knowledge employees are reflected. First, the necessary labor remuneration is essential to the employee after the labor income. However, in the modern employment relationship, remuneration is not only a physiological demand, but also an obvious sign of the realization of employee personal value and social status and status.

## **3. Problems with human resource management**

### **3.1 The talent management concept is backward**

Through the survey, company A leaders did not pay much attention to employee training, only 57%, and most employees considered less training opportunities. Due to the characteristics of the Company A's external environment, the A company has encountered no problems with employee recruitment for a long time. The managers of Company A do not attach great importance to the human resources management activities. In the actual work, the human resources management work of Company A is in charge of the office, and there is no special human resources management department. Company A regards human resources management as a simple personnel work, that is, employee recruitment, training, assessment and salary payment. Human resources management activities are carried out according to the wishes of the company managers. Through the investigation, Company A does not pay high attention to the training of employees, no talent pool construction, and the lack of effective incentive mechanism, poor incentive effect and unfair phenomenon. With the advent of the Internet era, this traditional human resource management restricts the development of Company A. Under the background of the Internet, the human resource management of Company A should take customer value as the core, take human capital as the core, conduct recruitment, training, performance management and incentive innovation, so that the development of the enterprise can adapt to the changes of the external environment, and quickly reflect the changes of the market environment.

### **3.2 Lack of reserve of innovative talents**

Through the analysis of the composition of the education and professional title of Company A employees, the author found that with the improvement of the company's requirements for human resources educational level, the overall educational level of

Company A employees is high, but compared with the professional title level of the company, it did not reach the level of the existing educational level. Through the investigation, Company A does not pay high attention to employee training, and the main problems existing in the training are unreasonable training time, outdated training content, single training form, imperfect training assessment, unsatisfactory training effect, etc., which are not conducive to the training and reserve of innovative talents of the company. In the interview with the company senior leadership the author learned that the company in the strategic level for five years of development plan, but in the specific implementation process, because there is no sufficient human resources reserve and control mechanism, the company's actual development progress is far behind the planning development, the company to innovative talent reserve is not high. When Company A has a demand for human resources, the company simply recruits employees through the talent market and social public recruitment. For general positions, the recruitment process is relatively simple, and the recruitment procedures and assessment are symbolic. Even for some positions that need professional and technical level, without professional and technical assessment is hired. After the employment, the training of the new employees is not perfect, and there is the phenomenon of the first post before the training. There is no plan for the training of new employees, and sometimes it simply explains a few words of work scope, requirements and responsibilities. With the advent of the Internet era, human capital has become the most important capital for enterprises. The competition between enterprises is manifested in the competition of talent and talent innovation. Therefore, Company A must start with the introduction of talents, strengthen the frequency and efficiency of training, improve the quality of training, reserve innovative talents for enterprises, and ensure the sustainable and healthy development of enterprises.

### **3.3 The organization structure of the company is unreasonable**

Through the analysis of the organizational structure diagram of Company A, it can be found that the current organizational structure of Company A is a functional organizational structure, and the organizational structure is relatively simple: the general manager and deputy general manager under the chairman, which belongs to the management of the manager responsibility system. The general manager is mainly responsible for the marketing and financial management of the company; mainly responsible for the product generation and technological innovation. From the perspective of organizational structure, Company A does not have an independent human resource management department. Through visits, the human resource management work of Company A is mainly managed jointly by the office and each functional department. With the size of the company, the company's organizational structure has not made adjusted accordingly, or maintain the original organizational structure. Most of the employees of the company are now engaged in production, research and development, sales and other work, and very few employees are engaged in service functions. Human resources management is only in charge of the office, so the company's training, recruitment, employee career planning are all problems. At the same time, with the expansion of the company's scale, the linear organizational structure is very bloated, affecting the efficiency of the company's operation. With the advent of the Internet era, the organizational structure of linear intelligence has not adapted to the change of the environment. In the Internet is the era, the timeliness and accuracy of information transmission are needed. Therefore, the organizational structure of Company A must be streamlined and compress the level of organizational structure. Establish a network and flat organizational structure, give employees more autonomy in decision-making, reduce managers' intervention in the

management activities of the human resources department, actively understand the needs of employees and customers, and make timely adjustments to human resources management, to meet the maximization of customer value.

### **3.4 Human resource management methods are backward**

Human resource management is a comprehensive discipline and pays more attention to practical operation on the basis of theory. Since Company A does not have a special personnel department, the work of personnel specialist is often complicated. While dealing with personnel work, a company also shoulders a lot of administrative work. His attainments in the field of human resources management are not high, and he does not understand the new theories, new methods and new measures of human resources management module. Through the statistical analysis of the questionnaire, Company A's existing recruitment methods are in the talent market and campus recruitment. Although the company can recruit suitable employees, the efficiency and accuracy of the recruitment are relatively low. In terms of employee training, respondents generally feedback that the current training is a mere formality; and only methods in employee assessment and motivation. Through the visit, Company A did not build a human resource management system, let alone an employee development system. The backward human resource management method makes the human resource management of Company A inefficient, without realizing the best of its talents, and the personnel is appropriate to maximize the role of human resources.

### **3.5 Lack of effective incentive mechanism**

According to the survey results, 10% of respondents thought their work is proportional to the salary return, 39% thought it was basically fair, and their hard work was basically rewarded; 23% believed that their hard work did not get the due salary return, and the Company A salary is unfair, which greatly affected the enthusiasm and initiative of employees. In the survey, the author found that in order to promote the overall production and operation policy, Company A tends to ensure the liquidity and adequacy ratio of the company's wages of workers. At the same time, the company's current salary system is still a traditional post

A simple superposition of 10 jobs and performance pay. Basic salary is formulated according to the post level; performance salary mainly depends on employee performance, including compliance with rules and regulations, output / sales, etc. The proportion of performance salary in salary is not high, and the incentive effect of getting more work is not achieved. In addition, Company A has formulated a strict "fine system" for employee punishment. From product quality to being late and leaving early, all behaviors that do not meet the requirements of the company will be dealt with by means of fines. A did not fundamentally eliminate the occurrence of adverse events, relying on punishment does not solve the substantive problem. The performance appraisal form of A Company is very single. The current assessment system has attendance and target assessment. According to the setting of strategic objectives, the enterprise strategic goals are decomposed level by level to form the individual target management responsibility book for employees. In terms of performance management, employees' personal goals and organizational goals deviate from them. Although the objective assessment is conducive to measuring the completion of the actual production tasks of employees, it ignores the process and control in the production process and the autonomy of employees

## **4. Innovative human resource management concepts and methods**

### **4.1 Change the old concept of traditional management**

Traditional management philosophy can not adapt to modern times in many ways, so it must be changed. Traditional human resource management refers to the handling of personnel relations in China. Employees must obey the arrangement of the management process and have no right to express their opinions. It affects the performance of employee personality and creativity. From the perspective of innovation, human resource management needs a more novel management mode, taking into account the cost and resources of human resource management. Innovative business philosophy is a valuable wealth for development. Through effective management methods, they regularly train and allocate employees according to their comprehensive quality, professional ability and personal wishes, so as to maximize their abilities. At the same time, understand the ideological state of employees, and conduct certain communication and guidance. Strengthen the initiative of internal reform and human resource management. For a long time, the way of human resource management has not been unchanged and requires continuous innovation and reform. Every innovation and reform is not only a subversion of the traditional concept of human resource management, but also a process of continuous improvement. Innovation is easy to say, but that's not true. Managers need to make fundamental changes to lay a good foundation for development.

### **4.2 Establish the new ideas of humanistic management**

Nowadays, with the development of science and technology, fierce market competition and increasing requirements for talents, it is necessary to cultivate employees' potential and innovation ability in the management process. Therefore, in the concept of human resource management, we should pay attention to the new concept of being people-oriented and serving employees. As early as the late 20th century, the United States has recognized the importance of innovation in human resource management concepts, and put forward people-oriented management policies. On the face, the interests of this mode of management cannot be guaranteed, but indeed to the contrary. In the management process, the interests of employees and their rights are not contradictory, but complement each other. In terms of human resource management concept, China has established the concept of taking employees as the main body, which can partly improve their work enthusiasm, improve their work efficiency, and bring greater benefits to their employees. The development of human resources management is inseparable from the joint efforts of employees and managers. The real innovation of human resource management concept can bring greater impetus to the development of human resource management. Conclusion To achieve a stable and long-term development, we must strengthen the human resource management, constantly innovate in the management process, and inject new vitality into the development. There are many things in China, and different management concepts can meet all the development needs. We should innovate the concept of human resources management and establish a perfect system according to their own situation. Let the employees get better development in the new human resource management system, have their own rights, and contribute to the development.

### **4.3 Innovation of the training platform**

Training platform is the carrier of training. Innovative training platform can enrich the training environment of employees and improve the efficiency of training. In the Internet era, the master of human resource management is the employees of the company,

and in the innovation management of human resource, the enterprise employees should maximize the independent initiative. Company A should use Internet technology to establish an interactive training platform with employees to realize the seamless link between its human resource management and employees. On the Internet training platform, enterprises load relevant learning courses for employees, and corresponding credits are set for each course, and stipulate the credits that employees in different positions need to learn every year. Since employees in different positions have different needs for training, enterprises should design different course requirements according to their professional title and rank. Establish an employee discussion community on the training platform. Employees can freely comment on their teachers in the community and ask for their learning expectations. The training specialist of the enterprise HR management department is responsible for the specialized information collection work. Give staff feedback to adjust the training course. Through the Internet training platform, we can better understand the employee expectations and their learning trends, but also obtain their sense of identity with human resource management, and form a normal human resource management system.

#### **4.4 Innovation of performance appraisal methods**

In the Internet age, the most important resource for companies is human resources. Performance appraisal in the Internet era should not be a cold reprimand and error correction, but an employee-centered interactive experience. The evaluation results of the employee performance appraisal should be communicated with the employees in time. Employees are not satisfied with their evaluation results and can complain at any time. This ensures the fairness and impartiality of the employee performance appraisal results. The results of employee performance appraisal will be publicized through social media platforms, and employees with opinions can leave messages in the community at any time. Through the interactive performance appraisal, enhance the communication between the company and the employees, and let the employees participate in the company's performance management. The current performance management system of Company A is not comprehensive performance management, but also performance evaluation in form. Performance management in traditional human resource management is a tool for managers to evaluate employees. Managers and employees are the relationship between constraints and restraint, and they are in an opposite position. In the context of the Internet, with the increase of the innovation requirements for enterprises, the performance management that only focuses on the post-event results can not comprehensively evaluate the employees. Innovation has a certain risk. When employees' innovation fails, the traditional performance management kills employees' efforts in the process of innovation. The innovation of the performance management of Company A must move forward the center of the performance management work, strengthen the performance management of the process, and make the performance management more scientific and more equitable.

#### **4.5 Innovation in incentive methods**

In the Internet era, the loyalty of enterprise employees is changing. Employees usually change jobs for three years or are dismissed by the company due to poor performance, because the marginal effect of employees is also diminishing. Therefore, in the Internet era, the incentive mechanism of Company A can no longer be limited to the physiological needs and safety needs of employees in the incentive content, and it should pay more attention to the needs of respect and self-realization of employees. The role of

incentive is not to improve employee loyalty, but to maximize the maximum value of employees working in the enterprise. Under the background of the Internet, the loyalty object of employees is not the enterprise, but the customer value, is their own profession and profession, so as to maximize their own value. Based on this, Company A sets up a variety of incentive methods, such as spiritual reward, tourism, and equity, etc. The current incentive carrier of Company A is the report of the staff meeting and the honor list. In the Internet age, companies and their employees are very closely connected with the outside world. In order to expand the effect of incentive and enhance the self-value of employees, the company should make full use of the Internet and external media to commend outstanding employees on the Internet, enhance their visibility in the society, and enhance their sense of existence and value. In addition, the company can also push fair commendation decisions through we media, call on the company group to forward them, and improve the popularity and status of employees in their circle of friends. The company should also regularly organize the voting activities for the excellent employees based on the social network, mobilize the company's employees and the external media to pay attention to the development of the enterprise, and enhance the social visibility of the enterprise. Through this incentive mechanism, enhance the sense of mission and career of employees, stimulate employees 'sense of responsibility and creativity, promote the realization of employees' self-value, and better create greater value for the enterprise.

## CONCLUSION

With the development of The Times, the role of company managers, company employees and consumers are all changing, and the traditional human resource management modes and methods have shown their disadvantages. Under the new environment, the human resource management of enterprises must combine the current development characteristics and trend to realize the reform of effective human resource innovation management, and greatly enrich the human resource management theory. At the same time, the implementation of human resource innovation management has a certain guidance and reference significance for high-tech enterprises in the same industry.

## REFERENCES

- Sun Peng Human Resource Management Innovation Management Concept Research [J] Human Resource Management, 20XX, 11 (3): 25
- Liu Ping studies the Construction of the Human Resource Management Innovation Model in the New Information Era [J] Economic Outlook, 20XX, 18 (8): 40-41
- Liu Feifei Research on Human Resource Management Based on Innovative Management Concept [J] China International Finance, 20XX, 16 (23): 289
- Zhou Fen Research on Human Resource Management Strategy of State-owned Enterprises Based on Innovative Concept [J] Economic Outlook, 20XX, 19 (12): 93
- Liu Linlin Local University Foreign Teacher Management Mode Innovation Research [J] English Teacher, 20XX, 17 (10): 13-15
- Sun Jing. Human Resource Management Innovation in Knowledge Economy Conditions [J]. Social scientist, 2003 (5): 3.

- Wei Bin.Exploration on Human Resource Management Innovation in Chinese Enterprises [D]. Jilin University, 2015.
- Gu Hongying.The Innovation Strategy of Enterprise Human Resource Management in the New Economic Era [J]. Labor Security World: Theory Edition, 2013 (11): 2.
- Zhang Wenxian.Human Resource Director: Human Resource Management Innovation [M]. Fudan University Press, 2012.
- Dong Furong, Liu Yong.Modern Enterprise Human Resource Management Innovation [M]. Sun Yat-sen University Press, 2007.
- Tang Jing.Enterprise Human Resource Management Innovation in the Era of Knowledge Economy [J]. The Business Age, 2006.
- Liu Shiyong.Analysis of Enterprise Human Resource Management Innovation Problems [J]. Operating Manager, 2016 (29): 214-214.
- Liu Wei.Library Human Resources Management Innovation in the Era of Knowledge Economy [C] // Results Compilation of —— of the 3rd Annual Meeting of China Outstanding Managers.2007.

# INVESTIGATION AND ANALYSIS OF ENGLISH LEARNING STATUS OF MEDICAL STUDENTS -- A CASE STUDY OF NURSING UNDERGRADUATE MAJOR IN A UNIVERSITY

GUANYING YANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 54606995@qq.com*

## ABSTRACT

Under the background of internationalization of higher education, higher medical education shoulders the important task of training medical talents with humanistic feeling, international vision, innovative spirit and practical ability. This puts forward higher requirements for the cultivation of medical students' knowledge, ability and quality. It is extremely urgent to construct an English teaching system that meets the needs of students and cultivate medical talents with international competitiveness and innovative thinking. This article through to 304 escort psychological professional undergraduate students' willingness to English test and take the English training will investigate analysis, found that most students hope to pass the English training to improve their English level, through testing their English in the English exam, and a few students English examination will and take part in the English training will is not strong, even some students are not clear about their English learning needs.

**Keywords:** Medical students, English test and English training, Nursing, internationalization

## INTRODUCTION

Under the background of internationalization of education, English teaching in medical colleges and universities in China is further integrated with international practice. There are more demands for all kinds of medical professionals, and higher requirements are put forward for their foreign language proficiency. According to the standard of undergraduate medical education - nursing specialty, the educational goal of undergraduate nursing specialty is determined [1]. Among them, the skill goal puts forward that nursing major students should have the ability to read nursing literature and communicate simply in a foreign language. According to the latest edition of College English Teaching Guide issued by the Ministry of Education in 2017, college English courses should focus on meeting students' professional learning needs while at school, and equip students with foreign language skills for further study, employment and international communication in future career development. There is no doubt that the cultivation of foreign language ability is of practical significance to the future development of medical students and will have a more far-reaching impact on their career development. Academic English teaching reflects the need to integrate higher medical education with basic education, the need to integrate first-class universities with international education, and the need to deepen and further promote the reform of foreign

language education in medical colleges, which meets the needs of the connotation development of higher education and talent training. Therefore, it has become the only way for the reform and development of college English courses in medical colleges and universities to cultivate high-quality medical talents with humanistic feelings, international vision, innovative spirit and practical ability.

## LITERATURE REVIEW

### 2. General Academic English Teaching

General Academic English teaching refers to the teaching of improving students' academic English ability, mastering the ability of searching professional information, reading professional literature, writing standardized papers and reporting scientific research results in English. It is by no means the traditional comprehensive English teaching, which only pays attention to the study of content knowledge, takes the foundation of language as the teaching goal, and learns the language for the sake of learning the language. In terms of teaching methods, although the two teaching means have the same, but the purpose is very different. Specifically, for example, the question of learning materials is around the understanding and absorption of the information transmitted by the article, rather than the mining of the central idea of the article; Analysis is to critically think and comment on the viewpoints of the article and the viewpoints of similar articles from different sources, rather than to comprehensively learn and accept the ideas and values conveyed by the article; Classroom activities require students to collect information through project design, and deepen their understanding of the text by identifying the reliability and organization of information from different sources, rather than doing tasks for the purpose of doing tasks, copying the content of the article again; Expositions teach students how to choose materials and sentence structures that support their ideas, and how to conduct normative academic writing, such as paradigms and framework introductions, rather than how to solve problems for exams. Obviously, this is different from the basic English teaching method has the following advantages: (1) to improve the students' ability of professional learning and research, not only familiar with and accumulated this professional vocabulary and structure, and to enter the mainstream curriculum and professional study laid a solid research foundation, make their professional course learning easier. (2) The students' interest in the subject and foreign language learning is cultivated, and the problems and phenomena of the subject are discussed in foreign language, so that the students have a new understanding of foreign language learning. (3) It improves students' language skills in listening, speaking, reading and writing. Through the course, students are full of confidence in their ability to use English. While exploring and discussing the subject matter, they seem to be completely immersed in the English environment. Reading the content of the textbook and the articles on the Internet improves their English reading ability by watching Videos and participating in discussions have improved their listening skills, articles and reports have developed their writing skills, and discussions and presentations have improved their speaking skills. Enhance students' confidence in using English to obtain and output information. (4) Enhanced the ability to analyze and solve problems through cooperation. (5) The curriculum requirements and the learning style corresponding to them, maintain a due critical attitude towards input information evaluation, cultivate students' higher-level critical thinking ability, form a sense of responsibility to society and a sense of mission to serve human beings[1].

### 3. Specialized Academic English Teaching

Academic English teaching is "the teaching of English and its skills tailored to the characteristics of specific majors". In other words, the teaching of discourse category and academic communicative competence in combination with majors pays attention to vocabulary, discourse, genre such as rhetoric and meta-discourse of a certain discipline and communication skills (Yang Liqun and Liu Hongmin, 2018). For medical colleges and universities, specialized academic English takes the subjects of medical English as the learning content, carries out teaching around subject knowledge, and helps medical students improve the cognitive ability of professional style (vocabulary, discourse and genre), the ability of discourse analysis and induction, and the ability of information discrimination. In order to interpret medical literature, experimental reports and journal papers effectively, construct oral and written texts correctly, and conduct medical communication in accordance with the norms, medical students must master the linguistic competence, rhetorical competence, meta-discourse competence and stylistic competence related to medical subjects well. Only relying on general academic English teaching is unable to achieve the real purpose of academic English teaching, so that medical students can make full use of international public resources to meet the needs of the development of the subject. The characteristics of the formation of medical English nouns are as follows: (1) Some medical English nouns, directly derived from Greek and Latin, express scientific concepts and facts quite accurately. (2) Medical English words often use a large number of prefixes, suffixes and roots. Roots are the most basic elements of words, words add prefixes or suffixes, words have different meanings. But the meaning of the root itself is stable and can be a word on its own without a prefix or suffix. Derivatives are formed by combining prefixes, which usually define the meaning of a word, and suffixes, which can indicate the lexical part of speech or provide additional meaning. (3) Medical English nouns often borrow some ordinary English words, but as medical professional terms, they have different medical meanings from ordinary ones. (4) Abbreviations are widely used in medical English to express concisely and increase information density. Syntactic features of medical English. In the syntax of medical English: (1) more use of passive voice structure. In order to avoid subjective color, medical papers pay attention to the objectivity of theory, experimental data, results, etc., and put the object of explanation in the subject position of the sentence can be more prominent and attract the attention of readers. (2) More complex sentences and clauses are used. A large number of complex sentence structures, such as attributive clauses and adverbial clauses, reflect the rigor and completeness of medical English literature. (3) The extensive use of nominalization can not only reduce the use of clauses, but also contain more information. The stylistic features of medical English are as follows: (1) the format of the structure of medical journal papers, which often includes the step structure of IMRD: Introduction-Method-Results-Discussion. (2) Medical research papers in addition to the title, author, unit and other information, the more common structure: Abstract: Key words, Materials and methods, Results, and Discussions throughout the conference Acknowledgement (Acknowledgement) and References (References). From the perspective of lexical, syntactic and stylistic characteristics of medical English, only when medical students are familiar with the research paradigm and gait structure of research papers in their own field can they read professional literature of their own discipline, widely dabble in disciplinary knowledge theories and obtain more comprehensive professional information. In addition, he can calmly construct his own discourse and communicate his academic research results internationally, so that his research results can be better understood, quoted and transformed.

## 4. A survey of medical students' willingness to learn English

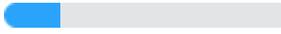
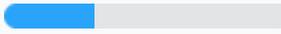
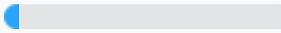
### 4.1 Subjects and methods

The QR code was generated by writing questionnaires through Questionnaire Star and then distributed to nursing students of Grade 2016, Grade 2017, Grade 2018, Grade 2019 and Grade 2020. A total of 304 questionnaires were collected.

### 4.2 Survey Results

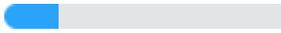
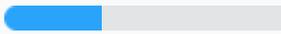
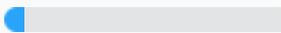
4.2.1 As for whether students need professional English training, most of them generally need it, accounting for 42.76%. A small number of students do not know whether they need professional language training. See Table 1 for the results.

Table 1 Survey results of Professional English training needs

Option	Subtotal	Proportion
Not needed,	60	 19.74%
Very needed,	97	 31.91%
Moderately needed	130	 42.76%
Unclear	17	 5.59%
Total number of respondents	304	

4.2.2 The majority of students (39.14%) have a general need to take the Professional English Test. A small number of students do not know whether they need professional language training. See Table 2 for the results.

Table 2 Demand survey results of professional English examination

Option	Subtotal	Proportion
Not needed,	59	 19.41%
Very needed,	104	 34.21%
Moderately needed	119	 39.14%
Unclear	22	 7.24%
Total number of respondents	304	

4.2.3 Correlation Analysis of Students' Demands for Professional English tests and Professional English training. The results show that p is less than 0.05, indicating that there is a correlation between students' willingness to take English tests and the hospitals that participate in English training. The results are shown in Table 3.

Table 3: The correlation analysis of professional English examination and professional English training needs.

Project	Average	The standard deviation	Willing to take the professional English test	Willing to train professional English
Willing to take the professional English test	2.34	0.87	1	
Willing to train professional English	2.34	0.86	0.43**	1
* p<0.05 ** p<0.01				

## 5. Cultivation of international nursing talents

### 5.1 Overview of international nursing talent training mode

5.1.1 "Three-Oriented" International Nursing Talent Training Model as a local application-oriented medical undergraduate university, it adheres to the organic integration of the "Three-Oriented" medical talent training model and the international nursing education model, forming a unique nursing talent training model [2,3]. The three-oriented nursing talent training mode consists of three parts: one is the humanistic quality education oriented by professional emotion; Second, the cultivation of professional quality oriented by practicing ability; The third is the development of physical and mental quality oriented by social adaptation.

#### 5.1.2 "Three-Oriented" Internationalized Nursing Talents Training Objectives and Professional Characteristics

According to the national nursing undergraduate professional norms, the undergraduate medical education standards - the professional nursing ", the requirements of the relevant local "three orientation" nursing personnel training mode to determine the training objectives, training to satisfy the needs of the health care development, systematically master of medicine, nursing, humanities and social science basic theory and basic knowledge, prevention, health care, With basic clinical nursing work ability, preliminary teaching ability, management ability and scientific research ability, as well as lifelong learning ability and good professional quality, applied senior nursing talents who can be engaged in clinical nursing, preventive health care, community nursing in various medical and health care institutions at home and abroad. Major features: Follow the National Undergraduate Medical Education Standard -- Nursing Major, implement the "three-oriented" talent training mode with the goal of "students' future development", and pay

attention to the training of students' basic theories, basic knowledge and basic skills. To make the students become applied senior nursing talents with good professional ethics, professional spirit, humanistic quality, professional ability, good social adaptability and the ability to solve clinical practical problems. At the same time, to meet the needs of the society, carry out characteristic training of psychiatric nursing and midwifery nursing direction nursing talents.

## **5.2 Strategy for improving the quality of international nursing talents training**

5.2.1 Clarifying educational concepts and implementation according to modern educational concepts, establishing the educational concept of "everything for the development of students", transforming the teaching process from "teaching-centered" to "student-centered", and focusing on improving students' learning efficiency and quality. Cultivate students' autonomous learning, communication and critical thinking ability, analysis and problem solving skills, team cooperation ability, through the top-level design, establish the index adept for nursing personnel training, increase the intensity of the curriculum reform, a variety of teaching methods and examination method, set up scientific evaluation system, create good education teaching environment, Improve the quality of nursing talents training [4,5].

### 5.2.2 Establish project and course teams

In order to ensure the quality of talent cultivation of ascension, the establishment of a project and course team, is mainly responsible for research and implementation of the project, the goals and requirements of personnel training, personnel training, curriculum system reform and construction, the teaching method reform and the implementation, teaching evaluation and quality of personnel training, etc to the research, implementation and evaluation, feedback, rectification and improve, Use the United States quality management PDCA cycle management method for control management[6].

### 5.2.3 Establish a "three-oriented" curriculum system of "five combinations and four modules" for nursing major

In accordance with the requirements of the "three-orientation" training mode for nursing professionals, according to the national education standards for nursing majors, we adhere to the goal of comprehensive development of students, optimize and integrate the curriculum system, adhere to the integration of the curriculum system, and take part-time jobs in accordance with the principle of "five combination". That is, the combination of theory and practice, the combination of classroom and extracurricular, the combination of generality and personality, the combination of humanities and science, the combination of campus and campus principles, breaking the traditional three-part curriculum system. Construction of four teaching modules, and each teaching module into the required courses, elective courses and extracurricular time links, forming a horizontal and vertical interwoven into the network of the complete curriculum system [7,8].

## **CONCLUSION**

Based on the investigation and analysis of 304 undergraduate students majoring in nursing psychology, it is found that most of them hope to improve their English level through English training and get corresponding results through English test, while a few students are not strong in English exam and English training. Even very few students are not clear about their English learning needs. With the continuous advancement of

globalization and the demand of innovative development of medical education, it is extremely urgent to build an English teaching system that meets the needs of students and train medical talents with international competitiveness and innovative thinking.

## REFERENCES

- Huang Guojun, Lin Yan-feng. English Teaching in Medical Colleges and international Talent Training [J]. Science and Education Guide, 2020 (30): 156-157.
- Yang Liqun, Liu Hongmin. Construction and quality improvement of "three-orientation" international nursing talents training model [J]. Teaching and Educating · Higher Education Forum, 2018(04):107-108.
- Gao Jing, Chen Peiyi. Reflections on the development of cross-cultural nursing education in nursing colleges and universities under the international situation [J]. General Practice Nursing, 2015(17).
- LIU Guijuan, GUO Lingling, XU Jinmei, et al. Cultivation strategy of core competence of international nursing talents [J]. Nursing Practice and Research, 2014(12).
- LIU Jicheng, ZHANG Xiaojie, YUN Changhai, et al. Research on the development of medical students in China [J]. China Higher Medical Education, 2014(4).
- Xue Qian, Ma Ran. Construction of application-oriented talents training system in colleges and universities [J]. Research on Continuing Education, 2017 (11).
- Ma Xiaojie. Exploration and practice of internationalization of Guangzhou Medical University [J]. World Education Information, 2014 (13): 61-64. (in Chinese)
- Cai Jigang. Research on the Curriculum Requirements and Teaching Methods of Academic English [J]. Foreign Language Teaching Theory and Practice, 2012(02):30-35.

# PROMOTE THE DEVELOPMENT OF ZHENGZHOU SCIENCE AND TECHNOLOGY SERVICE INDUSTRY WITH THE IMPROVEMENT OF INNOVATION ABILITY AS THE CORE

**JING CHEN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 645155924@qq.com*

## ABSTRACT

China cannot develop without scientific and technological innovation, and enterprises cannot win without scientific and technological innovation. People's lives need scientific and technological innovation to improve and develop. In recent years, China's scientific and technological workers have carried out scientific and technological innovation on a large scale. As a sharp tool to promote economic development and enhance regional innovation ability, more and more cities and enterprises in China have focused on the scientific and technological service industry and regarded innovation as a driving force for their own development. Zhengzhou has the problems of lack of development planning, lack of scientific and technological talents, low R&D expenditure and lack of cluster and brand effect in science and technology service industry, which restricts its ability to boost innovation and economic development, which is reflected in the lack of core competitiveness, imperfect internal management system, financing difficulties and insufficient innovation ability of science and technology small and medium-sized enterprises. This paper puts forward the development countermeasures of Zhengzhou science and technology service industry focusing on promoting the improvement of innovation ability in many aspects, such as strengthening the leadership of government organizations, improving the basic environment for innovation, increasing government financial support, jointly broadening enterprise financing channels, increasing the cultivation of high-tech talents, promoting enterprise foreign cooperation, forming clusters and establishing brands.

**Keywords:** Innovation, Regional Innovation, Science and technology service industry

## INTRODUCTION

At this stage, in the face of complex environmental changes at home and abroad, in order to stand in the industry of a world power as soon as possible, China must develop hard power. Like the country, if enterprises want to remain invincible, they must pay attention to standard science and technology and take their own innovation as the first vitality. For the market and needs, the people urgently need science and technology to change their lives during the 14th Five Year Plan period, In the face of the economic recession after the epidemic and rainstorm, Zhengzhou needs to improve its social and economic development through scientific and technological innovation. Science and

technology service industry has become the best carrier for innovation to promote economic development.

## **LITERATURE REVIEW**

### **1. Connotation analysis of science and technology service industry**

Daniel Bell first put forward the concept of knowledge service industry, that is, an industry combining science and technology and knowledge [1]. Doloreux (2009) believes that knowledge service industry is an institution that depends on human capital, knowledge and skills, which mainly provides knowledge intensive inputs to the business processes of other organizations [2]. Grandinetti (2018) made a new interpretation of KIBS. KIBS workers guide users to design new and relatively standardized services to provide services for specific customer groups [3]. Tether (2001) believes that scientific and technological innovation should be integrated into the knowledge intensive service industry to drive the industrial development with science and technology, and the knowledge intensive service industry can be integrated with the manufacturing industry [4].

Science and technology service industry is a new industry formed in the era of knowledge economy through the continuous refinement of industrial division of labor and the continuous strengthening of industrial integration. Science and technology service industry is an industry that integrates science and technology innovation, dissemination, diffusion, transformation and application. It mainly carries out scientific and technological research, achievement incubation, exchange and training and other activities. The essence of science and technology service industry is to provide relevant services around the industrialization process of scientific and technological achievements. Science and technology service industry is an important part of the whole science and technology innovation system, which has three characteristics: Intelligence intensive, high added value and strong radiation drive [5]. In the new era, the goal of Zhengzhou to build an innovative city and an international metropolis requires Zhengzhou to quickly and effectively promote the development of science and technology service industry and give full play to the role of science and technology service industry in regional innovation.

### **2. Development status and problems of science and technology service industry in Zhengzhou**

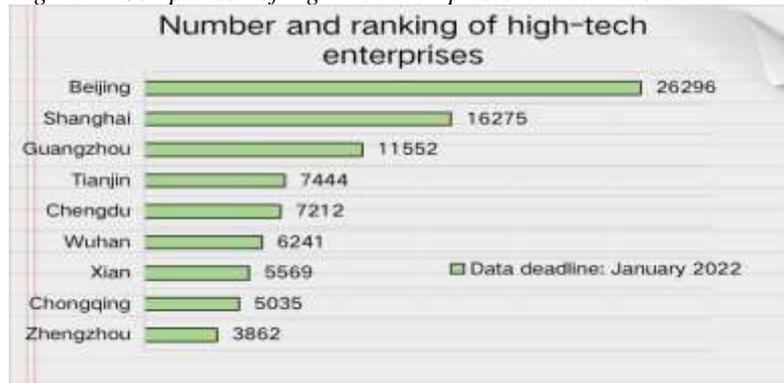
This paper analyzes the development status and existing problems of science and technology services in Zhengzhou through literature review and investigation. Because of its high-tech intensive characteristics, its own development is related to scientific and technological innovation. The level of scientific and technological innovation ability affects the development of scientific and technological service industry. In order to promote the development of science and technology service industry in Zhengzhou, the government formulated the detailed rules for the implementation of promoting the development of science and technology service industry in Zhengzhou in 2017. This policy points out that science and technology service industry is an emerging industry; Focus on improving the supporting capacity of science and technology service industry for scientific and technological innovation and industrial development, and promote the upgrading and optimization of industrial structure; Every year, a certain amount of funds is disbursed from the special funds for science and technology of the municipal finance to promote the development of science and technology service industry.

## 2.1 Development status of science and technology service industry in Zhengzhou

This detailed rules are a major measure of scientific and technological innovation issued by Zhengzhou. As a city with abundant scientific and technological resources and strong strength of scientific and technological higher education, Zhengzhou has both opportunities and challenges. Zhengzhou high tech Zone and economic development zone continue to expand the scale of their own high-tech industries, and drive the scientific and technological innovation ability and industrial development pace of Zhengzhou through the expansion of scientific and technological service industry. At the same time, Zhengzhou is a gathering place of educational resources in the province, with numerous universities and research institutes, which provides talent resources for the growth of science and technology service industry in Zhengzhou. At present, most scientific research institutions and colleges and universities in Henan Province are concentrated in Zhengzhou, the provincial capital, The R&D expenditure of scientific research institutions and colleges and universities in Zhengzhou accounts for 46.3% and 50.5% of the total R&D expenditure of scientific research institutions and colleges and universities in the province respectively. It shows that Zhengzhou has the advantage of talents in the province. However, scientific and technological innovation enterprises in Zhengzhou generally have high innovation investment, but relatively small output and low achievement conversion rate. In addition, there is still a lot of room for improvement in the overall R&D investment in Zhengzhou compared with the leading cities in China.

According to the data provided by the enterprise early warning website, as shown in Figure 1, the number of high-tech enterprises in China's nine central cities is ranked. It can be seen that Beijing, Shanghai and Guangzhou are in the leading position. Among them, Beijing ranks first with the strength of 30027 high-tech enterprises, and Zhengzhou ranks bottom with only 2944 high-tech enterprises. There is still a big gap compared with Tianjin (7436) and Wuhan (6225) in the middle reaches; There is also a difference of more than a thousand from Chongqing, which ranks second to last.

Figure 1: Comparison of high-tech enterprises in nine national central cities

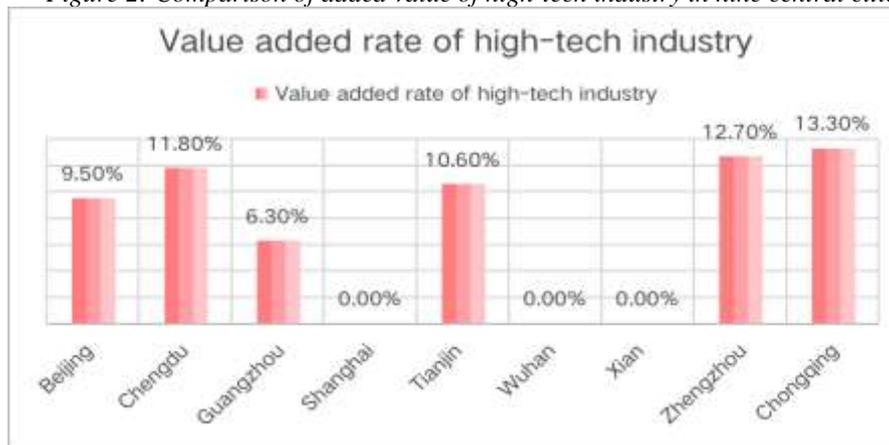


Source: Enterprise alert app

According to the statistical bulletin of national economic and social development of each city in 2020, a comparison chart of the added value of high-tech industries above Designated Size in nine central cities in 2020 (Figure 2) is made. Shanghai, Wuhan and Xi'an have no statistical data because of the different statistical dimensions in the bulletin. According to the growth rate of other central cities, the added value of high-tech industries above Designated Size in Chongqing increased by 13.3%, ranking first. Zhengzhou ranked second with a small gap, and Chengdu ranked third with an increase of 11.8%. According to the data of Zhengzhou National Economic and social development statistical bulletin in

2018 and 2019, in 2018, the added value of Industrial Enterprises Above Designated Size in Zhengzhou increased by 6.8% over the previous year, of which the added value of high-tech industry increased by 12.4% over the previous year. In 2019, the added value of Industrial Enterprises Above Designated Size in Zhengzhou increased by 6.1% over the previous year, of which the added value of high-tech industry increased by 10.9%. It can be seen that the growth of various industries is sluggish due to the impact of the epidemic and the complex international economic situation. The added value of high-tech industry in Zhengzhou has not been affected too much.

Figure 2: Comparison of added value of high-tech industry in nine central cities



Source: Statistical bulletin on national economic and social development of all cities in 2020,

Generally speaking, Zhengzhou has paid attention to that only by promoting the innovation driven development strategy and using the leading role of science and technology can we promote the high-quality development of Zhengzhou. However, at present, the innovation system of Zhengzhou is not perfect enough, the innovation environment does not have advantages, which restricts the development of innovation ability. In view of the above situation, it is necessary to analyze its causes and actively optimize the solutions.

## 2.2 Problems in the development of science and technology service industry in Zhengzhou

Zhengzhou's science and technology service industry ranks the bottom in the number of high-tech enterprises in national central cities, and the R&D intensity is lower than the national average, which is closely related to the lack of planning of science and technology service industry in Zhengzhou.

### 2.2.1 Lack of planning and precise positioning

First of all, the development environment provided by Zhengzhou for the science and technology service industry is not perfect. Among them, there is a lack of supervision system in the policies formulated for the science and technology service industry, resulting in the lack of inspection when the government implements financial support for high-tech enterprises. After high-tech enterprises obtain government support, the government lacks the corresponding feedback system, resulting in high investment in science and technology innovation enterprises in Zhengzhou. However, the output is relatively small and the achievement conversion rate is low [6]. Secondly, Zhengzhou's science and technology service industry lacks goals and accurate positioning. Finally, the development environment of science and technology service industry in Zhengzhou is not perfect, and its cultural strength is also relatively weak.

### 2.2.2 Less R&D investment

Due to its high-tech intensive characteristics, its own development is related to scientific and technological innovation. The level of scientific and technological innovation ability affects the development of scientific and technological service industry [6]. R&D funds measure the importance of regional scientific and technological innovation, represent the richness of regional innovation resources, and reflect the strength of the support ability behind the scientific and technological service industry. As shown in Figure 3, compared with the ranking of R&D funds from 2019 to 2020, Beijing is the only city in China with R&D funds of more than 200 billion yuan; Compared with Zhengzhou, what advantages does Beijing occupy to achieve such excellent results? First of all, through the statistical data of national economic and social development published by various cities (as shown in Figure 3), it can be concluded that Beijing is the only city in China with R&D expenditure of more than 200 billion yuan. Why is Beijing so prominent in R&D investment compared with other national central cities? On the one hand, there are many research universities and scientific research institutions located in Beijing. On the other hand, the number of high-tech enterprises in Beijing is leading in the country, among which the number of large Internet factories ranks first in the country, and these large enterprises and institutions bring more R&D investment.

Compared with the growth rate of R&D funds from 2019 to 2020, Chengdu ranks first with a growth rate of 21.8%. According to the information released by Chengdu Municipal Bureau of statistics, Chengdu's R&D investment accounts for 52.3% of Sichuan Province, which reflects that Sichuan province attaches great importance to the innovation ability of provincial capital cities. According to the statistics, the R&D investment of Xi'an, which is the capital of the province and the Ministry of science and technology, accounts for about 8.05% of the R&D investment of Xi'an, and the R&D investment of Xi'an, which is second only to that of Xi'an in 2020. According to the statistics, the R&D investment of Xi'an, which is the capital of the province and the Ministry of science and technology, accounts for about 1.05% of the R&D investment of the whole city, Enterprises above Designated Size account for about 40%, which can Xi'an's determination and efforts to improve its innovation strength. Compared with these cities, Zhengzhou's current R&D intensity is lower than the national average, and there is still much room for improvement in R&D investment.

Table 1: Comparison of R&D funds of the 15th CPC National Congress in 2020

R&D expenditure of nine national central cities in 2020						
City	R&D expenditure in 2020 (100 million yuan)	R&D investment intensity in 2020 (%)	R&D expenditure in 2019 (100 million yuan)	R&D investment intensity in 2019 (%)	Year on year growth	
Beijing	2326.6	6.44	2233.6	6.31	4.2	
Shanghai	1615.7	4.17	1524.6	4	6	
Shenzhen	1510.81	5.46	1328.28	4.93	13.7	
Guangzhou	774.84	3.1	667.74	2.87	14.3	
Tianjin	485	17	4.75	25	3.44	
Chengdu	551.4	3.11	452.5	2.66	21.8	
Chongqing	526.8	16	12.18	9	2.11	

Xian	506.06	5.05	481.76	5.2	5
Nanjing	515	3.48	469.1	3.28	9.8
Hangzhou	578.8	3.59	530.4	3.45	9.1
Zhengzhou	276.7	2.31	236.7	2	16.9

Source: Local statistical bureaus

### 2.2.3 There is no cluster and brand effect

The scale of science and technology service industry refers to the development of science and technology service industry to a certain extent, which can bring the cluster effect into play and drive the development of the whole industry by gathering scientific and technological innovation resources such as talents. Compared with other national central cities, Zhengzhou and Chongqing have not formed their own "wild goose array" of science and technology service industry. In addition to the top ranked cities in science and technology service industry such as Beijing, Shenzhen and Shanghai, other intermediate cities have also formed a special scale of local science and technology service industry. According to the information released by Chengdu Economic and Information Bureau, the scale of Chengdu's electronic information industry will reach 1006.57 billion yuan in 2020, and the attraction to leading enterprises is also very significant. The presence of BOE, shentianma, Luwei optoelectronics and other leading enterprises has formed a very obvious circle effect;

In the process of formulating the "14th five year plan" and the long-term goal of 2035, Tianjin proposed to take scientific and technological innovation as the first driving force, fully promote the traditional pillar industries to move towards high-end, and strive to build a high-end industrial structure led by intelligent technology industry, focusing on biomedicine, new energy and new materials, high-end equipment, automobile, petrochemical industry '1 + 3 + 4' modern industrial system supported by aerospace, cultivating world-class industrial clusters [7]; East Lake high tech Zone, the location of Wuhan Optical Valley, is the largest production base of optical fiber and optical cable in China and the largest production scale of optical fiber and optical cable in the world; The high-tech Industrial Development Zone in Hefei is the concentration of Chinese sound Valley enterprises. At the same time, driven by leading enterprises such as iFLYTEK and huami technology, scientific research and innovation achievements have also been effectively transformed.

When the global "chip shortage" and "price rise tide" are coming, the "Changsha core" of Yuelushan high tech park in Changsha high tech Zone has formed relevant industrial agglomeration in Lugu. China (Zhengzhou) intelligent sensing Valley, with Zhengzhou high tech Zone as the core, is also under planning and construction. Zhengzhou high tech Zone also gathers high-quality network security industries such as 360 and Xindun network security, as well as Beidou application industries such as Tianmai technology and wikom [8]. Through the comparison of the industrial clusters in Wuhan and Hefei, we can find that the products in the park have their own reputation. However, in terms of products and industrial clusters, Zhengzhou has taken a small step in innovation and development, and has not formed an absolute advantage in the industrial chain.

It is not difficult to see that the construction of industrial clusters and the release of aggregation effect have become an important way for cities to develop high-tech industries and improve their own scientific and technological innovation. At present, the science and technology service industry in Zhengzhou cannot become bigger and stronger, form a gathering place and become a big brand, which is not enough to support the deep

integration of science and technology and economy and move towards high-quality economic development. Technology services. Enterprises should increase R&D investment, accelerate high-end, intelligent and green transformation and grafting application of new technologies, and promote industrial transformation and upgrading, bigger and stronger. In order to achieve absolute advantages in the central region and improve the comprehensive competitiveness of science and technology service industry [9]. Tables and figures should be numbered and references to them must be in the text. Acceptable labeling for a table is Tab.1 and Fig. 1 for a figure.

#### **2.2.4. Lack of high-tech talents**

There is only one double first-class university in Zhengzhou, scientific research institutes and other scientific research institutions are lack, regional science popularization is low, and there is a lack of training of scientific and technological talents; At the same time, due to the lack of economic advantages, it is impossible to retain professional talents, resulting in the serious loss of high-quality personnel.

Talents suitable for the development of science and technology service industry are relatively scarce. The most prominent problem is the relative dispersion of colleges and universities; There is a lack of connection between schools and enterprises, and the education and training system can not meet the human resources needs of foreign-related and even modern science and technology service industry.

Zhengzhou should strengthen the implementation of talent strategy and provide intellectual support. Adhere to human resources as the first resource for urban development. We will liberalize and relax the conditions for the implementation of Zhengzhou's population in an orderly manner, attract the population of the whole province and the population of surrounding provinces and cities to gather in Zhengzhou, expand the population of Zhengzhou and build a metropolis with a population of tens of millions. Scientifically grasp the changing trend of urban population, optimize the spatial layout of population, and orderly guide the gradient transfer of population to industrial functional areas such as Zhengdong New Area and Zhengzhou aviation port area, as well as satellite cities, small cities and characteristic towns. Focus on high-tech zones and economic development zones, strengthen the introduction and training of high-level talents, entrepreneurs and industrial talents, and constantly strengthen the talent support and guarantee of urban development. At the same time, we should recruit professional and export-oriented talents, improve the quality of the industry, and better support the innovative development of Zhengzhou science and technology service industry.

### **3. Countermeasures to promote the development of science and technology service industry and enhance regional innovation ability in Zhengzhou**

#### **3.1 Strengthen the leadership of government organizations**

The development of science and technology service industry is inseparable from the policy support of the government and a good development environment. In view of the existing lack of planning of science and technology service industry in Zhengzhou, Zhengzhou needs to establish a science and technology service industry support policy in line with its own characteristics on the basis of the implementation of the basic policies on science and Technology Service Industry issued by the state, First of all, we need to strengthen a series of policies on the development of science and technology service industry, strengthen the application and review of science and technology service industry projects, start the supervision function in the process of project implementation, and

establish a feedback mechanism after project implementation to ensure that the government's support fund investment plays the greatest role.

According to the previous analysis, at present, the development and growth rate of science and technology service industry in Zhengzhou is rapid, and the overall scale of the industry has been revealed. However, compared with other national central cities, especially Beijing, Shenzhen and Shanghai, the science and technology service industry in Zhengzhou still has the problems of small scale and imperfect overall policy system, while maintaining the current growth rate, Zhengzhou science and technology service industry should strengthen the organization and leadership of the government, establish a reasonable plan, and strive to "overtake on the curve".

### **3.2 Improve the basic environment for innovation**

In view of the improvement of the development environment of science and technology service industry in Zhengzhou, governments at all levels in Zhengzhou first need to recognize the importance of science and technology service industry in the whole economic development of Zhengzhou, and realize that only the better development of science and technology service industry can improve the innovation level of enterprises, bring core competitiveness to enterprises and promote the economic development of the whole industry, Radiate the joint development of other industries [10] and enhance the economic strength of Zhengzhou. Zhengzhou should further strengthen the government's organization and leadership of science and technology innovation enterprises in the high tech Zone, support the orderly development of science and technology service industry in Zhengzhou through multi-dimensional policies, establish a reasonable plan for the development of science and technology service industry in Zhengzhou, and set lofty goals, so that the science and technology service industry in Zhengzhou can maintain stable growth at the same time, Try our best to change the situation that the ability of science and innovation ranks last among the national central cities, attract more large-scale science and innovation brands to land in Zhengzhou, drive the linkage and integration of science and technology service industry and other industries, promote the exchange of science and innovation information, and then improve the innovation ability of various industries in Zhengzhou. The other 15 counties and districts in Zhengzhou should form a policy system to serve science and technology innovation enterprises, create a good development environment for regional science and technology service enterprises, and jointly develop the science and technology service industry in Zhengzhou. Expand the scale of science and technology service industry in Zhengzhou.

### **3.3 Increase government financial support**

The R&D expenditure of scientific research institutions and colleges and universities in Zhengzhou accounts for 46.3% and 50.5% of the total R&D expenditure of scientific research institutions and colleges and universities in the province respectively. However, the R&D intensity in Zhengzhou is still lower than the national average. If we want to improve the scientific and technological innovation ability of Zhengzhou, we must strengthen the development of scientific and technological service industry. The necessary way to promote the development of scientific and technological service industry is to increase financial support. Zhengzhou's R&D investment in scientific and technological service industry cannot surpass that of other National Central cities, which also doomed the bottom of Zhengzhou's innovation strength, and the way to increase R&D investment, In addition to the multi-channel fund-raising of the science and technology service industry itself, it also needs the financial support of Zhengzhou municipal government. In

view of the current weak innovation strength of Zhengzhou, increasing the financial support for the science and technology service industry has become an urgent matter to be solved. This is not only the source of improving the innovation ability of Zhengzhou, but also the guarantee for the development of science and technology service industry. First of all, Zhengzhou municipal government needs to increase the support for science and technology service industry in the financial budget, set up special development funds for science and technology service industry, and timely adjust the proportion of support funds in the overall financial expenditure according to the needs of science and technology service industry, so as to ensure the steady growth of financial support for science and technology service industry, and give key support to large-scale science and technology projects. Increase incentives, attract more large-scale scientific and technological innovation enterprises to settle in Zhengzhou, provide financial support for the development of small and medium-sized scientific and technological innovation enterprises by means of loan subsidy interest [11], play a leading role, let all sectors of society pay attention to the science and technology service industry, produce group effect, and help the science and technology service industry increase investment from all sectors of society.

### **3.4 Jointly expand financing channels for enterprises**

The government should play a leading role in the financing process of the development of science and technology service industry in Zhengzhou. Shaanxi local governments at all levels should cooperate with the national investment and financing system and improve the venture capital mechanism conducive to the development of high-tech enterprises in combination with the current situation of the development of high-tech industries in Zhengzhou. The government can use tax incentives, subsidies and other ways to encourage science and technology service enterprises to increase investment in research and development, while encouraging the banking industry to increase financial support for science and technology independent innovation and related industries, so as to enhance the financing capacity and investment vitality of high-tech enterprises in many ways.

In the process of financing, Zhengzhou science and technology service industry cannot lack the leading role of the government for the society. Aiming at the current situation of science and technology service industry in Zhengzhou, combined with the investment and financing regulations formulated by the state, the government formulates the venture capital strategy of strengthening science and technology service enterprises. While investing in specific high-tech enterprises, the government can also attract science and technology service enterprises to increase research capital investment by increasing tax incentives for science and technology service industry. In the existing enterprise income tax system, in addition to the deductible tax preference for R&D expenditure enjoyed by science and technology service enterprises, it also aims at the provision of service outsourcing services in science and technology service industry. Carry out preferential tax policies for intellectual property rights and the provision of scientific and technological consulting services. As well as the remuneration obtained by the personnel of universities and research institutes for R&D work, and the cooperative enterprises in the R&D process should provide preferential tax support [12], further improve the policy support system of science and technology service industry in Zhengzhou, reduce the tax amount of science and technology service industry, and strengthen the development of science and technology service industry.

### **3.5 Building the core competitiveness of enterprises**

Most of the technology-based small and medium-sized enterprises in Zhengzhou are dependent on the high court and research institutes, and are not in the core competitiveness of the industry, which will lead to the failure of enterprises to realize source innovation. The lack of source innovation will make it impossible for enterprises to enter the track in advance, take out excellent strength to compete with the global science and technology service industry, and can not occupy a place in the global rising science and technology service content. For example, in terms of global popular virtual reality, metamaterials and artificial intelligence, the science and technology service industry in Zhengzhou lacks the voice in the national industry

Build their own core competitiveness. As a scientific and technological enterprise, we must have excellent technology and strictly control the recruitment process, especially the scientific and technological personnel. Strengthen personnel training, promote personnel growth, form a good talent training mode of "taking the old with the new", establish a perfect reward and punishment mechanism, and fully mobilize the enthusiasm of employees. Human resources and administrative departments should cooperate with each other to escort the enterprise. Jointly build a high-level scientific research team and create technologically advanced scientific and technological products [13]. When technology-based small and medium-sized enterprises can create leading science and technology products, banks and investors can see the rich benefits brought by science and technology and invest in them. Only with sufficient funds, scientific research can go to a higher level and build a good financing system.

### **3.6 Increase the cultivation of high-tech talents**

Improving innovation ability and strengthening the development of science and technology service industry are inseparable from the cultivation of talents [13]. However, the science and technology service industry in Zhengzhou lacks high-tech talents in the industry, and the cultivation of high-tech talents requires universities and scientific research institutes to strengthen the Directional Cultivation of science and technology service industry. Colleges and universities can set up relevant or similar disciplines of science and technology service industry, increase the number of students, and then expand the professional employees of science and technology service industry. For research institutes with high requirements, it is necessary to cultivate a group of high-quality talents to serve science and technology service enterprises as soon as possible. It is also possible to attract high-quality talents with innovation ability and rich innovation experience through talent introduction policies and high reward policies.

In addition, science and technology service enterprises can also obtain their scarce talents by establishing a directional training mode with universities and research institutes, and encourage students to carry out innovation and entrepreneurship activities in school. They can strengthen students' awareness of innovation and improve students' innovation and entrepreneurship level by holding innovation competitions, Provide a good bridge for better serving scientific and technological innovation enterprises in the future.

For the lack of management knowledge of managers in small and medium-sized scientific and technological innovation enterprises in the high-tech zone, the government should strengthen the training of management knowledge for managers of scientific and technological innovation enterprises, so that managers have the awareness of the overall situation, make them plan the long-term goal of enterprise development, give up the goal of maximizing short-term profits, and focus on the long-term development of enterprises. Stable development, cultivate professional management talents for enterprises and

improve the ability of scientific and technological innovation enterprises to become bigger and stronger.

### **3.7 Form clusters and establish brands**

Zhengzhou's science and technology service industry has not yet formed a cluster effect. In this case, it is more necessary to launch "big brand" as the business card of the science and technology service industry, which attracts social attention and drives the rise of the whole industry. At present, there are several large-scale science and technology service enterprises in the high-tech zone, but there is little information available for these enterprises. Think of the brand effect, It is necessary to create an image highlighting their own advantages for these enterprises, show their leadership on the science and technology service platform, organize small and medium-sized science and innovation enterprises to visit, share their innovation process and management experience, drive the development of small and medium-sized science and innovation enterprises, gradually form a cluster of science and technology service enterprises, form Zhengzhou's own Silicon Valley and become a new business card in the development of Zhengzhou.

## **CONCLUSION**

Zhengzhou's scientific and technological innovation ability is at the end of the National Central City team. Zhengzhou needs to vigorously develop scientific and technological service industry, create a good innovation environment, promote scientific and technological achievements from laboratory to industrial application, and improve regional innovation strength. Zhengzhou can stimulate the innovation vitality of scientific and technological service institutions and scientific and technological service talents through a series of measures such as strengthening organizational leadership, improving the scientific and technological innovation environment, increasing government financial support, broadening enterprise financing channels, increasing the cultivation of high-tech talents, deepening enterprise foreign cooperation, building scientific and technological service industry clusters and highlighting the brand effect Improve the overall efficiency of the regional innovation system, promote the transformation of scientific and technological achievements and the high-quality development of industrial innovation in Zhengzhou, and achieve a new height of scientific and technological innovation in Zhengzhou.

## **REFERENCES**

- Daniel Bell. The coming of post-industrial society [M]. New York: American Educational Bookltd, 1974.
- Muller E, Doloreux D. What we should know about knowledge-intensive business services.2009
- Roberto Grandinetti.The KIBS paradox and structural holes [J]. Knowledge Management Research & Practice ,2018.
- TETHER, B., HIPPEL, C., MILES, I. Standardization and Particularization in Service: Evidence from Germany [J]. Research Policy, 2001,30(7): 1115-1138.
- Sun Yongnian Research on Countermeasures to improve regional innovation ability and accelerate the agglomeration development of science and technology service industry -- Taking Hexi District of Tianjin as an example [J] Management scientist, 2014 (03): 454-455

- Xin Yuchen Research on fiscal and tax policies supporting the development of science and technology service industry -- Taking Tianjin Science and technology service industry as an example [J] Times finance, 2014 (06): 179-180
- Shi Wei Research on the influence of regional scientific and technological strength on the development of scientific and technological service industry -- Taking Xuzhou as an example [J] Tianjin Science and technology, 2015 (08): 9-11
- Liu Peng, Cai Yukun Research on fiscal and tax incentive policies to promote the development of local science and technology service industry -- a case study of Qingdao [J] Journal of Shandong University of politics, 2012.06-126
- Zhang aining, Teng Yaqiong, Jiang Ling Path analysis of innovation and development of science and technology service industry in Gansu Province [J] Development research, 2016 (05): 63-68
- Xin Hong, bu Congzhe Research on innovation and development of science, technology and service industry in Beijing Tianjin Hebei under the background of "Internet plus" [J]. Research on science and technology management, 2019,39 (08): 61-67
- Zhou Ke, Guo Fengru Analysis on breaking the "bottleneck" of science and technology service industry in Henan Province [J] Journal of Henan University of science and Technology (SOCIAL SCIENCE EDITION), 2019,37 (06): 64-69
- Fu Jiaji Technological innovation [M] Tsinghua University Press, 1998
- Xiong Jing The impact of science and technology service efficiency on the transformation and upgrading of industrial structure [J] Enterprise technology and development, 2018 (10): 3-4
- Dai Hui Research on the high-quality development of service industry -- Thoughts and suggestions based on the development of service industry in Beijing [J] Price theory and practice, 2019 (08): 36-38
- Ma Yike, Wang Mingying Research on the integrated development of science and technology service industry and manufacturing industry [J] Cooperative economy and technology, 2017 (08): 4-8
- Xie Huifang Analysis of the development trend of technology service industry under the background of "Internet plus" [J]. Research on the development strategy of scientific and technological innovation, 2017,1 (02): 10-13
- Jiang Rui Thoughts on improving the Internet plus innovation and entrepreneurship service system in Henan province [J]. Economic Research Guide, 2019 (28): 143-144
- Zhang Peng, Liang Yongqi, Yang Yanjun Research on the development level evaluation and regional layout of China's science and technology service industry [J] Scientific research, 2019,37 (05): 833-844
- Wang Ying, LAN Yunfei, Wang Lin Evaluation of the development level of science and technology service industry in Central China based on TOPSIS method [J] Statistics and decision making, 2019,35 (21): 53-56
- Huang can, Xu Ge, Li Lanhua, Shen Huijun Reform of scientific and technological achievements transformation system in Chinese universities and scientific research institutes -- Analysis Based on patent technology transaction data [J] Science and technology Herald, 2020, 38 (24): 92-102
- Wu Songqiang, Huang Panpan, Cao Xinyu Enterprise relationship capital, knowledge sharing and enterprise innovation ability -- An Empirical Study Based on advanced manufacturing industry technology alliance [J] Scientific management research, 2021, 39 (1): 123-131

# THE EFFECT OF PUBLIC SERVICE MOTIVATION ON PUBLIC EMPLOYEES' INNOVATIVE BEHAVIOR IN CHINA

QIU WANG

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 937618678@qq.com*

## ABSTRACT

Although the relationship between public service motivation (PSM) and individual performance has been examined extensively in previous studies, the links between PSM and public employees' innovative behavior still remain scant. To address this question, we aimed to explore the effect of PSM on employees' innovative behavior. Using a sample of full-time public employees from Yunnan province in southwest China, our findings showed that public employees' PSM was positively related to their innovative behavior. Based on the above results, we suggest that public organization should pay more attention to public employees' PSM, thereby enhancing their innovative behavior.

**Keywords:** Public service motivation, Innovative behaviour, Public employee

## INTRODUCTION

Over the last two decades, public service motivation (PSM) has been one of the most studied topics and has generated a substantial body of research in the field of public administration (Carpenter, et al., 2012; Kim, et al., 2012; Liu, et al., 2015; Jin, et al., 2017). PSM literature argued that individuals with high levels of PSM were more likely to perform better in public organizations that allowed them to “deliver services to people with a purpose to do good for others and society” (Perry, and Wise, 1990). Supported by many scholars, PSM theory suggested that work-related performance was enhanced greatly by individuals' PSM (Shim, et al., 2017). The literature on PSM has already confirmed that PSM had a direct effect on individual work-related outcomes, such as job satisfaction, organizational commitment, and turnover intention (Andersen and Kjeldsen, 2013; Choi and Chun, 2018). Although previous studies have provided evidence for this view that PSM shapes employees' work attitudes and behavior in the public sector significantly (Vandenabeele, 2009; Potipiroon and Ford, 2017), scant research has examined the link between PSM and public employees' innovative behavior. According to Hartley et al. (2013), “there seems to be considerable disagreement about how to spur and sustain public innovation.” Thus, it is worthwhile to explore the relationship between PSM and public employees' innovative behavior in the public sector.

In the following sections, we outline the theoretical framework and discuss the relationships between PSM and public employees' innovative behavior. Then, after discussing the key findings and implications, we conclude with the limitations of the study, and provide suggestions for future research.

## LITERATURE REVIEW

Since Perry and Wise (1990) described PSM as “an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations”, research on PSM and related topics has grown significantly in several disciplines over the past two decades (Perry and Hondeghem, 2010). Over time, scholars proposed more generalized concepts of PSM. For example, Rainey and Steinbauer (Rainey and Steinbauer, 1999) defined PSM as a “general, altruistic motivation to serve the interests of a community of people, a state, a nation or humankind”. Considering the particular institutional context, Vandenabeele (Vandenabeele, 2009) reframed the concept of PSM as “belief, value, and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate”. Obviously, PSM could be described as “an obligation-based type of motivation” or “an institution-based motivation” (Houston, 2011). These views indicate that both internal motives and external context play a vital role in determining individual work-related behaviors, such as job performance, work effort, and organizational performance (van Loon, 2017).

Many empirical studies support the premise that individuals with more pro-social tendencies or high PSM levels choose jobs in public organizations that provide the opportunities for employees to serve the public, and this choice then resulted in higher job satisfaction (Vandenabeele, 2008). However, little attention has been paid to the relationship between PSM and public employees’ innovative behavior. To our knowledge, only a few studies have explored the association between PSM and public employees’ innovation in the public organizations (Miao and Newman, 2018; Zeng and Xu, 2020; Shim et al., 2021). According to Perry and Wise (1990), “committed employees are likely to engage in spontaneous, innovative behaviors on behalf of the organization.” Wright et al. (2013) first confirmed the positive link between PSM and employees’ commitment to change. The findings by Miao and Newman (2018) suggest that PSM has a significant and positive impact on subordinates’ innovative behavior. More recently, Rafique et al. (2021) found that three dimensions of PSM including self-sacrifice, compassion, and attraction to policymaking are significantly related to employees’ innovative behavior. Based on these theoretical arguments, we expect that PSM will influence public employees’ innovative behavior in the public

## RESEARCH METHODOLOGY

### 3.1 Participants and sample

We collected questionnaires from two prestigious universities located in Kunming city in China. To collect data, we obtained access to the human resource office in two universities in Kunming in Yunnan province. We selected 450 part-time MPA (master of public administration) students who were full-time employees from various public sectors in different parts of Yunnan province. Each participant was asked to complete the questionnaire anonymously. Eventually, we obtained 436 completed surveys with an overall response rate of 93.82% after deleting 13 cases with missing data.

Of the 436 public employees, 206 (74.2%) were male and 230 (52.8%) were female (Table 1). A majority of the participants were single (82.6%), had a non-management role (26.6%), and worked 8-12 hours per week (49.3%). In terms of age, 103 (23.6%) were 18-25 years old, 91 (20.9%) were 26-30 years old, 120 (27.5%) were 31-40 years old, 75

(17.2%) were 41-50 years old, and 47 (10.8%) were over 50 years old. As for educational attainment, 5.7% held masters or doctoral degrees, 34.6% held bachelor degrees, 41.1% held a diploma, and 18.6% were high school graduates or did not graduated high school. In terms of work tenure, 32 (7.3%) had worked for 5 years or less, 77 (17.7%) had worked for 6-10 years, 140 (32.1%) had worked for 11-15 years, 144 (33.0%) had worked for 16-20 years, and 43 (9.9%) had worked for more than 21 years.

33. Table 1: Descriptive statistics of participants in the present study (N = 436).

1 Variables	2 Categories	3 N	4 %	5 Variables	6 Categories	7 N	8 %
9 Gender	10 Male	11 206	12 47.2	13 Work tenure	14 5 years or less	15 32	16 7.3
	17 Female	18 230	19 52.8		20 6-10 years	21 77	22 17.7
23 Age	24 18-25	25 203	26 46.3		27 11-15 years	28 140	29 32.1
	30 26-30	31 291	32 66.9		33 16-20 years	34 144	35 33.0
	36 31-40	37 220	38 50.5	39 21years or more	40 43	41 9.9	
	42 41-50	43 175	44 40.1	45 Working hours	46 5 hours or less	47 15	48 3.4
	49 51 or older	50 107	51 24.5		52 5-8 hours	53 99	54 22.7
55 Marital status	56 Single	57 360	58 82.6		59 8-12 hours	60 69	61 15.8
	62 Married	63 76	64 17.4	65 12 hours or more	66 67	67 15.3	
68 Education	69 High school	70 281	71 64.5	72 Managerial level	73 Upper	74 475	75 109.9
	76 Diploma	77 279	78 63.5		79 Middle	80 281	81 64.5
	82 Bachelor	83 251	84 57.6		85 Lower	86 287	87 65.8
	88 Masters/Doctoral	89 25	90 5.7		91 Non-management	92 16	93 3.6

### 3.2 Measures

Public service motivation was measured using a shortened version of the PSM scale which adopted five items from Perry's original scale (Perry, 1996). The 5-item measure was widely verified and used (Qi and Wang, 2018), and included commitment to public interest, self-sacrifice, compassion and social justice. A sample item was "Meaningful public service is very important to me." All items were rated on a 5-point Likert-type scale with anchors that ranged from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha of these five items was 0.768.

Innovative behavior was assessed using a 6-item scale developed by Scott (1994). Sample items included “searches out new technologies, processes, techniques and/or product ideas” and “promote and champions ideas to others”. All items were measured using a 5-point Likert-type scale with anchors that ranged from 1 (strongly disagree) to 5 (strongly agree). Cronbach’s alpha of this scale was 0.820.

## RESULTS

The means, standard deviations, and correlations among study variables were presented in table 2. PSM was positively correlated with innovative behavior ( $r = 0.69, p < 0.01$ ). Moreover, age was positively related to innovative behavior ( $r = 0.27, p < 0.01$ ). However, Managerial level was negatively related to innovative behavior ( $r = - 0.23, p < 0.01$ ).

34. Table 2: Means, standard deviations and correlations among variables in the present study.

94	Variable	95 1	96 2	97 3	98 4	99 5	100 6	101 7	102 8
103	1. Gender	104 1	105	106	107	108	109	110	111
112	2. Age	113 0.1 1*	114 1	115	116	117	118	119	120
121	3. Education	122 0.0 9	123 0.0 8	124 1	125	126	127	128	129
130	4. Work tenure	131 - 0.01	132 - 0.05	133 0.1 3**	134 1	135	136	137	138
139	5. Working hours	140 - 0.10*	141 - 0.14**	142 - 0.31**	143 - 0.01	144 1	145	146	147
148	6. Managerial level	149 - 0.16**	150 - 0.27**	151 - 0.19**	152 - 0.07	153 0.2 0**	154 1	155	156
157	7. PSM	158 0.0 6	159 0.2 2**	160 0.0 5	161 0.0 9	162 - 0.02	163 - 0.27**	164 1	165
166	8. IB	167 0.0 8	168 0.2 7**	169 - 0.01	170 - 0.01	171 - 0.03	172 - 0.23**	173 0.69 **	174 1
175	Mean	176 1.5 3	177 2.7 1	178 2.2 8	179 3.2 0	180 1.5 6	181 3.04	182 3.10	183 2 .91
184	SD	185 0.5 0	186 1.2 94	187 0.8 3	188 1.0 8	189 0.6 1	190 0.71	191 0.79	192 0 .79

Note:  $N = 436$ . \* $p < 0.05$  and \*\* $p < 0.01$ .

35. Table 3: Results for the multiple regressions.

193 Variable	194 Innovative behavior			
	195 Model 1		196 Model 1	
	197 B	198 SE	199 B	200 SE
201 Constant	202 3.124***	203 0.312	204 0.929***	205 0.261
206 Gender	207 0.049	208 0.074	209 0.044	210 0.055

211 Age	212 0.138***	213 0.029	214 0.070***	215 0.022
216 Education	217 -0.048	218 0.047	219 -0.047	220 0.035
221 Work tenure	222 -0.005	223 0.034	224 -0.046	225 0.025
226 Working hours	227 0.024	228 0.063	229 -0.020	230 0.047
231 Managerial level	232 -0.190***	233 0.054	234 -0.019	235 0.042
236 PSM	237	238	239 0.666***	240 0.036
241 R Square	242 0.102		243 0.502	
244 Adj R-squared	245 0.090		246 0.494	
247 R Square Change	248 0.102		249 0.400	
250 F-Value	251 8.130***		252 61.667***	

Note:  $N = 436$ . \* $p < 0.05$ , \*\* $p < 0.01$ , and \*\*\* $p < 0.001$ .

To examine the relationship between PSM and public employees' innovative behavior, we proposed a multiple regression by using SPSS 26. We proposed two models in the multiple regressions. The results in Model 1 in Table 3 indicated that age had a significant and positive effect on public employees' innovative behavior ( $B = 0.138$ ,  $p < 0.001$ ), but managerial level had a significant and negative impact on public employees' innovative behavior ( $B = -0.190$ ,  $p < 0.001$ ). The control variables can explain 10.2% value of public employees' innovative behavior. The results in Model 2 showed that PSM had a significant and positive effect on public employees' innovative behavior ( $B = 0.666$ ,  $p < 0.001$ ). PSM can explain 50.2% value of public employees' innovative behavior.

## DISCUSSION AND CONCLUSION

Recently, much of the research has focused on the link between PSM and individual outcomes, such as organizational commitment, job satisfaction, or turnover intention, but only few studies have examined the effect of PSM on public employees' innovative behavior. In this study, we examined the relationship between PSM and innovative behavior among Chinese civil servants. Consistent with previous findings (Miao and Newman, 2018; Zeng and Xu, 2020; Shim et al., 2021), our results also confirmed the direct effect of PSM on public employees' innovative behavior in the Chinese context. The more public employees are committed to the public interest, the greater levels of innovative behavior they have. Moreover, public employees with a high level of PSM are more likely to engage in innovative behavior.

### 5.1 Theoretical and practical implications

Our findings suggested that PSM not only had a direct relationship with public employees' innovative behavior. Thus, our results led to the following theoretical and practical implications. First of all, it confirmed that PSM had a significant and direct effect on innovative behavior, which contributed to the claims of PSM theory (Perry and Wise, 1990). The results suggested that something like PSM played an important role in serving the public because public employees with high PSM levels achieved self-worth from their work in the public sector. In other words, PSM acts as a psychological coping mechanism that allows individuals to fulfill their altruistic needs, to serve the public, and to maintain their status as excellent public employees (Shim, et al., 2017).

Our results also provided some practical implications for public managers. Given that PSM is a key component of enhancing public employees' innovative behavior, public organizations should investigate job seekers' altruistic motivation in recruitment and selection procedures, and they should assess whether the job seekers' personal values are consistent with public organizations (Perry and Hondeghem, 2008). In addition, for public employees, our findings indicated that public sector organizations should promote public employee's innovative behavior through formal and informal reward mechanism.

## 5.2 Limitations and future research

Of course, our study has some limitations. First, our study used a shortened version of Perry's PSM scale, which may have affected our results. Although the shortened version of the PSM scale with five items was widely used in the different institutional contexts in previous research (Qi and Wang, 2018), we should develop a PSM scale based on the Chinese historical and institutional contexts in future research. Second, our study relied on cross-sectional self-reported data and, therefore, it did not offer a clear causal relationship. It would be worthwhile for researchers to use a panel or longitudinal data to avoid the potential for common method biases.

Despite the above-mentioned limitations, our study aimed to explore the relationship between PSM and innovative behavior of public employees. Our findings revealed that PSM had a direct effect on public employee's innovative behavior. More importantly, our study contributes to the PSM theory and literature by examining the critical role of PSM in increasing public employees' innovative behavior in a Chinese context. We hope that our research encourages more studies to explore the potentially complicated associations between PSM and innovative behavior in the public organizations.

## REFERENCES

- Carpenter, J., Doverspike, D. and Miguel, R. F. (2012). Public service motivation as a predictor of attraction to the public sector, *Journal of Vocational Behavior*, Vol. 80, pp. 509-23.
- Kim, S. W., Vandenabeele, W., Wright, B. E., Andersen, L. B., Cerase, F. P., Christensen, R. K. and Desmarais, C., et al. (2013). Investigating the structure and meaning of public service motivation across populations: developing an international instrument and addressing issues of measurement invariance, *Journal of Public Administration Research and Theory*, vol. 23, pp. 79-102.
- Liu, B. C., Tang, T. L. P. and Yang, K. F. (2015). When does public service motivation fuel the job satisfaction fire? The joint moderation of person-organization fit and needs-supplies fit, *Public Management Review*, vol. 17, pp. 876-900.
- Jin, M. H., McDonald, B. and Park, J. (2018). Does public service motivation matter in public higher education? Testing the theories of person-organization fit and organizational commitment through a serial multiple mediation model, *American Review of Public Administration*, vol. 48, pp. 82-97.
- Perry, J. L. and Wise, L. R. (1990). The motivational bases of public service, *Public Administration Review*, vol. 50, pp. 367-373.
- Shim, D. C., Park, H. H. and Eom, T. H. (2017). Street-level bureaucrats' turnover intention: Does public service motivation matter? *International Review of Administrative Sciences*, vol. 83, pp. 563-582.

- Andersen, L. B. and Kjeldsen, A. M. (2013). Public service motivation, user orientation and job satisfaction: A question of employment sector? *International Public Management Journal*, vol. 12, pp. 252-274.
- Choi, Y. J. and Chun, I. H. (2018). Effects of public service motivation on turnover and job satisfaction in the US teacher labor market. *International Journal of Public Administration.*, vol. 41, pp. 172-180.
- Vandenabeele, W. (2009). The mediating effect of job satisfaction and organizational commitment on self-reported performance: more robust evidence of the PSM-performance relationship, *International Review of Administrative Sciences*, vol. 75, pp. 11-34.
- Potipiroon W. and Ford, M. T. (2017). Does public service motivation always lead to organizational commitment? Examining the moderating roles of intrinsic motivation and ethical leadership, *Public Personnel Management*, vol. 46, pp. 211-238.
- Hartley, J., Eva, S., and Jacob, T. (2013). Collaborative innovation: a viable alternative to market competition and organizational entrepreneurship, *Public Administration Review*, vol. 73, pp. 821-30.
- Perry, J. L., Hondeghem, A. and Wise, L. R. (2010). Revisiting the motivational bases of public service: twenty years of research and an agenda for the future, *Public Administration Review*, vol.70, pp. 681-690.
- Rainey, H. G. and Steinbauer, P. (1999). Galloping elephants: developing elements of a theory of effective government organizations, *Journal of Public Administration Research and Theory*, vol. 9, pp.1-32.
- Vandenabeele, W. (2007). Toward a public administration theory of public service motivation, *Public Management Review*, vol. 9, pp. 545-556.
- Houston, D. J. (2011). Implications of occupational locus and focus for public service motivation: attitudes toward work motives across nations, *Public Administration Review*, vol. 71, pp. 761-771.
- van Loon, N.M. (2017). Does context matter for the type of performance-related behavior of public service motivated employees? *Review of Public Personnel Administration*, vol. 37, pp. 405-429.
- Vandenabeele, W. (2008). Government calling: Public service motivation as an element in selecting government as an employer of choice. *Public Administration*, vol. 86, pp. 1089-1105.
- Miao, Qi. and Newman, A. (2017). How leadership and public service motivation enhance innovative behavior, *Public Administration Review*, vol. 78, pp. 71–81.
- Zeng, J. and Xu, G. (2020). How servant leadership motivates innovative behavior: A moderated mediation model, *International Journal of Environment Research and Public Health*, vol. 17, pp. 47-53
- Shim, D.C., Park, H. H. and Chung, K.H. (2021). Workgroup innovative behaviors in the public sector workplace: the influence of servant leadership and workgroup climates, *Public Management Review*, vol. 10, pp. 1-24.
- Rafique, M. A., Hou, Y., Chudhery, M. A. Z., Gull, N. and Ahmed, S. J. (2021). The dimensional linkage between public service motivation and innovative behavior in public sector institutions: the mediating role of psychological empowerment, *European Journal of Innovation Management*, vol. 98, pp. 1460-1060.

- Perry, J. L. (1996). Measuring public service motivation: an assessment of construct reliability and validity, *Journal of Public Administration Research and Theory*, vol. 6, pp. 5-22.
- Qi, F. H. and Wang, W. J. (2018). Employee involvement, public service motivation, and perceived organizational performance: testing a new model, *International Review of Administrative Sciences*, vol. 84, pp. 746-764.
- Scott, S.G. and Bruce, R.A. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace, *Academy of Management Journal*, vol. 37, pp. 580-607.

# INTIMACY ENERGY: HOW DOES DIFFERENTIAL LEADERSHIP IMPACT EMPLOYEE PERFORMANCE

MUHMMAD ARSHAD<sup>1\*</sup>, LIU NING<sup>2</sup>, ZHANG HONGLIE<sup>3</sup>,  
ANEELA QADIR<sup>4</sup>, AND JIANG ZHOU<sup>5</sup>

<sup>1,2,3,4,5</sup> *Yunnan University of Finance and Economics, Kunming, Yunnan, China*  
*Email: arshadtanoli8712@gmail.com*

## ABSTRACT

The study examines the relationship between differential leadership and employee performance further explores the mediation effect of perceived organizational support and the moderation effect of individual organization fit. Methodology: The bootstrapping analysis in the PROCESS 3.1 developed by Hayes. The data include 358 questionnaires from different enterprises in China. Findings: The result shows that differential leadership positively affects employee performance through the perception of organizational support. Individual organizational fit weakens the positive effect of differential leadership on employee performance and reduces the mediating role of perception of organizational support. Contributions: The study discusses the theoretical and practical contributions, limitations, and future research directions.

**Keywords:** differential leadership; employee performance; individual-organizational fit; intimacy energy; perceived organizational support

## INTRODUCTION

As the outstanding performance of Chinese enterprises in the global market has attracted extensive attention from the international community, the unique leadership style of Chinese enterprises has also become the focus of attention. Unlike other leadership models with Chinese cultural characteristics, such as authoritarian and moral leadership, differential leadership reflects interpersonal intimacy's real impact on employee performance. There is little research on differential leadership, let alone the profound understanding of how it affects employee performance. Differential leadership is derived from the characteristics of interpersonal differential relationships. Different relationships have different feelings of intimacy. People make decisions about communicating and getting along with others based on intimacy. In the Chinese social structure, the interaction between people will be treated differently according to relatives, distances, and closeness. Fei Xiaotong (1948) believes that this kind of morality maintains personal relationships, and respect, loyalty, and trust are all moral elements in this kind of personal relationship. The idea of the different order pattern illustrates that Chinese organizations emphasize the different order of relations rather than treating them equally. The different order pattern allows the Chinese to interact with people using different rules according to the degree of intimacy of the relationship when they are in interpersonal communication.

Employee performance is specifically related to the interpersonal relationships between colleagues in Chinese enterprises (Huang Fugang et al., 2013. Additionally, The interpersonal relationship is impacted by the degree of closeness and status, reflecting its "differentiation" and "prioritization" characters (Fei Xiaotong, 2011). The way a leader treats his employees is influenced by his leadership style and the intimacy between the leader and his employees (Lin Yinghui & Cheng Ken, 2017. Leaders will unconsciously treat employees around them differently because of the differential intimacy of relationships. Then they try their best to find a balance between "differentiation" and "prioritization" (Keyang han & Yimo sheng, 2018). This paper discusses how the differential leadership rooted in Chinese culture impacts employee performance and how to balance the differential relationship between colleagues. It's worth noting that differential leadership does not belong to a certain category of leadership but a differentiated organizational leadership style formed by the intimate degree of interpersonal relationships (Lee S M & Farh C, 2019. Exploring how differential leadership, contrary to the principle of fairness, impacts employees' performance will help deepen the understanding and practical exploration of the leadership theory within the Chinese cultural background.

The present study on leadership styles in Chinese culture includes moral leadership, ethical leadership, benevolent leadership, and authoritarian leadership (Wang Lei & Du Beibei, 2017). Most studies focus on how different leadership types affect employees' organizational performance from theoretical and empirical perspectives. Zhang Qinghong (2018) discussed the direct influence and interactive impact of three types of paternalistic leadership (benevolent leadership, virtuous leadership, and authoritarian leadership) on employees' emotional experience on "differentiation" and "prioritization" atmosphere and examined its mediation effect on organizational citizenship behaviour. Wang Hongyu (2018) points out that the main characteristics of differential leadership are "differentiation" and "prioritization, "which impact employee performance. Moral leadership, ethical leadership, and paternalistic leadership originate from the internal cultural quality of leaders (Li Xiaoyu, et al., 2019, while differential leadership pays close attention to the ever-changing external interpersonal network. The research on differential leadership has just begun, and the theoretical and empirical studies are yet to be enriched. Based on the statement about "differentiation" and "prioritization" by Fei Xiaotong (1948), this paper sorts out the theoretical origin of differential leadership thought and carried out the corresponding empirical analysis, which promotes the understanding of differential leadership thought to a certain extent.

Meanwhile, the present research analyses employee creativity, innovation behavior, turnover intention, and employee suggestion as outcome variables based on sorting out the differential leadership (Yu Junjian, 2020. Shu Huimin and Hu Ning (2020) investigated the mediating role of identity perception between differential leadership and organizational citizenship behavior. Zhao Jinjin (2019) studied the influencing mechanism of constructive ultra vires between differential leaders and knowledge workers. Although these studies only represent a certain aspect of employees' behaviors, they have made beneficial explorations on the influencing mechanism of individual organizational behaviors under differential leadership and promoted the construction of differential leadership thought. Therefore, in terms of identification of influencing path and the selection of outcome variables, the research needs to measure further the organizational management effect exerted by differential leadership and try to make the outcome variables aggregate to reflect the multi-dimensional changes of employee behavior (Borman W C, Motoidlo S J, 1997, While the management value of leadership style lies

in how to integrate resources and come into play, and its measurement is the individual performance (Graen G B, Uhlbien M, 1995). As a result, this paper takes employee performance as the outcome variable and introduces the mediating variable of perceived organizational support and the moderating variable of individual-organizational fit. The reason is that the emotional experience of perceived organizational support is the comprehensive evaluation towards the organizational atmosphere, and leadership style is the major influence factor (Yang Chen et al., 2018). Individual-organizational fit emphasizes how individuals adjust to the organization, and employees themselves are the major influence factors.

This study focuses on the impact of interpersonal intimacy on employees' job performance. We analyze the influence of differential leadership on employee performance under the mediating role of perceived organizational support and the moderating role of the individual organization fit. It is helpful to recognize the leadership with Chinese cultural style and further enrich the differential leadership thought. The conclusion has certain practical guiding significance on improving employee performance in a differential leadership organization.

## LITERATURE REVIEW

### 2. Literature review and Hypothesis

#### 2.1 Differential leadership and employee performance

"Differentiation" and "Prioritization" were the summary of Chinese rural social relations from Fei Xiaotong (1948). Their original meanings referred to people's inclination of partiality led to their differential judgment and treatment towards their surroundings (Hou Nan & Peng Jian, 2019). Differential relations could be explained as the discipline or rule in human social relationships. Especially in Chinese traditional culture, different degrees of relationships, close or distant, noble or lowly, objectively exist and people jointly accept and naturally follow them (Lai Xianwei et al., 2018). As a result, differential relationships form under different intensities and the nature of relationships. In organizational management, the "Differentiation" and "Prioritization" style are the ordinary state that leaders are unwilling to explain and debate but cannot get rid of it (Huang Yong et al., 2018). "Differentiation" means that people have different psychological perceptions of the world around them, and "prioritization" reflects their comprehensive and different psychological perceptions.

Differential leaders often implement different management behaviors based on factors such as the closeness of their relationship, employee loyalty, and the level of job competence so that they will treat employees differently (Zheng Boxun, 2006). The Need-to-belong theory proposed by Baumeister et al. (2012) put forward that people have the innate instinct to be safe, to belong to a certain group, and hope that they will be needed, recognized, and valued by the organization. Therefore, when employees are in the differential relationship network, they constantly strive for superiority and priority and avoid being disadvantaged. Employees are constantly adjusting their behavior based on their value perception of their organization, rationally allocating their time and energy to integrate into the collective and get approval from the leader. A differential and collaborative atmosphere forms (Pratoom K, 2018). Lee et al. (2019) point out that the employees can find their best role positioning if the leader seeks the best-balanced plan for management in the differential intimacy organization. Compared with the ordinary emotional atmosphere, an organization with obviously different degrees of emotional

atmosphere can activate employees' vitality more effectively. Early Taiwan scholar Zheng Boxun (2006), who studied differential leadership, pointed out that people would plan their work based on recognition of the objective existence of differential emotional relationships in organizational management, such as time management, energy allocation, and other invisible work devotion, specifically in leadership work arrangement. The employees in the differential intimacy organization have the subjective desire to pursue the existence of the individual organization. The differential leadership can prompt the employees to integrate into the organization actively, thereby inspiring the employees' enthusiasm and then impacting the employees' work performance.

**H1:** *Differential leadership positively influenced employee performance.*

## **2.2 perceived organizational support Differential leadership and employee performance**

Eisenberger et al. (1990) put forward the theory of perceived organizational support from a personal perspective, which describes the relationship between employees and the organization. The core content is the comprehensive evaluation from employees on the degree of the relationship between the organization and the individual, who refers to the extent of the attention and concern from organizational leaders, perceived organizational support advocates that leadership's care is a prerequisite for employees to exert their values better. At the same time, Kurtessis et al. (2015) believe that the perceived organizational support can measure how the organization can provide employees with job security and problem-solving, promoting employees to form an emotional attachment to their organization. In an organization with a strong emotional and warm environment, employees will actively overcome work obstacles to increase work input, achieve higher work performance, and win stronger organizational emotional care. Leaders will always adjust their differential styles according to the overall performance of employees.

Meanwhile, employees will constantly adjust their work behavior and strive for the opportunity to enter the leadership prioritization (Yu Guila et al., 2017). In a differential intimacy organization where the atmosphere of emotional relationships is constantly changing, the degree of change in the interpersonal relationship will be impacted intensively. Therefore, differential leadership enhances the organization's relationship network dynamics, stimulates employees to respond positively to organizational dynamics, and continuously strengthens the individual's supportive perception of the organizational environment in employees' pursuit of organizational integration.

Employees tend to position the organization as a personified individual. The leader is its spokesperson, so the perception of personal, organizational support could be equal to the degree of the leader's care for them (Rhoades L & Eisenberger R, 2002). Although the leader seems like the symbol of an organizational image, there is a differential feature in handling interpersonal relationships as a relatively independent individual in society. For instance, leaders are more likely to be favored when employees are in the "differential" position leaders prioritize. Otherwise, they will be ignored by their leaders. Due to the two manifestations of differential leadership styles, the uncertainty of the employee's position in the organization could be increased. According to the uncertainty-identity theory proposed by the British psychologist Hogg (2000), employees will pay attention to the uncertainties that are dependent on the organizational situation and are caused by direct situations or more continuous actual situations. Especially in the working conditions, the uncertainty about "who am I" and "what should I do" will drive employees to take corresponding actions to reduce their sense of uncertainty. At the same time, they may

reduce it in the processing of positioning and classifying their working roles with other members and enhance perceived organizational support through integration into the organization actively, thereby enhancing their organizational identities (Eisenberger R et al., 2020) . Therefore, in a differential intimacy organization with uncertain features of emotional relationships, the leadership's differential treatment prompts employees to frequently examine themselves, judge their work correctness, and make corresponding adjustments to their work status. Employees who feel supportive of the organization will do a high level of emotional and normative commitments for their work. The perceived organizational support can create expectations of increasing return on investment for employees in an organization's differential environment; the high effort dedicated to the organization will pay off greater. Based on the analysis above, the following hypotheses are proposed.

**H2:** *perceived organizational support mediate the relationship of Differential leadership and employee performance*

### **2.3 Individual-organizational fit, differential leadership, and employee performance**

The personal-organizational fit reflects the individual's comprehensive evaluation and feedback on the organization. The employee's attitude towards leadership and their working status depends not only on themselves and the organizational environment but also on their relationship (Caplan R D,1987) . Murray et al. (1951) also pointed out that employees and the organizational environment impact employee performance. In the differential intimacy organization with constantly changing relationship networks, the introduction of individual-organizational fit theory can further explain the behavioral level of employees and organizations from two angles of consistency and complementarity. Consistency reflects similar basic characteristics of employees and organizations, such as development vision, value orientation, etc. Complementarity means that at least one of the employees and the organization can meet the needs of the other, such as individual skills knowledge capabilities (Kristof A L,1996) . Kristof-Brown et al. (2005) conducted a meta-analysis of 98 studies from Europe, Asia, and North America. They pointed out that individual-organizational fit is different between Western individualistic and Eastern collectivist cultures. It is even more important in the context of Eastern collectivist culture. Then Chuang et al. (2015) pointed out in the study of individual-organizational fit in the context of Chinese culture that Chinese organizations emphasize harmony in organizational relationships and regard working relationships as the basis for accomplishing their tasks. Personal-organizational fit is formed by recognizing the individual based on colleagues and leaders. In a low-fitting state, individuals will enhance personal work performance and collective sense of honor and disgrace by reinforcing their work competence and improving interrelationships.

On the contrary, individuals will maintain a step-by-step work status. Combining with the logical mechanism of H1, employees will continue to conduct self-work adjustments to improve work performance to deal with the dynamics of the organizational relationship network caused by the differential leadership. The higher the degree of personal-organization fit is, the weaker employee's perception of the surroundings because the employee unconsciously follows the organization as the environment changes. Likewise, the lower the degree of personal-organization fit is, the harder employees will adjust themselves and increase work input. The personal-organization fit will weaken the influence of differential leadership on the employees' job performance. Therefore, the following hypothesis is proposed.

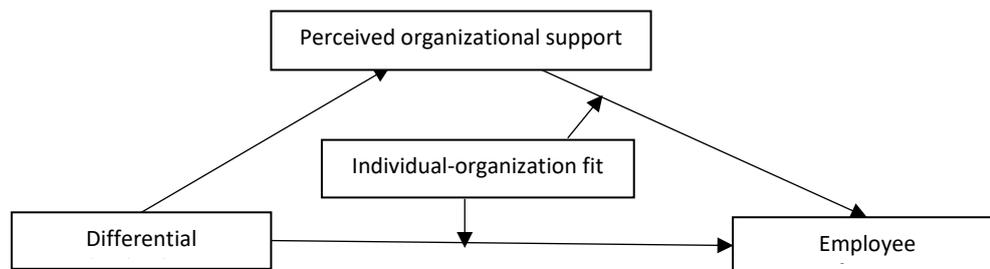
**H3:** *The individual-organization fit negatively regulates the impact of differential leadership on individual job performance.*

#### **2.4 Perceive organizational support, employee performance, and individual-organization fit**

The mediation model of this paper advocates that differential leadership influences employee performance through perceived organizational support. Perceived organizational support is the social and emotional interaction between employees and the organization centered on leadership. When employees are satisfied with some social and emotional resources around them, they might continue to recognize the organizational environment and actively adapt to the organizational environment. That can stimulate employees to further understand leadership style organizational culture and respond to team spirit and shared values. In this processing, the two concepts: perceived organizational support & individual-organization fit, could be together, reflecting employees' internal perceptions of organizational characteristics (Nolan E M & Morley M J, 2013) . Sy (2010) used implicit follower theory to fully elaborate on how leaders and employees recognize and classify each other. Its core content is based on their internal cognitive models: Leaders and employees will form initial assumptions and expectations of each other's characteristics and behaviors, the gap between an employee's actual behavior and the leader's initial assumptions & expectations directly impacts the leadership's attitude, act & appraise and also impacts employees' behavior, performance & emotion. Regardless of whether it is for leaders or employees, the degree of difference is the basis for their possible action. The larger the degree of difference is, the smaller the fitness between them is; that is, the relationship between the degree of difference and the degree of fit is inversely proportional: their attitudes towards each other change more significantly if there are lower degrees of fitness (Offermann L R, 2018) . Therefore, combined with the intermediary transmission mechanism of H3, in a highly dynamic organization with a strong network of an emotional relationship, the effect of individual-organization fit could weaken the impact of perceived organizational support on employee performance. Based on this, the following hypotheses are proposed.

**H4:** *The individual-organization fit negatively regulates the impact of perceived organizational support on employee performance.*

In this study, differential leadership's conditional process on employee performance involves the intermediary variable: perceived organizational support & moderating variable: individual-organization fit. The specific theoretical model structure is shown in Figure 1.



*Figure 1 Theoretical model*

## EMPIRICAL RESEARCH

### 3. Empirical Research

#### 3.1 Data

Questionnaires are used to obtain data for this work. Three group corporations and their subsidiaries are included in the sample. Their main activities, including state-owned, private, and mixed industries, are equipment manufacturing, information technology, and daily chemical production. After obtaining the company's permission, we plan to randomly select 450 employees to participate in the survey. To ensure that the data and information collectively reflect the research theme of differential leadership, the respondent must be Chinese. With the cooperation of the personnel department, electronic survey questionnaires were distributed point-to-point through the company's internal platform. The research team members guided and answered questions on the spot. After the questionnaires were answered, the research team immediately sent consumers electronic coupons for daily chemicals to express our gratitude. The leader responds to queries about job performance variables and control variables for employees. Differential leadership perceived organizational support and personal, organizational fit were all items that employees responded to through questionnaire coding. We were able to connect leaders with employees.

That lasted nearly 4 months. After eliminating invalid questionnaires such as consistent answers, incomplete answers to questions, or missing core information, 358 valid questionnaires were obtained. The characteristics of questionnaires are as follows: 223 males and 135 females, aged between 26 and 44, 142 investigators were selected from state-owned equipment manufacturing companies and their subsidiaries, 95 from private information technology companies, and 121 from joint ventures in daily chemical products; their jobs include professional technology, middle-level management, marketing, and administrative services, and all of them have bachelor's degree or above. All questionnaires are designed with a Likert 5-point scale, with 1 (absolutely matched) to 5 (absolutely not matched) to indicate the respondent's evaluation of the listed items.

#### 3.2 Variables measurement

Combining the existing research mature scales at home and abroad, for foreign scales, the non-professional international students are first translated and then modified by expert teachers to avoid semantic deviation.

**3.2.1 Differential leadership.** The early measurement of differential leadership is through the survey of leaders and team managers. This self-judgment from themselves will produce homologous cognitive resonance, so it is necessary to understand their leadership styles from their point of view. Liu Jun et al. (2009) started from the perspective of the differential intimacy organization atmosphere to measure differential conditions from three aspects: partial treatment, mutual attachment, and differential status, including 11 items. Jiang Dingyu & Zhang Wanzhen (2010) used 14 items to measure differential leadership from the three sub-dimensions of rewards, communication methods, and tolerance for making mistakes. This paper further integrates the contents of two sets of scales, including item 2 (leaders always spend more time guiding individual employees) and item 3 (Individual employees have frequent contacts and interactions with leaders). For the survey subjects in this paper, these two items have similar meanings, and they mainly reflect the unreasonable allocation of time and resources by the leaders. Therefore, this paper combines them into one summarized as "there are more interactions and communication opportunities between leaders and employees," which can be included in item 1 (how often leaders ask about their current situation) and item (for emergencies, the

leaders can reach out to help in time). Through consultation and discussion with multiple experts, these two items refer to the leaders caring behaviors. Still, the discrimination validity is not obvious for the dimension of rewards, so they are merged into "Leaders often keep an eye on employees, and lend a hand in times of crisis." In the end, we formulate 12 items, including items such as "proactively providing possible promotion opportunities" and "assigning important and easy-to-achieve performance tasks," and the consistency coefficient is 0.916 upon examination.

**3.2.2 Perceived organizational support.** Eisenberger et al. (1990) developed the Perceived organizational support Scale, including 8 items after many optimizations and modifications. Its content includes items of "the organization is very concerned about employee welfare and gives a helping hand in time" & "there are frequent communication and attention between them," and the consistency coefficient is 0.907 upon examination.

**3.2.3 Individual-organizational fit.** Based on existing research, we adopt the scale developed by Saks & Ashforth (1997), including four items: the degree of consistency between personal values, organizational value systems, fairness concepts, honesty concepts, and attitudes toward others, and the consistency coefficient is 0.781 upon examination.

**3.2.4 Employee performance.** Scotter (2000) proposed a three-dimensional measurement table of employee performance, dividing employee performance into three parts: work contribution, task performance, and interpersonal promotion. In the field of job performance research, researchers mostly adjust and use this structural scale, such as the four-dimensional scale designed by Wen Zhiyi (2005), including task performance, adaptation performance, interpersonal performance, and effort performance. Then Scotter further optimized the three-dimensional scale in terms of problem expression. This study uses the scale, which includes "job performance can always meet the supervisor's expectations, persistent in overcoming difficulties to complete tasks, good at internal and external communication." Say something that makes people feel good about themselves or the team" and other items. The consistency coefficient is 0.730 upon examination, which has good structural testability and meets the research requirements of this paper.

**3.2.5 Control variables.** The study of the influence of differential leadership on the organization depends on the specific work environment and organizational background. This influence needs a certain amount of time and practice to be fermented to gradually become apparent (Van B W. et al., 2003). This paper selects job positions and team size to reflect the working environment, selects the nature of the company and employees to reflect the organizational background and working hours, and controls the above four variables in the model analysis.

## **4. Empirical analysis**

### **4.1 Confirmatory factor analysis**

We used Mplus Version 8.3 to conduct a series of confirmatory factor analyses (CFA) on the four variables of "differential leadership, perceived organizational support, employee performance, and individual-organizational fit" to check the uniqueness of the model structure. Compared with the sample size, the number of indicators in the CFA is very large. Since differential leadership constructs contain different sub-dimensions, we have summarized the items according to these sub-dimensions. Each construct is represented by different indicators (one for each dimension) in the CFA. The results are shown in Table 1. The four-factor model is better, and the relevant test data ( $\chi^2/df=2.073$ )  $<3$ , RMSEA=0.038, SRMR=0.047, CFI=0.934, TLI=0.938) is significantly better than other factor combination models, indicating that the four variables concerned in this paper have good convergent validity and discriminative validity.

**Table 1 confirmatory factor analysis**

Models	$\chi^2$	df	$\chi^2/df$	RMSEA	SRMR	CFI	TLI
Four factor model (DL,POS,POF,EP)	659.074	318	2.073	0.038	0.047	0.934	0.938
Three factor model1 (DL+POF,POS,EP)	1030.785	321	3.211	0.073	0.082	0.801	0.783
Three factor model2 (DL,POS+POF,EP)	1108.082	321	3.452	0.075	0.083	0.787	0.767
Three factor model3 (DL+POS,POF,EP)	1186.069	321	3.695	0.082	0.087	0.748	0.724
Two factor model (DL+POS+POF,EP)	1321.576	323	4.092	0.089	0.090	0.701	0.675
One factor model (DL+POS+POF+EP)	1698.581	324	5.243	0.105	0.096	0.654	0.625

Note: DL=Differential Leadership, POS= Perceived Organizational Support, POF= Individual-Organizational Fit, EP=Employee Performance. The symbol "+" means combining variables.

#### 4.2 Descriptive statistics and correlation analysis

As shown in Table 2, the correlation coefficient between differential leadership and employee performance ( $r=0.586$ ,  $p<0.001$ ), perceived organizational support ( $r=0.509$ ,  $p<0.001$ ) is significantly correlated. Perceived organizational support is correlated with employee performance ( $r=0.609$ ,  $p<0.001$ ) and individual-organizational fit ( $r=0.323$ ,  $p<0.01$ ) at different levels of significance. The above shows that the hypothesis in the model can be further demonstrated.

**Table 2 Means, standard deviations, and correlation coefficients of variables**

	M	SD	1	2	3	4	5	6	7	8
1. Post	3.21	0.955	—							
2. Nature of enterprise	1.87	0.776	0.011	—						
3. Length of service	1.96	0.415	0.007	0.045*	—					
4. Team size	3.01	1.004	-0.016	-0.039	-0.047	—				
5. Differential leadership	2.914	0.056	0.019	0.072*	0.067	0.091*	(0.650)			
6. Perceived organizational support	2.944	0.041	0.046*	0.107*	0.043	0.043*	0.309**	(0.664)		
7. Individual-organizational fit	3.246	0.056	-0.016	0.048	0.091*	0.011	0.234*	0.123*	(0.677)	
8. Employee performance	2.769	0.051	-0.006	0.132*	0.086*	0.024	0.286**	0.209**	0.33**	(0.802)

Note: \*\*\*, \*\*, \* indicates  $p < 0.001$ ,  $p < 0.01$ ,  $p < 0.05$ , respectively, and the number in parentheses is the arithmetic square root of AVE.

### 4.3 Common method bias

Since employees provide data through self-reporting methods in collecting information, there may be common method biases. According to Podsakoff et al. (2003) suggestions, it can be controlled from two aspects: survey operation procedures and statistical inspection methods, which can test the common method deviation problem. In this study, the following methods are adopted in the process of the survey: One is to optimize the structure of the questionnaire and adjust the order of variable entries to minimize the problems of homologous deviation such as balanced responses to the questionnaire and answers that have already guessed the purpose of the survey (Wen Zhonglin & Ye Baojuan, 2014). The second is to think over the expression of variable questions, try to use neutral expressions as much as possible, and design reverse questions to avoid consistent answers as much as possible. In addition, after passing the Harman single factor test ( $L_{max} = 24.962\% < 40\%$ ), the partial correlation analysis method is further used to test the data from the questionnaire involving common method bias. We compare the partial correlation of the obtained variables with the correlation coefficient in Mplus after controlling the unrelated first common factor (as shown in Table 2). There is no common method bias problem (Fang Jie, 2018). Through the above tests and combining the results of different factor models in Table 1, the common method bias of the data is not significant. It does not have a great impact on the Research Hypothesis.

#### 4.4 Hypothesis testing

We conducted bootstrapping analysis with 1,000 bootstrap samples using the PROCESS 3.1 developed by Preacher, Rucker, and Hayes (2007) to test our hypotheses. We use Model 4 to test H1 and H2, Model 5 to test H3, and Model 14 to test H4 (Hayes, 2013). The reason why we choose Model 14 is that differential leadership has always been conceptualized as the background antecedent of individual-organizational fit, and model 14 ignores the interaction between the moderator and the predictor. Hypothesis 1 advocates that differential leadership impacts employee performance through perceived organizational support. The test results are shown in Table 3. After controlling for variables such as job position, length of service, team size, and the nature of the enterprise, differential leadership positively impacts perceived organizational support (0.460; 95% CI [0.357, 0.562]) and employee performance (0.438; 95% CI [0.316, 0.561]), which indicates that the perceived organizational support plays a part of the mediating role. Therefore, H1 and H2 are not negated.

**Table 3 Bootstrapping results for Mediation effect (Model 4)**

	Perceived organizational support (POS)					Employee performance (EP)				
	Coeff	Se	t	LLCI	ULCI	Coeff	se	t	LLCI	ULCI
<i>Main effects</i>										
DL	0.460	0.052	8.798***	0.357	0.562	0.438	0.062	7.045***	0.316	0.561
POS						0.432	0.058	7.498***	0.319	0.545
<i>Controls</i>										
gender	0.067	0.077	0.871	-0.084	0.217	0.069	0.083	0.830	-0.094	0.231
Age	-0.031	0.039	-0.815*	0.107	0.244	0.042	0.042	1.012**	0.040	0.124
Post	0.013	0.037	0.357	0.060	0.087	-0.023	0.040	-0.577	-0.102	0.056
Bcap	0.048	0.046	1.029**	0.043	0.138	0.079	0.050	1.586*	0.019	0.177
Senior	-0.023	0.086	-0.267	-0.191	0.145	-0.118	0.092	-1.285	-0.300	0.063
scale	-0.012	0.038	-0.306	-0.085	0.062	-0.017	0.040	-0.409	-0.096	0.063

Notes: N = 358. DL= Differential leadership. LLCI = lower Limit Confidence Interval. ULCI = Upper Limit Confidence Interval. \*\*\*, \*\*, \* indicate p<0.001, p<0.01, p<0.05.

Then, we tested our full moderated mediation models. Hypothesis 3 argues that the impact of differential leadership (gap-based) on employee performance is regulated by individual-organizational fit. Bootstrapping results are presented in Table 4. It can be seen that individual-organizational fit has a negative regulatory impact on the main effect (-0.112; 95% CI[-0.221, -0.003]). The individual-organizational fit would weaken the impact of differential leadership on employee performance. H3 has been verified. Hypothesis 4 advocates that the individual-organizational fit negatively regulates the impact of perceived organizational support on employee performance. The results in Table

4 verify that the negative moderating impact of individual-organization fit in the mediation model is significant (-0.146; 95% CI[-0.252, -0.039]), and the study H4 is also supported.

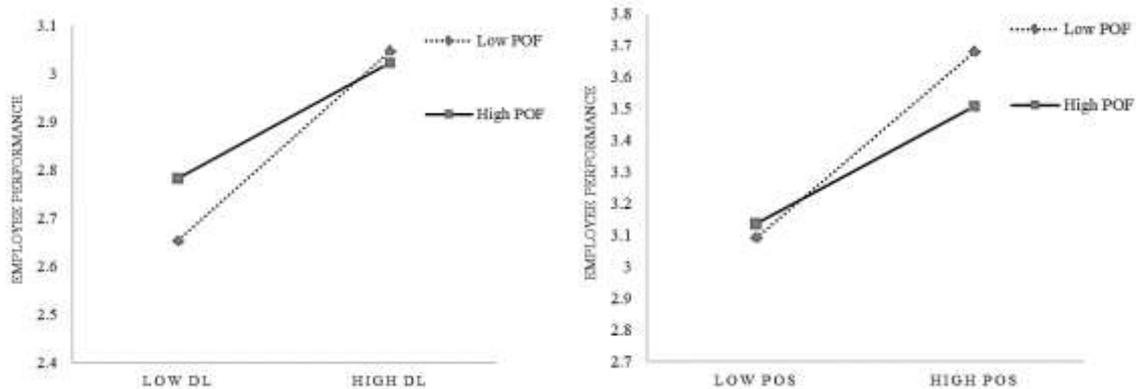
**Table 4 Bootstrapping results for Moderated mediating effect (Model 5, Model 14)**

	Employee performance (EP)					Employee performance (EP)				
	Coeff	Se	t	LLCI	ULCI	Coeff	Se	t	LLCI	ULCI
<i>Main effects</i>										
DL	0.287	0.060	4.794***	0.169	0.405	0.284	0.060	4.772***	0.167	0.401
POF	0.380	0.050	7.622***	0.282	0.479	0.367	0.053	6.911***	0.263	0.472
POS	0.376	0.053	7.063***	0.271	0.480	0.398	0.049	8.117***	0.301	0.494
<i>Interaction effects</i>										
DL× POF	-0.112	0.056	-2.014**	-0.221	-0.003					
POS × POF						-0.146	0.054	-2.691**	-0.252	-0.039
<i>Controls</i>										
Gen d	-0.004	0.076	-0.045	-0.153	0.146	-0.001	0.076	-0.018	-0.151	0.148
Age	0.022	0.038	0.575*	0.053	0.097	0.025	0.038	0.667**	0.049	0.100
Post	-0.009	0.037	-0.256	0.082	0.063	0.011	0.037	0.309	0.083	0.061
Bcap	0.076	0.046	1.657**	0.014	0.165	0.073	0.045	1.606**	0.016	0.162
Seni	-0.094	0.085	-1.115	0.261	0.072	0.100	0.084	1.183	0.266	0.066
Scal e	-0.008	0.037	-0.205	0.081	0.066	0.007	0.037	0.177**	0.079	0.166

Notes: N = 358. LLCI = Lower Limit Confidence Interval. ULCI = Upper Limit Confidence Interval. \*\*\*, \*\*, \* indicate p<0.001, p<0.01, p<0.05.

Furthermore, we examined the indirect effects of the two interaction conditions described earlier. When the individual-organization fit is low, the differential leadership has a significant impact on the employee performance, with an index of (0.373, 95% CI [0.237, 0.509]); when the individual-organization fit is high, the impact effect is also highly significant, but the degree of impact has decreased (0.201; 95% CI [0.048, 0.354]). It can be seen that the individual-organizational fit weakens the impact of differential leadership on employee performance (Figure 2), which supports Hypothesis 2. At the same time, when the individual-organization fit is low, the differential leadership significantly positively impacts performance through the perceived organizational support; the parameter is (0.480, 95% CI [0.353, 0.606]). When the individual-organization fit is high, the degree of this indirect impact decreases (0.255; 95% CI [0.116, 0.394]), supporting H3 (Figure 2). What needs to be emphasized is that the data is standardized in the empirical

process of this paper. Our analytical model explains 23% of the variance of employee performance, which is a high level of explanation.



## DISCUSSION

There are still some controversies about how differential leadership impacts organizations and employees. Previous studies have divided the management objects of differential leadership into "insiders" and "outsiders" (Wang Lei & Du Beibei, 2017; Li Xiaoyu et al., 2019; Zheng Boxun, 2006). That is inconsistent with the essence of the differential relationship because it's not an antagonistic relationship (either a friend or an enemy) but refers to the dynamic process of interpersonal relationships. The differential pattern, first proposed by the Chinese sociologist Fei Xiaotong, refers to a process like a stone thrown into the water, causing the water circles to ripple and expand outward and gradually disappear. This process is dynamic and continuous. If the research content is only limited to discussing the issues of "outsiders" and "insiders" (Wang Hongyu et al., 2018; Yu Junjian et al., 2020; Huang Yong et al., 2018), the result is that managers will focus on dealing with interpersonal conflicts instead of the organizational operating quality. Then researchers focus on studying how to resolve the negative effects of this contradiction on organizational management. However, the differential pattern describes the "differentiation" and "prioritization" characteristics of the interpersonal relationship in the organization, and the differential relationship itself has the nature of dynamic intimacy. The personal value of employees is exerted in this differential pattern accordingly. Even if employees are inferior, they will gradually move closer to the center of the differential relationship. Therefore, employees should not be arbitrarily divided into "insiders" and "outsiders," but all employees should be regarded as "family members" in the process of studying differential leadership.

The impact of differential leadership on employees is concentrated on the characteristics of dynamic and strong & weak changes in the relationship between leadership and employees. This paper focuses on how interpersonal relationship impacts employee performance. We combine the need-to-belong theory, uncertainty-identity theory, and implicit follower theory to identify the internal influence mechanism of the differential leadership on employee performance. Uncertainty-identity theory points out those employees have the innate enthusiasm to reduce uncertainty towards the environment around them and actively integrate into the organization; employees generally do not spontaneously reduce their perceived organizational support. Employees'

perceived organizational support could be strengthened in organizations with ever-changing intimacy relationships. The implicit follower theory points out that there will be preconceived assumptions between leaders and employees. People determine how to treat others by judging the match between the preconceived assumptions and the actual image (Sy T., 2010) . The leader is seen as a personified organization. So, the match between employees and leaders can reflect the individual-organizational fit.

The individual-organization fit reflects the consistency of both individual and organizational goals (Chuang A., 2015) . In an individualistic organization, there is no doubt that individual-organizational fit can positively impact employee performance, while in a collectivist organization, the intimacy of interpersonal relationships is the core variable that impacts employee behavior (Zheng Boxun, 1995) . The empirical results of this study show that personal and organizational fit negatively moderates the differential intimacy organization that emphasizes interpersonal intimacy. To a certain extent, this represents the characteristics of organizations and employees in the context of Chinese culture.

### **Theoretical contributions**

With a developed market economy in Europe and the United States, the leader-member exchange theory based on the exchange of interests is the theoretical basis for studying organizational leadership behavior. In East Asian emerging market economies, interpersonal intimacy is the main factor influencing leadership behavior. Of course, this is not to say that business leaders in East Asia do not pay attention to personal interests. Still, a cultural factor behind the motivation of leaders' interests cannot be ignored: relationship intimacy. The differential leadership type analyzed in this paper is a useful supplement to the theoretical system of organizational leadership.

### **Practical contributions**

On the one hand, the conclusions of this study are helpful to deepen the understanding of the behavioral laws of organizational leadership in the context of oriental culture. On the other hand, it has a certain practical guiding significance for how differential leadership can improve the employee's work performance.

### **Limitation and future research directions**

The sample companies in this paper are only from mainland China, and future research can expand the data coverage. The two variables of organizational support perception and personal-organizational fit are derived from psychological theory, and variables in management can be selected as mediator and moderator variables in future research.

## **CONCLUSION**

This paper explores the differential leadership's impact on employee performance and empirically tests relevant hypotheses. In the framework of Chinese culture, organizations place a premium on human ties. Intimacy levels in interpersonal interactions, on the other hand, might fluctuate at any time. This shift isn't a black-and-white distinction between "insiders" and "outsiders," but rather a progressive shift in intimacy. This process would positively impact employee performance and perceived organizational support based on the above theoretical analysis and empirical results.

Meanwhile, perceived organizational support plays a part in the mediating role of employee performance. Individual-organizational fit plays a negative moderating effect in our research model. These research conclusions could deepen the understanding of organizational management and leadership style under the Chinese cultural background and further enrich the leadership theory.

## REFERENCES

- Baumeister R. 2012. Need-to-belong theory. London: *SAGE Publications Ltd.*
- Borman W C, Motowidlo S J. 1997. Task performance and contextual performance: *The meaning for personnel selection research. Human Performance.* 10(2), 99–109.
- Caplan R D. 1987. Person-environment fit theory and organizations: commensurate dimensions, time perspectives, and mechanisms. *Journal of Vocational Behavior,* 31(3), 248–267.
- Chuang A, Hsu R S, Wang A C, et al. 2015. Does west "Fit" with east? In search of a Chinese model of person–environment fit. *Academy of Management Journal,* 58(2): 480–510.
- Edwards J R, Lambert L S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods,* 12(1):1–22.
- Eisenberger R, Fasolo P, Davis-lamastro V. 1990. Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology.* 75(1): 51–59.
- Eisenberger R, Robert, Shanock. 2020. Perceived organizational support: Why caring about employees counts. *Annual Review of Organizational Psychology and Organizational Behavior.* 7(10) :11–19.
- Fang Jie, Wen Zhonglin, Wu Yan. 2018. Multi-layered adjustment effect based on structural equation model. *Advances in Psychological Science,* 26(5): 781-788.
- Fei Xiaotong. 2011. Rural China. Beijing: *Sanlian Bookstore.*
- Graen G B, Uhlbien M. 1995. Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly.* 6(2) : 219–247.
- Hayes, A. F. 2013. Introduction to Mediation, Moderation, and Conditional Process Analysis. *New York: Guilford Press.*
- Hogg M A, Adelman J. 2013. Uncertainty-identity theory: Extreme groups, radical behavior, and authoritarian leadership. *Journal of Social Issues.* 69(3): 436–454.
- Hogg M A. 2000. Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. *European Review of Social Psychology.* 11(1): 223–255.
- Hou Nan, Peng Jian. 2019. Combination of enlightenment and power, active execution and work performance: exploring the effectiveness of dual leadership in the Chinese context. *Psychological Bulletin.* 51(1): 117-127.
- Huang Fugang, Jiang Dingyu, Zhang Gangying. 2013. From Organizational Commitment to Organizational Loyalty: The Conceptual Connotation and Structure of Chinese Organizational Loyalty. *Advances in Psychological Science.* 21(4): 711-720.
- Huang Yong, Qian Danyang, Peng Jisheng. 2018. Differential leadership: cultural meaning and influence process. *Nanda Business Review.* 11(2): 135-158.
- Jiang Dingyu, Zhang Wanzhen. 2010. Chinese differential leadership and subordinate effectiveness. *Taipei: Indigenous Psychology Research,* 2(33): 14-26.

- Keyang Han, Yimo sheng. 2018. Differential leadership in china: The present situation and future directions. *Advances in Psychology*. 8(1) :101-109.
- Kristof A L, Zimmerman R D, Johnson E C. 2005. Consequences of individuals' fit at work: A Meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2): 281–342.
- Kristof A L. 1996. Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49(1):1–49.
- Kurtessis J N, Eisenberger R, Ford M T, et al. 2015. Perceived organizational support: A Meta-Analytic evaluation of organizational support theory. *Journal of Management*. 43(6): 1854–1884.
- Lai Xianwei, Xu Xiaoli, Cheng Yanyuan. 2018. Differential Treatment of Leaders: Comparative Retrospect and Future Prospects of Chinese and Western Studies. *Foreign Economics and Management*. 40(3): 92-106.
- Lee S M, Farh C I C. 2019. Dynamic leadership emergence: Differential impact of members' and peers' contributions in the idea generation and idea enactment phases of innovation project teams. *J Appl Psychol*. 104(3): 411-432.
- Li Xiaoyu, Dang Guanglong, Gao Ang, Gao Dongdong. 2018. The influence of differential leadership on turnover intention: the role of proactive personality and workplace rejection. *Psychological Research*. 11(5): 444-451.
- Li Xiaoyu, Zhao Shenran, Gao Ang, et al. 2017. The influence of differential leadership on employee's suggestive behavior: the multiple mediating effects of organizational commitment and insider identity recognition. *Psychology and Behavior Research*. 17(3): 408-414, 432.
- Lin Yinghui, Cheng Ken. 2017. Differential leadership and pro-organizational unethical behavior of employees: the perspective of insiders and outsiders. *Management Science*. 30(3): 35-50.
- Liu Jun, Zhang Kai, Zhong Lifeng. 2009. The formation and influence of the work team's differential atmosphere \_ Empirical analysis based on tracking data. *Management World*, 191(8): 92-101, 188.
- Murray H A. 1951. Uses of the thematic apperception test. *American Journal of Psychiatry*, 107(8): 577–581.
- Nolan E M, Morley M J. 2013. A test of the relationship between person–environment fit and cross-cultural adjustment among self-initiated expatriates. *The International Journal of Human Resource Management*, 25(11): 1631–1649.
- Offermann L R, Coats M R. 2018. Implicit theories of leadership: Stability and change over two decades. *The Leadership Quarterly*, 29(4):513–522.
- Podsakoff P M, Mackenzie S B, LEE J Y, et al. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5):879–903.
- Pratoom K. 2018. Differential relationship of person- and task-focused leadership to team effectiveness: A Meta-Analysis of moderators. *Human Resource Development Review*. 11(3):14–19.
- Preacher, K., D. Rucker and A. Hayes. 2007. 'Addressing moderated mediation hypotheses: theory, methods, and prescriptions', *Multivariate Behavioral Research*, 42 (1):185–227.

- Rhoades L, Eisenberger R. 2002. Perceived organizational support: A review of the literature. *Journal of Applied Psychology*. 87(4): 698–714.
- Saks A M, Ashfoeth B E. 1997. A longitudinal investigation of the relationships between job information sources, applicant perceptions of fit, and work outcomes. *Personnel Psychology*, 50(2):395–426.
- Song Shanghao, Han Kangning. 2020. How does differential leadership impact employees learning from failure: the mediating role of jealousy. *Leadership Science*.11 (16): 63-66.
- Sy T. 2010. What do you think of followers? Examining the content, structure, and consequences of implicit followership theories. *Organizational Behavior and Human Decision Processes*, 113(2): 73–84.
- Van Breukelen W, Van Der Leeden R, Wesselius W, et al. 2010. Differential treatment within sports teams, leader-member (coach-player) exchange quality, team atmosphere, and team performance. *Journal of Organizational Behavior*, 2(1):43–63.
- Van Scotter J R. 2000. Relationships of task performance and contextual performance with turnover, job satisfaction, and impactful commitment. *Human Resource Management Review*, 10(1):79–95.
- Wang Hongyu, Zou Chunlong, Cui Zhisong. 2018. The impact of differential leadership on employees' deviant innovation behavior: a moderated mediation model. *Science and Technology Progress and Policy*. 35(9): 131-137.
- Wang Lei, Du Beibei. 2017. Research on Differential Leadership and Creativity in China's Local Context: The Cross-level Effect of Team Advocacy Atmosphere. *Journal of Dongbei University of Finance and Economics*. 111(3): 25-33.
- Wen Zhiyi. 2005. The four-factor structure model of job performance. *Journal of Capital Normal University (Social Science Edition)*, (5): 105-111.
- Wen Zhonglin, Ye Baojuan. 2014. Analysis of Mediation Effect: Method and Model Development. *Advances in Psychological Science*, 22(5): 731-745.
- Yang Chen, Yang Fu, Jing Yi, Tang Mingfeng. 2018. How humble leaders improve employee performance: the mediating role of psychological needs satisfaction and the moderating role of work unit structure. *Nankai Management Review*. 21(2): 121-134+171.
- Yu Guilian, Yao Junmei, Zhang Lange. 2017. A study on the relationship between paternalistic leadership, employee trust, and job performance. *Journal of Northeast Normal University (Philosophy and Social Sciences Edition)*. (2): 125-129.
- Yu Junjian, Zhao Lijun, Wei Xiangqian. 2020. Meta-analysis of the relationship between leadership style and employee performance. *Psychological Research*. 13(2): 137-151.
- Zheng Boxun. 1995. Difference order pattern and Chinese organizational behavior. *Indigenous Psychology Research*,11 (3): 142-219.
- Zheng Boxun. 2006. Difference order pattern and Chinese organizational behavior. *Chinese Social Psychology Review*. (2): 1-52.

# ON THE INNOVATION OF FINANCIAL MANAGEMENT IN E-COMMERCE ENTERPRISES

**MENGJING HAO**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 735638229@qq.com*

## ABSTRACT

China's e-commerce began to sprout in the 1990s and has gone through more than 20 years. With the rapid development and popularization of the Internet, people's consumption patterns on the Internet rise. The advantages of e-commerce mode, such as convenient transaction, fast logistics and low cost, have attracted traditional enterprises to transform and join the e-commerce industry. According to national statistics, the total amount of e-commerce transactions in 2019 was 34.5% 8.1 billion yuan, an increase of 6.6% over the previous year 7%; There were 4112 trading platforms, an increase of 1.5% over the previous year 8%. In 2018, the total amount of e-commerce transactions was 31.5% 63 trillion yuan, an increase of 17.5% over 2017 1%. In this rapidly growing e-commerce industry, there will be more and more enterprises, and the competition will be more and more fierce. How to survive and develop in the e-commerce industry, e-commerce financial management is particularly important. This paper first studies the current situation of the financial management of E-commerce Enterprises, discusses the problems in the process of financial management, and then discusses the characteristics of the financial management of e-commerce enterprises, at last, the paper puts forward some effective solutions to the problems of financial management innovation in order to improve the level of financial management in e-commerce enterprises.

**Keywords:** Electronic Commerce; Financial management; innovate

## INTRODUCTION

### 1. Current situation of e-commerce financial management

#### 1.1 Imperfect financial system

Due to the short development history of the e-commerce industry, all business processes are realized through electronization, and most e-commerce companies with main business have not operated for a long time. The financial management is basically implemented according to the original system, and they do not keep pace with the times - compiling a new financial system or financial accounting outline. Compared with traditional industries, the biggest change in the business operation process of e-commerce

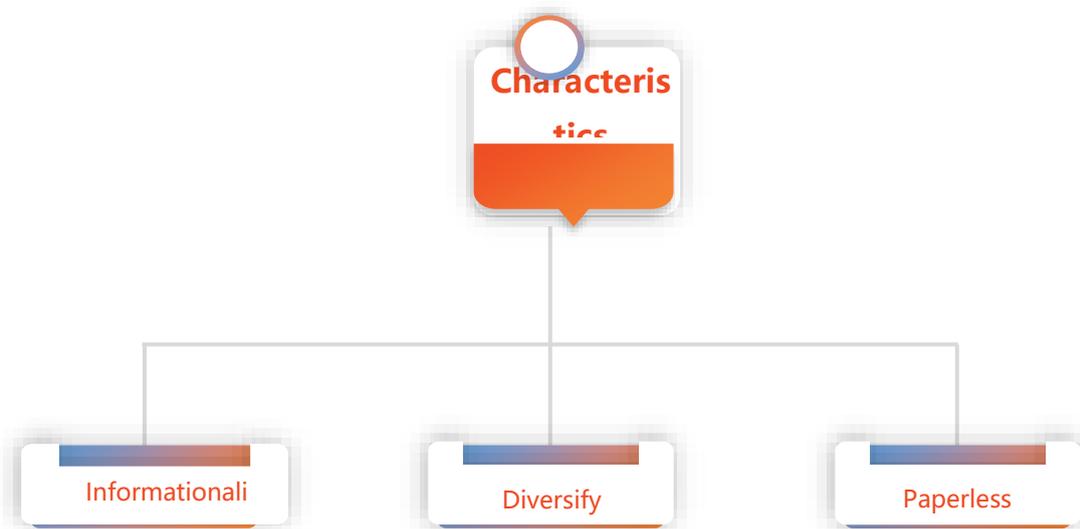
is informatization, diversification and paperless. (The influence of network accounting on accounting environment [J].Feng Zhanhong)

## 1.2 Insufficient investment in financial software

Financial management requires statistics and analysis of a large amount of data. Most e-commerce enterprises now hand over to financial personnel for manual registration and statistics. Financial personnel use the function formula of Excel table to complete this work; Some enterprises buy e-commerce software developed in the early stage of the market, and its functions and after-sales service are far from keeping up with the needs of business development. It is compared to order 100, e-store treasure, housekeeper, etc. E-commerce enterprises should increase the investment in ERP or e-commerce software according to needs, and use software to improve financial work efficiency. (Research on the impact of e-commerce on enterprise financial management [J]. Wang Y i fan) The training of financial personnel can not keep up with the current financial managers engaged in e-commerce enterprises. Most of them have a long working life, but they are not familiar with e-commerce business and lack rich practical experience. The enterprise did not carry out business training to explain the software functions of each e-commerce platform, the terms and requirements of financial settlement, solutions under special circumstances, etc.

E-commerce enterprises should regularly train financial personnel to improve their professional quality.

## 2. Characteristics of e-commerce financial management



### 2.1 Informatization

E-commerce enterprises rely on Internet technology to obtain online order information of e-commerce platform, print express face orders, warehouse delivery, upload logistics information, baby signing, refund, return, exchange and customer

evaluation process. The sales information generated by the e-commerce platform can easily check the enterprise sales data. Informatization realizes that transactions can be carried out with the network, without the limitation of time and space, so that there is no difficult business in the world.

## **2.2 Diversification**

E-commerce enterprises have diversified sales channels such as B2B, B2C, o2o and s2b2c; E-commerce platforms include Taobao, tmall, JD, vipshop, Suning Tesco, etc; Social networking providers have tiktok, little red books, lots of spells, darling homes, BEA shops, many stores, and future fairs. Your platform fees are also diversified. For example, Taobao has deposit, through train, drilling exhibition, cost-effective gathering, super recommendation, software fee, information fee, store decoration fee, fine, etc.

## **2.3 Paperless**

The development of the Internet has driven the implementation of paperless office by e-commerce enterprises. The specific contents are from the sales contract signed by the enterprise and the electronic business platform, online customer orders, logistics information updates, businesses buying consumer packages, application fee invoices, electronic bills, sales analysis reports, application settlement, Alipay cash and so on. The whole process is paperless, efficient, environmentally friendly and intelligent.

# **3. Innovative strategies of e-commerce financial management**

## **3.1 Structure innovation of Finance Department**

There are two innovations in the structure of the finance department: First, cost accounting. Generally, commercial enterprises do not set up cost accounting posts. Due to the transparent online price and fierce competition in the e-commerce industry, cost accounting determines the survival or profitability of enterprises. Second, the information department, this position is mainly responsible for the upgrading, installation, setting, maintenance and operation training of the company's financial software ERP or e-commerce software, as well as the backup, file cleaning and daily maintenance of the company's server data. This post is to ensure everyone's normal work, and its role is self-evident.

## **3.2 Innovation of financial system**

In addition to the conventional financial system, expense reimbursement system, settlement system, inventory manual, etc., e-commerce enterprises shall prepare and regularly update the financial accounting outline according to the actual business of the company. The accounting outline is also called the post operation manual of the financial department. The content is specified according to the posts set by the financial department corresponding to the business to be undertaken each month, and the operation is guided according to its specifications. Financial accounting outline

The advantages of innovation are that it can be used as a training manual for new employees and a checklist for managers to check their work, so as to avoid the dilemma of poor work connection of financial personnel after resignation.

### **3.3 Innovation of financial reconciliation**

Financial reconciliation innovation of e-commerce enterprises:

(1) The purchaser shall check the accounts payable bill for the first time, check the purchase order information, settlement method and special terms, and check the accuracy of the supplier bill for the first time. Then submit it to the A / P accountant for the second reconciliation, check the system order and warehousing information, and sign and seal for confirmation only after checking the special matters clearly.

(2) Accounts receivable shall be transported by e-commerce first

The person in charge of the business department shall check the platform order and the system sales delivery order, and timely adjust the system to make the order. Then, the sales revenue is confirmed by the sales issue document confirmed by a / R accounting reconciliation.

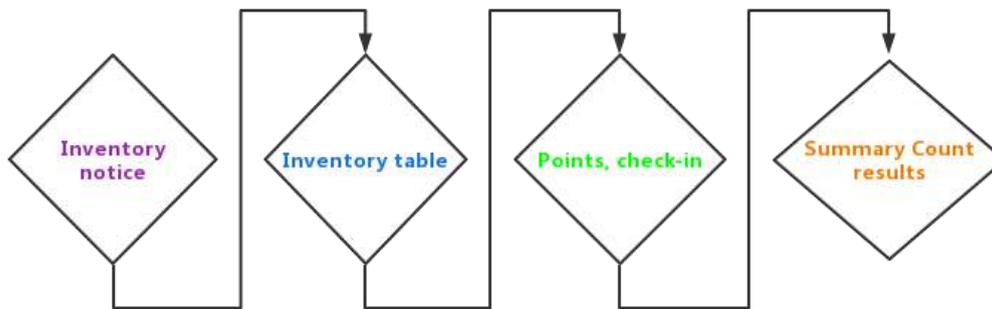
## **4. Innovation of warehouse inventory**

Enterprises engaged in e-commerce generally have large warehouses, which are full of all kinds of goods sold by online stores. It is the routine work of the financial department for the company to check the warehouse every month. Inventory is a work completed by many people. All links should be checked. The steps to be fast and accurate are as follows.

Issue the counting notice in advance, make the counting division table, and conduct the counting publicity for the personnel participating in the counting before the counting.

Second, perform inventory during the event. First, execute the initial inventory - blind inventory. There is no account stock in the count table. 2 persons / group, one person is responsible for counting and one person is responsible for registration. Secondly, perform a double check, compare the completed initial check table with the inventory table with the account inventory, copy the non difference number to the double check table, and double check the difference number. After counting, enter the system and generate the counting report. Finally, the financial personnel shall audit the report to form the final inventory results.

After the event summary. First, report the inventory results of each warehouse at the end of the month to the relevant leaders of the company. Secondly, the person in charge of the inventory shall make a statistical ranking of the inventory workload (initial inventory and re inventory) and inventory errors, and announce and praise the employees with outstanding inventory performance. Finally, hold an inventory summary meeting to summarize the good aspects and deficiencies, brainstorm and make continuous progress.



## 5. Innovation of talent training

First of all, the system of old people leading new people will be implemented in the training and innovation of e-commerce financial talents. The key is that the financial department should hold weekly meetings every week to solve problems in time. The content of the meeting is to summarize the work of last week, plan the work to be completed this week, and work difficulties requiring the cooperation of others. Secondly, the financial department implements the training rotation system, and each financial personnel presides over the training content regularly, which not only exercises people's courage, but also improves their expression ability, but also achieves knowledge sharing and progress. Other departments of the company may apply for the training of the personnel of the financial department. The training can be free or paid, and the paid remuneration shall be used as the Department's league construction activity fee. Finally, the financial department implements learning competition to participate in national textual research, professional improvement, professional and technical operation and academic improvement. The results can be added to the year-end evaluation.

## 6. Innovation of financial software

"If you want to do a good job, you must first sharpen your tools". The financial software of e-commerce enterprises must keep up with the development of enterprises. When there is no software in the market that fully meets the company's business needs, it is necessary to seek customization with software vendors to develop a software belonging to the company. This way is suitable for companies with large enterprises, many businesses and strong capital. If you do not belong to this kind of enterprise, you can invite full-time or part-time personnel to carry out secondary development and maintenance of the company's current software, which is also a good choice. Enterprises should use software to improve work efficiency and reduce work errors.

## CONCLUSION

If an e-commerce enterprise wants to develop or join the e-commerce industry, it must improve its general situation in financial management and be based on the innovation in financial management. First, financial structure innovation - two posts of cost accounting and information department were added; Secondly, the innovation of financial system - compiling the outline of financial accounting; Then, the financial reconciliation is

innovated - the second reconciliation is carried out to achieve the integration of industry and finance; Then, the innovation of warehouse inventory - the implementation of three steps: initial inventory, re inventory and audit; Thirdly, talent training innovation - implement the weekly meeting system, solve work problems in time, hold theme training meetings, comprehensively improve quality, and encourage financial personnel to learn and improve professional knowledge; Finally, financial software innovation - when market software is not suitable for enterprise development, customization or secondary development can be considered to improve work efficiency. Strive to do a good job in innovation, strive to be invincible in e-commerce enterprises, give full play to the manpower and materials of enterprises in all aspects, and move forward to the industry benchmark.

## REFERENCE

- Construction of enterprise financial management model under the background of e-commerce [J]. Qian Jin Enterprise reform and management 2016(19)
- The influence of network accounting on accounting environment [J]. Feng Zhanhong Managers 2016(29)
- Research on the impact of e-commerce on enterprise financial management [J]. Wang Yifan Knowledge economy 2016(19)
- Analysis on the change of financial management content under e-commerce environment [J]. Li Jinzhou shanhaiching. 2016(12)
- Innovation strategy of enterprise financial management under e-commerce environment [J]. Hu Yanzhi Cooperative economy and science and technology 2020(14)
- Ways and methods to promote enterprise financial management innovation under the new situation [J]. Wang Zhe Regional governance 2020(02)
- How to use tax policies to improve the operation and management efficiency of real estate enterprises [J]. Lu Xiao Marketing 2019(38)
- Influence of e-commerce on enterprise financial management and countermeasures [J]. Cheng Wenguang Chinese market. 2019(10)
- How to use tax policies to improve the operation and management efficiency of real estate enterprises [J]. Li Qian Accounting study 2019(07)
- Construction of enterprise financial management model under the background of e-commerce [J]. Dina talifu, Haili and mu siyiti Pay taxes 2018(32)
- Construction of enterprise lean financial management model under the new normal [J]. Yu Zhe Management observation 2018(12)
- Construction of enterprise lean financial management model under the new normal [J]. Lin Lin Lin Public investment guide 2018(05)
- Research on enterprise financial management model under the background of e-commerce [J]. Wang Lin Enterprise reform and management 2018(04)
- On the impact of e-commerce on enterprise financial management [J]. Qu Fanfan, Zhang Guijie Knowledge economy 2018(03)
- Discussion on financial management mode under electronic commerce environment [ J ] . Gerard Ambassa Guy. The era of finance. 2011(36)
- Common problems and countermeasures in financial management of e-commerce enterprises [ J ] . MYRICA Rubra. Enterprise reform and management. 2020(18)

- Research on problems and countermeasures of Enterprise Financial Management in Internet Age [ J ] . Wei Chaofang. Township and Village Enterprises. 2020(03)
- Research on financial risk management of E-COMMERCE enterprises in big data era [ j ] . Jung yoo-jung. Modern economic information. 2019(08)
- The upgrade and transformation of e-commerce finance in the new era. Zhao Haiming. Journal of Beijing Printing Institute. 2020(11)
- Innovation of Financial Management Under Electronic Commerce Environment [ J ] . Zhang Guoping, Wang Ying. The era of finance. 2016(33)
- Research on dynamic financial management mode under the influence of electronic commerce. Miao Changqing. Manager of a business. 2015(36)

# INNOVATION OF BEHAVIORAL PSYCHOLOGY IN HUMAN RESOURCE MANAGEMENT

LI SUN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 155355371@qq.com*

## ABSTRACT

Talent is the core element of today's knowledge economy. The development and management of human resources has become the key for enterprises to obtain competitive advantage. China's innovative technology in human resources management has made great progress in the past decade, and the development and management of human resources have also made great progress, which has played an important role in promoting economic construction. However, the problems in practice are more prominent. In view of this situation, the innovation in human resource management is undergoing unprecedented changes. In the innovation research in human resource management, the development of behavioral psychology theory has established new assumptions of innovation in human resource management, and formulated a series of new standards, test facilities and guarantee systems. Developed innovative new theories in human resource management. It can be applied to all aspects of innovation in human resource management, especially personal identification in management and use. It has unique advantages different from the previous innovation system in human resource management. The innovation in human resource management is changing to a competency system centered on psychological incentive. Behavioral psychology provides a new perspective and powerful tool for the innovative practice of enterprise human resource management, and provides a theoretical basis for the innovative links of human resource management, such as labor analysis, personnel recruitment, employee training, performance management, career planning and so on. Constantly summarizing and discussing the progress and practice of the application of behavioral psychology in the innovation of human resource management has important guiding significance for the innovation of human resource management in Chinese enterprises. Combined with the theory of behavioral psychology, this paper constructs a new innovation system in human resource management. The structure of the article is divided into four chapters. According to the logical structure, it can be divided into several parts: the first part is the connotation and characteristics of innovation in human resource management; The second part is an overview of behavioral psychology; The third part is the concrete application of innovative behavior psychology in human resource management; The fourth part is the conclusion.

**Keywords:** behavioral psychology; human resources, Application, Behavioral motivation, Human nature hypothesis, innovate

## INTRODUCTION

### 1.1 Research background

In the 21st century, like the knowledge economy, with the intensification of the trend of economic globalization, business competition is becoming increasingly white hot. Talents are the core element of the knowledge economy. The core of human resources enterprise competition is the competition of talents, especially the competition of high-quality talents. For an enterprise, the development and management of human resources has become the key to obtain competitive advantage. Only by rapidly building an innovation system in human resource management that meets the needs of competition can we obtain the competitive advantage of talents, adapt to the market demand and ensure survival and development. The innovative technology in China's human resource management has made great progress in the past decade and played an important role in promoting economic construction. However, the problems existing in practice are becoming increasingly prominent, such as the inability to effectively motivate employees, guide their actions and organize learning; Lack of tools and performance methods for scientific evaluation of work ability, unable to evaluate the correlation between workers' ability and position; The traditional employment standards based on education, experience and skills continue to be used and fail to keep pace with the times. The innovation in traditional human resource management can no longer meet the needs of the company's reform and development. A new innovation model in human resource management should be introduced to meet the requirements of the new environment and business situation. In order to deal with this situation, the innovation in human resource management is undergoing unprecedented changes. The innovation strategy in human resource management has attracted more and more attention. Innovation in human resource management has begun to enter the era of the combination of talents and information technology. In the innovation research of human resource management, the new development of behavioral psychology has established new assumptions of innovation in human resource management, and formed a series of new models, testing methods and assurance systems, which can be applied to all aspects of innovation in human resource management. Especially in terms of personnel management and personnel identification, it has unique advantages different from the previous innovation system in human resource management. The innovation in human resource management has turned to the system with behavioral psychology as the core, paying more attention to the main role of people in work. This important change has increasingly become the key to the core competitiveness of enterprises and the main source of core competitiveness that enterprises can not imitate. This change has brought new vitality and taste to the innovation in human resource management. More importantly, it has improved the innovation strategic position in human resource management. The innovation in human resource management is no longer simply dealing with some transactional work. As the basis of innovation system in human resource management, behavioral psychology plays a main role in the establishment of human resource system.

## LITERATURE REVIEW

### 1.2 Research significance and purpose

#### 1.2.1 research meaning

The sustainable development of enterprises depends on the contribution of human capital. In order to survive in the fierce competitive environment, most well-known foreign enterprises attach great importance to the application of innovative technology in human

resource management, increase the company's competitive advantage through behavioral psychology, encourage employees to increase professional knowledge and basic skills, and lay the foundation for enterprises to form their own core competitiveness, which has become the direction of innovation and development in human resource management.

Therefore, it provides a powerful theoretical basis for the application of psychology and behavior in human resources management, and provides a new perspective for the research of employee recruitment and performance management in human resources management. The summary and discussion of progress and practice not only has a certain reference significance for China's human resources theory, but also has an important guiding significance for the innovative practice of human resources management.

### **1.2.2 Research objectives**

The hypothesis of human nature in management put forward by behavioral psychology is an important theoretical basis for innovation in human resource management. Only by integrating it into the specific practice of employee recruitment, selection, training, performance management and salary management, can it fully reflect its value, analyze the ideas and methods of constructing the innovation system in entrepreneurial human resource management, and obtain a new system suitable for the innovation practice in China's entrepreneurial human resource management through analysis and practice. Different from the innovation in traditional human resource management, people can clearly understand the various components of innovation in human resource management based on behavioral psychology, which is expected to encourage Chinese enterprises to correctly use behavioral psychology for innovation in human resource management.

## **1.3 Research content and research route**

### **1.3.1 research contents**

The research and application of behavioral psychology started early. With the development of China's economy and the change of the environment faced by enterprises, the development of behavioral psychology theory and its application in the innovation of enterprise human resource management have become a hot field in management and academia. We have applied behavioral psychology in the management practice of some companies and institutions, and achieved some results. In academic research, we have made some progress in behavioral psychology. Generally speaking, the current research has not formed a relatively perfect system, especially in the innovative application of human resource management. It mainly aims at some functional modules, and has not fully formed a perfect innovation system in human resource management based on behavioral psychology.

### **1.3.2 Research route**

Using the method of combining theory with practice and the latest development of behavioral psychology theory, this paper establishes a new innovation system in human resource management, and compares it with the innovation in traditional human resource management. Finally, this paper takes the construction of innovation system in human resource management based on behavioral psychology as an example.

The establishment and improvement of any system in an enterprise should be based on the innovation in high-quality human resource management. In order to achieve the goal of innovation in high-quality human resource management, behavioral psychology should be reasonably applied to the innovation in human resource management. Innovators in human resource management should give full play to the role of behavioral psychology, Respect the psychological characteristics of each employee, care about the

growth of each employee, improve the salary assessment mechanism and incentive mechanism, actively introduce and retain excellent talents, and promote the sound development of the enterprise.

### **1. Connotation and characteristics of innovation in human resource management**

(1) Innovative connotation in human resource management. According to the definition of innovation in human resource management in China's academic circles, innovation in human resource management refers to the feasible human resource plan made by enterprises in order to achieve their own development goals, as well as a series of deployment and management activities. Innovation in human resource management is an important part of enterprise management and a key factor determining the development of enterprises. It plays an important role in improving the comprehensive competitiveness of enterprises.

(2) Innovative characteristics in human resource management. First, systematic. The so-called systematization requires the coherence of various management in the innovation of enterprise human resource management. For example, after doing a good job in talent recruitment, training and management planning in line with the actual needs, enterprises need to do a good job in talent deployment to avoid the waste of resources caused by too many personnel and the obstruction of enterprise development due to job vacancies. Second, strategic. In the process of development, an enterprise must have strategic human resources, which will become the core talents and the pillar of enterprise development. Third, orientation. In order to improve the innovation level of enterprise human resource management, enterprises need to establish long-term and clear development goals, give full play to the guiding role of innovation in human resource management, and guide other work of enterprises to be carried out scientifically and orderly.

### **2、 Overview of behavioral psychology**

(1) Behavioral psychology. Behavioral psychology is to use the general laws of psychology to solve people's psychological problems in the process of management and make them specific in the field of management. It mainly studies the laws of people's psychology and behavior in a specific organization, so as to improve the ability of managers to predict, guide and control people's psychology and behavior, so as to effectively achieve organizational goals. Study the factors that can motivate employees and the ways to maintain employees' enthusiasm.

(2) The significance of applied behavioral psychology. The significance of introducing behavioral psychology into the innovation of human resource management lies in: first, fully explore people's potential and continuously improve work efficiency; 2、 Carry out psychological training and training for employees. Only by mastering the psychological activities and needs of employees at work can we formulate relevant regulations and methods in management, so as to effectively improve the work efficiency of employees and the production efficiency of enterprises. Only by mastering, absorbing and understanding the knowledge of behavioral psychology can it be truly applied to the innovation of enterprise human resource management, so as to improve the enthusiasm of employees for work and the overall quality of employees.

### **3、 Innovative behavior in human resource management and the specific application of psychological innovation**

(1) Application in psychological regulation. The important factor for enterprises to occupy a place in the fierce market competition is to strengthen their comprehensive strength. Therefore, enterprises should pay attention to the guidance of employees' work interest and the cultivation of employees' work ability in their daily work, so

as to realize the purpose of improving the core competitiveness of enterprises. Psychologists believe that although people's values in early activities have been determined, there are obvious differences in their tendencies towards things, and it is easier to accept ideas or things consistent with their own values, enterprise managers should be good at applying the role of behavioral psychology in employees' psychological adjustment, pay attention to employees' psychological changes at any time and give timely guidance, And guide employees to establish correct three views, which can help employees adjust their psychology and help them correct their psychological deviation.

(2) Application in salary management. The salary system is an important tool for the smooth development of innovation in enterprise human resource management. The application of behavioral psychology in the salary system can help enterprises retain talents, adjust interpersonal relationships, encourage enterprise employees to work actively and effectively improve enterprise benefits. The traditional salary management does not highlight the importance of incentive, but mainly focuses on material reward. This salary management system is gradually replaced by the comprehensive salary system. However, in the comprehensive salary management system, employees are required to clarify the behavior advocated by the enterprise. This behavior includes not only material compensation, but also some internal compensation, such as working conditions, promotion opportunities, corporate culture, recognition and reward, etc. Therefore, in modern salary management, we must pay attention to employees' psychological compensation. Behavioral psychology advocates not only confirming employees' contribution to the enterprise, but also relying on traditional strategic objectives and values to improve the proportion of non-material compensation in salary design.

(3) Application in selecting talents. Based on the perspective of behavioral psychology, when selecting talents, in order to comprehensively and better understand the specific information of the post, enterprises need to apply behavioral psychology to comprehensively analyze and consider the nature, content and quality of their work, so as to more effectively judge the personal ability and quality of the incumbent. In order to let employees really understand whether they are suitable for their position, it is necessary to analyze the comprehensive quality of employees through behavioral psychology, and use behavioral psychology to carefully judge the ability to be competent for their position. Through the analysis results of management, the difficulty of work can be appropriately increased, and the post responsibilities can be redesigned to provide two-way Greater development space.

(4) Application in employee training. Training and developing employees can effectively promote the value-added of human resources, and finally improve the economic benefits of enterprises by improving employees' skills and performance. The traditional concept of talent training only focuses on the knowledge and skills of employees. In specific practice, in addition to the skills and knowledge that can help enterprises achieve economic benefits, the psychological quality and self affirmation of employees can also achieve the same purpose. Therefore, if enterprises want to make great progress, they must pay attention to the excavation of employees' psychological quality and potential quality.

## CONCLUSION

To sum up, behavioral psychology plays an important role in employee training and talent recruitment in the innovation of human resource management. Therefore, enterprises should improve the application mode of behavioral psychology in the innovation of human resource management according to the development trend of the times, and reasonably deal with the differences between the two, Build a talent recruitment, training and management model with the innovative combination of behavioral psychology and human resource management. Based on the previous theories, this study analyzes the current discipline development and enterprise status, as well as the innovative practice methods in human resource management, and puts forward the innovation system in human resource management based on behavioral psychology. The specific innovations include:

1. It forms a new theory of behavioral psychology, combines and summarizes the theoretical achievements of behavioral psychology, and makes a systematic analysis and theoretical thinking combined with the research achievements of life science, self-organization theory and other disciplines. This paper puts forward a new metadata theory of behavioral psychology.

2. Put forward a new human nature hypothesis. Combined with the current enterprise management practice, this paper analyzes the previous human nature hypothesis, and puts forward a new human nature hypothesis based on the latest development of behavioral psychology theory, which lays a theoretical foundation for innovation in human resource management.

The latest development of meta dynamic theory of behavioral psychology and its application in the innovation of human resource management in the company, as the training mechanism of dynamic personality structure, need to be studied and improved. The appropriate positions of personnel with different types of personality must constantly supplement and improve the characteristics of meta dynamic personality models of different positions in future research and practice. How to establish a more systematic salary model and promotion channels to stimulate the enthusiasm of employees? How about the work pressure of employees with different personality types and how to alleviate the pressure? These practical problems need a lot of practical research work before we can gradually clarify and solve them.

## REFERENCES

- Zhang Ren Discussion on recruitment allocation management under the framework of human resources behavioral psychology [J] Contemporary educational practice and teaching research, 2016, 01:143
- Yang xihuai Enterprise strategic management [M] Higher education press, 2015 (96) .
- Xiang Baohua. Enterprise strategic management [M]. Hangzhou: Zhejiang University Press. 2017 (138) .
- Paul C Green, innovation in competency based human resource management, Beijing: Higher Education Press, 2004
- [US] Shi banse, translated by Wei Meijin, talent evaluation method, Shantou: Shantou University Press, 2003

- Written by Lucia and Iepsinger, translated by Guo Yuguang, competency: Application Manual of employee competency model, Beijing: Peking University Press, 2004
- [US] Druckerey Management: mission, responsibility and practice, translated by Wang Yonggui, Beijing: Machinery Industry Press, 2006
- [US] Chris Achilles, translated by Guo Xuli and Xian Hongxia, personality and organization, Beijing: People's University of China Press, 2007
- Nye, R.D., translated by Shi Lin et al., three kinds of Psychology: the psychological theory of Freud, Skinner and Rogers, Beijing: China Light Industry Press, 2000
- [US] Anastasi (A.), [US] Urbina (S.), translated by Miao Xiaochun and Zhu Peiliang, psychological test, Hangzhou: Zhejiang Education Press, 2001
- [English] Val Simonowitz, written by Peter Pierce, translated by Tang Yunyu, development of personality, Shanghai: Shanghai Academy of Social Sciences Press, 2005
- [English] Charles and Jackson, translated by Yao Ping, understanding the psychological test process, Beijing: Peking University Press, 2000
- [China] Zhao Shuming, [America] Mathis (R.), and [America] Jackson (J), innovation in human resource management, Beijing: Electronic Industry Press, 2003
- Shen Xiaofeng, the beginning of chaos: Philosophical Exploration of self-organization theory, Beijing: Beijing Normal University Press, 1993
- Zheng Huahui, edited by Zhang Biyong, measurement of psychological quality, Beijing: China Textile Publishing House, 1998
- Cheng Zhengfang, modern management psychology, Beijing: Beijing Normal University Press, 1990
- Edited by Tang Jun, modern personnel psychology, Beijing: Beijing Institute of Economics Press, 1997
- 2001 Lu Shengzhong, management psychology, Hangzhou: Zhejiang Education Press,

# RESEARCH ON INNOVATIVE BUSINESS MODEL OF X COMPANY IN GUIZHOU, CHINA

**RAN XIONG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: xiongran1226@163.com*

## ABSTRACT

With the deepening of China's industrialization, informatization, urbanization, marketization and internationalization, the sudden COVID-19 epidemic and other natural disasters have brought new difficulties and challenges to China's poverty alleviation work. China is committed to its own poverty eradication, promoting the spirit of poverty alleviation and international cooperation, and promoting the building of a community with a shared future for mankind. China is firmly committed to being an active advocate and strong promoter of global poverty reduction, and making new and greater contributions to the creation of a world without poverty and with common prosperity. In accordance with the requirements of the new situation and new tasks, the guiding ideology, objectives and tasks, overall thinking, priorities, policies and measures of China's agricultural poverty alleviation work have been further strengthened. China is a big agricultural country, and agriculture is one of the basic construction of China's economic development. To do a good job in poverty alleviation in agriculture, we will accelerate the implementation of the innovation-driven development strategy, plan and promote independent innovation with a global perspective, and strive to become an innovation-oriented country. As the backbone of China's economy, we should give full play to the role of SOEs in supporting, guiding and driving local economic development, accelerate the implementation of innovation-driven development, and provide support and policy guidance for the reform and development of SOEs.

In this paper, under the policy support for the whole of China's state-owned enterprises of agricultural resources integration, and promote enterprise to do strongly does do optimal, in product innovation, brand building, market development, the logistics system, the authors advocate efficiency, etc., establish innovative business model worked for research analysis, the summary, and combined with the existing problems and put forward the corresponding Suggestions and countermeasures, pushed China out of poverty and smooth development.

With the progress and development of Internet technology, the traditional business model is gradually disappearing, unable to create broad prospects for the development of enterprises. In the context of the new era of socialism with Chinese characteristics, the business model of enterprises is facing a test due to the huge change in the fit between economic time and physical time in the Internet economy. At the same time, the rural revitalization strategy proposed by the CPC Central Committee must accelerate the development of rural agriculture and realize agricultural modernization. Therefore, based on the study of business model of agricultural science and technology service company, this paper expounds the agricultural science and technology service company in the Internet economy business model innovation background, reasons, specific content and expected results, and demonstrates the feasibility and efficiency of

this innovative business model, business model innovation and development will depend on the time and space usage, Make full and reasonable use of resources to promote enterprise transformation and development.

**Keywords:** Business Model, Innovation, Policy Condition, Platform business model innovation, Service innovation, Agricultural development

## INTRODUCTION

Guizhou locates in the southwest of China and it is one of the most underdeveloped provinces in China due to its terrain of mountains. In the past, most of the roads were narrow and bumpy so it resulted in the underdevelopment no matter in politics, economy and culture. Especially the traffic condition in rural areas was so terrible that they were very poor and had very low income. As Chinese government set a big goal “fully lift people out of poverty”, the traffic condition and transportation have been improved a lot in recent years. As a result, Guizhou took the lead in realizing the high-speed connection between counties and counties. However, there is still a big gap in the total economic aggregate and income per head between Guizhou and the east area of China. At the same time, such conditions also create the unique advantages in ecological resources, climate, environment, and agricultural products of Guizhou. Here the question comes: “How can Guizhou make use of these advantages and improve people especially peasants’ incomes.

In the Internet era, B2B, B2C, C2C and other e-commerce models have set off huge waves in China, leading to significant changes in the traditional business operation model. Facing the test of the new situation, enterprises must reform and innovate the existing commercial system and system in order to have a better development. Since the reform and opening up, China's agriculture has developed greatly, but there are still a series of problems such as low level of agricultural production, low conversion rate of agricultural scientific and technological achievements, and chaotic market system. Therefore, agricultural science and technology service company will through the way of innovative service, innovative business model, and to establish a platform to provide agricultural science and technology achievements management and technical services, for farmers, farmers and agriculture business operators to provide technical support, to build a bridge between the supplier and purchaser of agricultural products, agricultural products and by-products in transactions to a a safe, accurate and convenient platform, We will promote the sustainable development of enterprises and agriculture.

## LITERATURE REVIEW

### **Current Situation of Agricultural Products and X Company in Guizhou Province, China**

For the past few years the agricultural products have been developing a lot not only in quality, quantity and classification. At the 18th China International Agricultural Products Fair in 2020, the products of Guizhou province cover 7 categories, such as Meitan Cuibud, Coke pig, kiwi fruit, apple, fragrant waxwood, green shell egg and pearl seed rice. The enterprise promotes the brands formed by "names places + names of agricultural products", such as: Zunyi Meitan Cuiya, Bijie Coke Pig, etc. Because of Guizhou agricultural enterprises are not formed the scale, there are small, scattered and disorderly, weak, branding, promotion, sales channels, logistics system problems such as

weak, the lack of such as "Lao Gan Ma" star of the world's most prestigious brands and products, did not form in the development of agricultural product quality standardization, large scale, industrialization, marketization system.

Since its establishment in 1962, X Company of Guizhou Province, China, has established such advantageous businesses as agricultural products circulation, product quality inspection, trade operation and management, smart logistics, and warehouse management. It is a large-scale state-owned enterprise of agricultural products circulation approved by the government. To accomplish the goal of poverty alleviation in Guizhou Province, China, and promote the development of agricultural enterprises in Guizhou Province to become rich. Combined with agricultural growth in Guizhou geographical advantages, the production of raw materials advantage, create a green, organic, health, environmental protection high quality agricultural products, will become China's Guizhou province small and medium-sized enterprises to foster high quality enterprise, achieve high quality agricultural products out of the province, the sea, at the same time, for Guizhou enterprises expand the market sales channels, to create a strong brand. Combined with the advantages of X Company, focus on the function of X Company, carry out effective resource integration under the support of policies, establish innovative business model, and achieve practical results.

## **THE RESEARCH QUESTION**

1. Why can such a business model for innovation be carried out under this policy? The policy conditions: China has always been committed to eliminating poverty itself, carry forward the poverty crucial spirit and the spirit of cooperation, promote to build human destiny community, unswervingly do actively advocate the world poverty reduction and powerful agents, to create a world without poverty, common prosperity to make new greater contributions.

To do a good job in poverty alleviation in agriculture, accelerate the implementation of the innovation-driven development strategy, plan and promote independent innovation with a global perspective, and strive to become an innovative country.

Guizhou Province is one of the most underdeveloped agricultural provinces in China. There are problems such as the lack of scale, small, scattered, disorderly and weak agricultural products enterprises, the weakness of brand building, publicity and promotion, sales channels and logistics system, and the lack of standardization, scale, industrialization and market system for the quality development of agricultural products.

2. What are the sustainable development directions of this innovative business model?

Policy support: under the environment of poverty alleviation in China, undertake the mission of Chinese state-owned enterprises, combine the advantages of Guizhou X Company, integrate Guizhou agricultural products resources to create star enterprises and products.

Precision marketing: to achieve precision marketing of products. Integrate the digital resources, analyze the regional data of agricultural products sales,

Include customer groups, sales volume, sales types and other information to create a product portfolio to increase multi-channel sales.

Supply chain services: through the production and combination of products, the company can provide the whole supply chain system services including raw material procurement,

production and processing, warehousing and logistics, product sales and after-sales service, so as to enhance product production and improve product quality.

Financial support: According to the nature of a state-owned enterprise, X Company has strong financial support to provide financial services for the enterprise.

E-commerce model: through resource integration and combined with big data technology, a big data platform is established to promote enterprises and agricultural products, such as shopping platform, Douyin and video promotion, etc.

3. In the process of business model innovation, what aspects should we optimize and improve the existing deficiencies, difficulties and risks?

Policy support: If the business model is excessively dependent on China's poverty alleviation policies, such as policy, situation and task adjustment, this business model will be cancelled. Combine current affairs and politics, follow national policy, carry on adjustment, implement innovation and so on development.

Business adjustment: after the cancellation of the poverty alleviation policy, the business development direction of the company needs to be re-established. Develop a new business path based on the sustainable development business work, and prepare for the company to carry out new business after the cancellation of policy support. For example: enterprise culture and creation, packaging production, etc.

Product quality: according to the integration of resources, products are managed and delivered uniformly through the company's warehousing and intelligent logistics. When the product enters the company's warehouse, the quality should be strictly checked. In the preservation of some special products, it is necessary to strengthen product preservation equipment and management ability. According to the special nature of products, the department will add advanced storage equipment to them; Formulate the preservation process, system, staff training and management.

Logistics management: after customers purchase the products, if the warehouse does not deliver the goods in time, the logistics order cannot be inquired, or the products are lost due to distribution and other problems, customers will complain. It can cooperate with China SF Express, Jingdong, Cainiao and other standard and standardized logistics giants to achieve a strong logistics system and improve the intelligent logistics.

Product quality: there are many types of agricultural products without clear standards, so industrial standards should be formulated. How to ensure product quality. Not only is the product production link quality testing problems, but also to the national qualification certification testing center to test products, to achieve two-way security.

## **RESEARCH TECHNIQUE**

secondary data method: With the support of X Company's existing enterprises, products, logistics, sales, customers, various channels and the total value of DGP in Guizhou Province, etc., we set it according to the data and information needed by the research, so as to analyze the suggestions of the results for the feasibility of business model marketing under the policy.

From the development of industrial economy to Internet economy, the fit degree of economic time and space and physical time has changed greatly. The traditional business model requires a high fit degree between the two to be flexible and low fit. Enterprises must adopt innovative business models to adapt to the current business development trend. In the traditional business model,

Commercial activities are mostly confined by space and time, which have very high requirements for time and space. On the one hand, enterprises need the support of physical infrastructure, such as warehouses and stores

Shop, office building, commodity exhibition hall, etc., these essential physical conditions cost a lot of manpower and material resources to support the business activities of enterprises. On the other hand, the transaction activities need the simultaneous synchronization of both buyers and sellers. The buyers and sellers must be present in the specified time and real space to complete the transaction. For example, consumers can only consume during the business hours of the shopping mall. Therefore, the traditional business model is highly compatible with the characteristics of economic space and physical space, which greatly limits the development of commerce. But with the progress of Internet technology, the traditional business model is a complete reversal, any previous business barrier is broken, can rely on to the Internet as the platform, electronic trading as the basic means of new business models, the space-time characteristics of the operation mechanism of this new type of business is obvious - limitless consumption and production time and space without binding. This not only expands the business activities of enterprises, but also facilitates and diversifies consumer behavior.

In the Internet environment, the highly conformed state of economic and physical time and space in enterprise activities has obviously changed. The connotation and extension of economic time and space break through the constraints of physical time and space, and this conformed change has triggered the innovation of platform business model. The platform business model connects two or more groups to provide both or more

It is widely used in emerging fields such as e-commerce, third-party payment, search engine and network social networking, as well as traditional fields such as bank card organization, traditional retail industry, software industry, telecommunications industry and transportation industry. The Internet has changed the trading place, expanded the trading time and space, enriched the trading categories, accelerated the trading speed, reduced the intermediate links, and improved the trading efficiency. This business model makes the enterprise activities no longer limited by the limitation of time and space and extend indefinitely, realizing greater value creation and win-win interests.

Agriculture, rural areas and farmers are fundamental issues concerning the national economy and people's livelihood. Without agricultural modernization, there can be no modernization of the country. Therefore, Xi Jinping, General Secretary of the CPC Central Committee, put forward the rural revitalization strategy in the 19th NATIONAL Congress of the CPC, and the country takes solving the "three rural" issues as the top priority of the party's work. But at present, China's agricultural development is in agriculture

There are still many problems with technology and the market system. To this end, agricultural science and technology service company will carry out platform business model innovation, establish agricultural science and technology and transaction service platform, innovation service content. In addition to breaking the space and time limit of agricultural products and by-products trading, the characteristics of economic space and physical time and space are changed to expand the trading time and space and improve the trading efficiency of agricultural market.

China's agricultural market system is chaotic, the sale of agricultural products is scattered, there is no systematic, complete platform, there is information lag and asymmetry and other problems. Some suppliers and purchasers are not connected, resulting in shortages and superfluous phenomenon of some agricultural products on the

market, which makes the price of agricultural products appear too high or too low under the disorderly regulation of the market, and the interests of operators will be damaged due to the lag and blindness of the market. To this end, agricultural science and technology service company will be constructed

Connect production and consumption service platform, create network security system and order management system, use the Internet to combine online and offline sales, to provide customers with a safe, efficient and convenient platform. In the Internet economy, the technical characteristics of information flow, capital flow and transaction flow will provide the basic guarantee for the transaction activities in the market. Commercial activities have broken through the traditional state of highly compatible economic and physical time and space, and can be booked, purchased and sold online 24 hours a day

Commercial activities. If the supplier wants to sell the product, it can input the information of the related product to be sold on the online trading platform at any time point. Through the third-party platform provided by the company, the product information can be displayed in a timely manner, and the buyer who intends to purchase the product can have a rapid and accurate connection. You can also input the information of relevant commodities to be purchased on the online trading platform at any time, and connect to qualified suppliers through the third-party platform in time. This service mode of order management greatly facilitates the trading activities of suppliers and purchasers, creates a win-win situation for all customers, realizes the optimal allocation of resources, and greatly improves the market efficiency.

Although China has been a major agricultural country in the world since ancient times, there are some problems such as overall low level of agricultural production, low yield and quality of crops, and lack of technical guidance. In order to improve the overall level of agricultural development in China, we must rely on the powerful power of agricultural scientific and technological achievements to solve the shortage of effective supply of agricultural scientific and technological achievements

To solve the problem of low conversion rate of industry scientific and technological achievements, agricultural scientific and technological achievements should be transformed and applied to the agricultural field. The Agricultural Science and Technology Service Company will cooperate with agricultural research institutes and universities, devote itself to the research on the transformation of agricultural scientific and technological achievements, accelerate the transformation of agricultural scientific and technological achievements, and provide agricultural technical support and assistance to farmers, household households and agricultural enterprises. First of all, in the service for farmers and other agricultural producers, mobilize the professional researchers, for agricultural production environment by on-the-spot investigation, according to the local environmental conditions, such as farming area, soil property, water, air quality, etc., analysis is suitable for growing crop varieties, quantity, and farming methods and so on, combined with the corresponding transformation of agricultural science and technology achievements, realize agricultural products with high quality and high yield. Secondly, when cooperating with agricultural enterprises, advanced agricultural science and technology transformation achievements should be introduced and introduced in detail so as to facilitate enterprises to timely understand the latest information of transformation achievements, provide basis for enterprises to make investment decisions, promote agricultural science and technology transformation achievements and accelerate the process of agricultural modernization.



*(The construction of data platform can better control product information data in real time, including sales category, sales amount, sales place, how much economy driven, etc., so as to facilitate data statistics.)*

Statistical analysis: on the basic characteristics of the consumer, economic characteristics, behavior characteristics and psychological characteristics of investigation, using descriptive statistics, to organizing the collected data, several statistical charts and statistics is used to demonstrate the characteristics of the consumer, internal link or transverse comparison results, and in the final analysis system.

In 2020, the revenue will reach 1.032 billion yuan, with a completion rate of 124.34%. The total profit reached 86.35 million yuan, with a completion rate of 126.99%. It boosted the wholesale sales of special agricultural products by 1.27 billion yuan, leading 148,000 poor people, creating 3,634 jobs directly from production enterprises and linking 962 industrial bases.

In 2021, through project guidance, the total output sales of agricultural products reached 2.2 billion yuan, of which 11 high-growth enterprises sold 82.06 million yuan. The project indirectly created 60,000 jobs, connected 4,364 industrial bases, totaling 2.2 million mu, and radiated 1.03 million farmers and 370,000 households.

## CONCLUSION

Integration of Guizhou agricultural resources, star enterprises and star products.

Create innovative product combination and increase multi-channel sales.

Supply chain service: through the production and combination of products, provide raw material procurement, production and processing, warehousing and logistics, product sales, after-sales service and other whole supply chain system services, improve product production, improve product quality.

Innovative business model is the only way for the sound development of enterprises in the future. Platform business model breaks through the restrictive constraints that economic time and physical time are highly compatible, and reduces the transaction costs of each platform by "connecting" and "aggregating". In this business model, the transaction process takes place in the virtual space, so that buyers and sellers can complete the transaction only with a small amount of searching time, and they do not need to be confined to a specific time and place, which improves the efficiency of the transaction. The innovative platform business model of Agricultural Science and Technology Service Company enables the enterprise to save the cost of manpower and material consumption under the traditional business model, realize increasing marginal

income of the enterprise and customers, improve the efficiency of business activities, and create higher economic value in a broader space through resource allocation.

## REFERENCES

- Feng Hua, Chen Yaqi, Research on platform Business Model Innovation -- Based on the Analysis of temporal and spatial intersection in the Internet Environment [J]. China Industrial Economics, 2016 (03) :99-113.]
- Li Wenlian, Xia Jianming. Business Model innovation based on "big data" [J]. China Industrial Economics, 2013 (05) :83-95.
- Luo Min, Li Liangyu. China Industrial Economics, 2015 (01) :95-107.
- Wang Xuedong, Dong Dahai, Review and prospect of business model innovation concept research [J]. Foreign Economics and Management, 2013, 35 (11) :29-36+81.
- Wu Xiaobo, Zhao Ziyi, Wu Xiaobo, Et al. Research on anachronism of business model innovation: A review and outlook [J]. Foreign Economics and Management, 2017, 39 (01) :114-127.
- Contemporary World ,The Global Significance of China's Achievements in Poverty leviation ,2021/3/1
- MODERN SOE RESEARCH May,Give full play to the supporting, leading and driving role of local SOEs,2018
- Give Play to the Leading Role of State-owned Enterprises in Innovation Central Government Portal , <http://www.gov.cn> Source: Economic Daily, 2016/8/4
- Current situation and countermeasures of online marketing of agricultural products in Guizhou Marketing Group 2020,(39),98-100 Guo Qingqiu, Guizhou Radio and Television University (Guizhou Vocational and Technical College)
- Source: <http://www.Guizhou.gov.cn/>,Guizhou agricultural product quality safety supervision and management,2020/11/20
- Research on Marketing Strategies of Museum Cultural and Creative Products under the Background of "Internet +" -- A Case Study of the Forbidden City Cheng Qiuqi

# DEVELOPMENT AND MANAGEMENT INNOVATION OF HUMAN RESOURCE MANAGEMENT IN SMALL AND MEDIUM-SIZED ENTERPRISES

JUAN WU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: wu\_3000@163.com*

## ABSTRACT

Since the reform and opening up, small and medium-sized enterprises have developed rapidly and become an important part of the national economy. With the establishment of market economy status, the development of small and medium-sized enterprises is becoming more and more important. Due to the short human resource development cycle and immature human resource management system, there are still many problems in human resource development and management. In the future, the market competition will be more intense, the competition between enterprises will be more intense, the competition for talents will be more intense. Therefore, in order to improve the management level and development level of small and medium-sized enterprises, we must strengthen the construction of human resource management system of small and medium-sized enterprises. The development of smes depends on improving the quality of talents and scientific management of existing talents.

**Keywords:** small and medium-sized enterprises, human resources, scientific management

## INTRODUCTION

Human resource is the most important resource of an enterprise and the most dynamic and dynamic factor among all the factors of production. With the continuous development of enterprise management theory, human resource management theory is also constantly updated. The historical burden of smes is much lower than that of public corporations. Light industry companies are free to learn from the success of companies around the world. Therefore, human resource management of small and medium-sized enterprises is mainly influenced by modern western human resource management theory. However, at present, domestic researches on human resource management of small and medium-sized enterprises are mainly based on the theories of human resource management of foreign public enterprises, and few researches are based on the actual situation of small and medium-sized enterprises. Therefore, it is necessary to find the problems of human resource management in China, especially in small and medium-sized enterprises, and put forward corresponding countermeasures to promote the healthy development of small and medium-sized enterprises.

## **LITERATURE REVIEW**

At present, most of China's small and medium-sized enterprises are in the starting and growth stage, still in the exploratory stage, some large companies can not establish a complete human resources system, in the process of operation will inevitably appear some problems. Most small and medium-sized private enterprises is at the early stage of growth, and in the aspects of scale, capital, the strength behind the large enterprises, small and medium-sized enterprises in the use of human resources development faces a major difficulties, but we must also see that there are many big companies do not have the advantage of small and medium-sized enterprises and characteristic, therefore should pay attention to the advantages and characteristic of enterprise, constantly improve human resources management system, Improve the level of human resource management. Many small and medium-sized enterprises must solve the problem of developing the human resource management mode suitable for the characteristics of enterprises.

## **RESEARCH METHODOLOGY**

Abroad, Mayo changed the management of scientific managers into seeking human relations through Hawthorne's experience, and put forward the famous theory of human relations. In his opinion, man is a social man, not an economic man. In addition to material conditions, social and psychological factors also affect people's enthusiasm for production, and the level of productivity mainly depends on the moral level of workers, which depends on family, social life and interpersonal relations. The essence of interpersonal relationship theory is to improve organizational productivity, and its method is to improve employee satisfaction. Fromm proposed the theory of predictable probability model and analyzed the relationship between human needs, motivation and motivation. In the management process, the role of incentives depends on expected behavior and probability.

## **RESULTS AND FINDINGS**

In the 1990s, domestic scholars began to study the theory of human resource management. A group of returned scholars introduced advanced western HRM theories. Especially since the reform and opening up, with the acceleration of the process of global economic integration and China's accession to the World Trade Organization, the imperfect human resource management of Chinese private enterprises has seriously restricted the competitiveness of private enterprises. Therefore, the research on human resource management theory of private enterprises is also a weak link in the domestic academic circle, and has made some progress. In the study of human resources in private enterprises, family management is not only an organic part of the whole research content, but also the focus of experts and scholars. Kelson says family farms are dangerous. Companies in Hong Kong and Taiwan have created unprecedented economic miracles through family management, but Asian financial risk represents a rethink of the shortcomings of eastern management models and ideas. The failure of some famous private enterprises in mainland China also shows that the risks of family enterprises are gradually increasing, mainly in three aspects: first, it is not conducive to attracting excellent management talent; Secondly, the risk of family business is increasing and there is no scientific decision-making mechanism. Third, family conflicts of interest are

complex. Xu Chong, a researcher at the Economic Research Center of Jilin University and the National Academy of China, said family management hampers companies in their search for talent. Due to historical and social reasons, private enterprises often regard talents as technical talents. They attributed many management problems to a lack of qualified staff. This narrow view of talent leads to the dependence of private enterprises on technical talents, and it is difficult to find the practical problems facing private enterprises. Pay attention to the systematic construction of talent management system to achieve stable and long-term development. Companies must ensure that they identify, attract, nurture, compensate and maintain a pool of talented people.

## **DISCUSSION AND CONCLUSION**

With the development of economy, small and medium-sized enterprises are playing an increasingly important role in the national economy. In addition, in recent years, the number and scale of China's small and medium-sized enterprises have shown a trend of rapid development, but it is not difficult to find that the management efficiency has not been significantly improved. High management costs and low technical content of products. In addition, many smes struggle to find and retain talent. Because high quality ordinary people choose large companies rather than smes or private companies. Small and medium-sized private enterprises in the material, talent, material and other aspects of the disadvantage, objectively requires small and medium-sized enterprises to strengthen human resource management innovation. By adopting new and effective management methods, management modes or management methods, smes can adapt to the changes in the environment and the needs of traditional enterprise development modes, and finally achieve sustainable development of enterprises. Execute the dynamic process of optimizing resource allocation. Improve economic benefits and promote business development. In terms of content, it is the innovation of people, things and things management. As human society enters the era of knowledge economy, the competition between enterprises is increasingly reflected as the competition between human resources as the carrier of knowledge. Human resource management is playing an increasingly important role in enterprise management. Smes often pay attention to technology and market, and human resource management is their weak link. Therefore, the innovation of human resource management should become the main task of private smes.

## **MANAGEMENT IMPLICATIONS AND LIMITATIONS**

The main task of human resource management of small and medium-sized enterprises is to update the concept of human resource management, from simple personnel management under traditional management to modern human resource management, and establish a new talent view that ADAPTS to the development of The Times as soon as possible. Therefore, small and medium-sized enterprises in China must adhere to the principle of "no doubt" and "integrity" in the recruitment process, and create a good atmosphere of respect for knowledge. A combination of talent and personality. First of all, in terms of talent introduction, enterprises must establish a scientific and reasonable talent introduction system and actively build an excellent talent team. Smes should not rely on nepotism to recruit business personnel, but should focus on the open, fair and impartial attitude to select qualified and high-quality talents and introduce talents. In terms of talent, ordinary people compete for jobs and are evaluated regularly to optimize the allocation of human resources. Second, companies must take measures to retain talent. Talented people stay and contribute to the growth of the

company without changing the work of the company. This requires small and medium-sized enterprises to do a good job in staff wage management, create a harmonious working environment, to meet the needs of staff physical and mental development.

In order to adapt to the market competition environment, enterprises must improve the quality of talents. The current situation of human resources in small and medium-sized enterprises in China is that the cultural quality is not high, and the cultural level of professional and technical personnel is generally low and high. Therefore, we need to increase investment in human resources. At the same time, we must strengthen the training of workers in the workplace to maintain and enhance the value of human resources. Small and medium-sized enterprises should increase investment in training and human resources management, and strive to improve the level of internal talent. In the fierce market competition, small and medium-sized enterprises must attach importance to education if they want to develop. In addition, in modern society, talents pay more and more attention to staff development and training when choosing companies. They care not only about wages and benefits, but also about developing business talent. Therefore, small and medium-sized enterprises should establish a relatively scientific talent management system, use modern management means to strengthen human resources training, and constantly standardize the human resources management system. Promote the improvement of human resource management level of small and medium-sized enterprises.

## CONCLUSION

After more than 30 years of reform and opening-up, China has become the world's second largest economy and plays an important role in the world economic system. In the context of the current Chinese market, the competition between domestic market and foreign market is particularly important. Only by adhering to the development concept of advancing with The Times, continuously constructing the human resource management mechanism suitable for the company, fully developing the internal human resources and giving full play to the role of the company's talents can the company's profitability be improved. We will protect the legitimate rights and interests of small and medium-sized enterprises, constantly cultivate new additives and new driving forces, and ensure their sustainable and healthy development. Facing the new era, new opportunities and new challenges, small and medium-sized enterprises must seize the development opportunities, improve the quality of development, grasp the initiative of development, and make new progress in development.

In a word, in the information age, to strengthen human resource management, we must combine the development of The Times and the needs of China's economic development, establish information construction, and constantly improve the human resource management system. Through innovation and development, we attach importance to talent development and provide diversified training strategies for staff development, so that employees can establish correct values and enhance the cohesion of the enterprise. In the process of market competition, enterprises must also strengthen brand culture construction and communication between departments. Managers can establish a harmonious communication environment with employees, which helps to attract and retain talents and promote the sustainable development of enterprises.

## REFERENCES

- Liu Hao, Smes Should Strengthen human Resource Management Construction [J], Journal of Gansu Administrative College, 2018, (3)
- Zhang Qinghua, Human Resource Management in the Era of Knowledge Economy [J], Industrial Technology Economics, 2017, (4)
- Wei Ming, On strategic Human Resource Management [J], Journal of Chongqing University of Commerce, 2016, (6).
- Zhao Jinghua. Human Resource Management [M]. Shandong People's Publishing House, 2019.1.
- Xu Erming, Sun Jianmin human Resource Development and Management [M]. China Renmin University Press.2019.
- Kaicheng Yu, Wenwen Chen, Weizheng Chen, Human Resource Development and Management (3rd edition) (M). Dalian University of Technology Press.2017
- Qu Qunzhen. Analysis of human resource management problems based on three types of smes [J]. Productivity Research,2015, (7)
- Niu KAIbing. The Bottleneck of human resource management in small and medium-sized enterprises: Understanding and mechanism [J]. Enterprise Vitality, 2014, (8)
- Fan Jun. Current Situation and Countermeasures of Human Resource Management in Chinese Smes [J]. Journal of Changsha University,2017.(3)
- Foreign Sme Training System Construction Experience and Reference [J]. Business Times, 2017, (19).

# PROMOTION AND ANALYSIS OF NEW MEDIA MARKETING ON ENTERPRISE MANAGEMENT INNOVATION

**SHIHAO LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 624540937@qq.com*

## ABSTRACT

In order to better understand the new media, we must timely grasp the advanced new media technology, and actively apply it to the daily marketing activities, and constantly innovate the enterprise management work, so as to ensure the sustainable development of enterprises. This paper mainly describes the characteristics of the new media era, the influence of new media marketing on enterprise management, and the exploration of enterprise management innovation in the new media era.

**Keywords:** new media, marketing, enterprise, management

## INTRODUCTION

With the rapid development of information and network technology, new media is gradually divorced from traditional media, forming a new field, and gradually integrated into people's daily life and work, which is closely related to the all aspects of human beings, not only brings people a new experience, but also triggered a new media change.

### 1. the characteristics of the new media era

#### 1. Openness.

New media technology has broken the monopoly position of traditional media information communication, which is more open. The use cost of new media itself is relatively low, and the scope of communication is wider. Traditional media can only make the use of paper media, TV media and radio media for information. In the era of new media, information can give priority to instant, rapid and free communication through new media technology, providing a broader information communication channel for people.

#### 2. Convenience.

New media technology has strong convenience. The dissemination and dissemination of information can be carried out with only a smartphone or computer through wireless or wired signals. Daily activities, such as ordering, shopping, recharge and seat booking, can be completed quickly through new media, saving time and efficiency. With their convenience and speed characteristics, new media tools have been recognized by all walks of life, and have been widely used by people.

#### 3. freedom.

New media is also free, allowing people to communicate, speak, make opinions anytime and anywhere, and can make personalized choices combined with personal hobbies. Compared with traditional media, new media has many advanced nature and convenience. More and more enterprises begin to realize that the sweeping trend of new

media has put forward new requirements for the management of enterprises, and further promote the reform and innovation of enterprise management mode.

## **2. Impact of new media marketing on enterprise management**

### **1. Expand the scope of enterprise management.**

New media marketing based on big data has better requirements for the prediction of cost calculation. While enterprises push their products to market, they can more timely and accurately collect marketing results and feedback. In the market investigation and sales forecast, must be prepared, timely accounting of enterprise environment forecast cost, so as to gradually change from the result control management mode to preventive management mode, the scope of enterprise management will gradually expand, gradually expand from immediacy to foresight, and finally achieve the goal of management ahead of the event.

### **2. Improve the enterprise management strategy.**

Since the scope of enterprise management will gradually expand, then the enterprise management strategy will change accordingly. Marketing concept will gradually refine the content cost, its cost scope can provide the direction for the enterprise cost management means, and then lead to the cost management content will gradually become more complex, so as to constantly improve and standardize the cost management organization and mode, in line with the results of the new media marketing for product description. For example, after-sales service is also an important part of the product cost, so enterprises must control the after-sales service cost, it will be affected by the customer feedback attitude, so in the after-sales service cost management, must adhere to no basic salary, high performance management, to save cost to the maximum extent.

### **3. Sublimate the concept of enterprise management.**

The purpose of new media marketing is different from the purpose of traditional marketing: the latter goal is mostly only "profit", no long-term and planning sense, while the former focuses more on "establishing the position of the enterprise in the market", that is, to build brand advantage. New media environment, brand is the core competitiveness, in order not to be other companies, must set up a new market consciousness and management concept, not only need to consider the traditional quality price service, also must constantly dig others don't have the core value, realize the optimal configuration of the value chain, to truly improve the market competitiveness of enterprises. The concept of enterprise management has changed from simply obtaining economic benefits to highlighting the soft power of enterprises in the industry.

### **4. Promote the innovation in enterprise management.**

The emergence of new media marketing will directly affect the innovation work of enterprise management. Knowledge update frequency of today's society is very high. In order to ensure the competitiveness of enterprises in the market, we must constantly update the marketing strategy and sales management. For example, by actively quoting network information technology in marketing, in addition to the traditional email method, it can also attract consumers through WeChat official accounts, official Weibo accounts and even their own online Internet stores. ERP technology is also adopted by more and more enterprises with its comprehensive management that can achieve sales, which is also the embodiment of enterprise management innovation, which makes marketing activities get twice the result with half the effort. With the promotion of new media marketing, recognized by more and more people, and gradually changed people's living habits, which will promote enterprises in order to keep up with the pace of the exhibition and marketing innovation and management innovation, constantly quoted new media to marketing work, and combined with their own actual situation to complete the enterprise management

mode and system innovation, can really improve the core competitiveness of the enterprise in the market.

### **3. Exploration of enterprise management innovation in the new media era**

#### **1. Innovation in enterprise management mode.**

(1) Drive the old knowledge and technology with innovative scientific and technological concepts. Only by constantly innovating combined with our own actual situation, can we stabilize our heel in the market and achieve sustainable development. Combined with the feedback of new media technology and the continuous innovation of enterprise management mode is the king. If we continue to follow the traditional management mode, sleep on the previous credit books, and wait for it will only be eliminated by the market, Nokia's defeat is a very realistic case. In the context of today's information explosion, even the innovation of Apple mobile phone can not meet people's demand for innovation in today's era, and has been challenged and impacted by Huawei, Xiaomi and other brands. Science and technology are the primary productive force, and enterprise management innovation must be combined with the development and progress of the new era to truly achieve sustainable development.

(2) Integrate the enterprise development process with peer experience. With the widespread use of new media, many successful or failed experiences are known for broadcasting through a variety of channels. Enterprises in the management innovation, must actively absorb these experience, digest it, in order to combine their own actual situation, and constantly promote the rapid development of enterprises. Therefore, enterprises in the management innovation, should actively draw lessons from the experience and lessons of the same industry.

#### **2. Enterprise information security management innovation.**

With the advent of the new media marketing era, enterprises must pay attention to the level of information when management, information itself is a double-edged sword, it can improve enterprise strain ability and integrate resources, but in it fundamentally improve the business efficiency and innovation ability at the same time, it also hidden many security problems and risks, one of the most important is information security management. Only by avoiding the occurrence of hacker attacks, information control and malware software to the greatest extent, we can fundamentally guarantee the security and secret of the enterprise information system, and provide confidentiality, integrity and authenticity for the enterprise information system to do the basic work.

#### **3. Enterprise communication mechanism innovation.**

The enterprise communication mechanism includes internal and external communication. In the era of new media, the world is getting smaller and smaller under the role of the Internet, and the flow of time is getting faster and faster. Communication between enterprises and employees is no longer limited to meetings and email, new media methods such as electronic check-in, team WeChat group, external communication channels between employees and customers are no longer just a hotline, "Scan QR code to follow WeChat public account" or "login microblog for the latest information" are more suitable for today's social taste. Therefore, enterprises must participate in the innovation of the new channel communication mechanism, so as to fundamentally guarantee the harmony between inside and outside the enterprise, create a good corporate culture atmosphere, and finally realize the sustainable development of the enterprise.

#### **4. Enterprise marketing strategy innovation.**

The innovation of enterprise marketing strategy not only includes the information of new media to promote their own products, relying on the network for prediction and decision-making, but also includes continuing to establish a good image and build and promote their own brand through new media technology. In addition, the emergence of new media trading platforms and logistics platforms can reduce the transaction costs and operation cycle of enterprises to the greatest extent, and provide better services for the majority of consumers. The emergence of new media marketing has brought great changes and development to the management of the whole society. New media marketing in today's era has become one of the preferred marketing means of various enterprises, and it has gone deep into the holographic society with the characteristics of convenient and rapid dissemination. Enterprises in order to be able to stabilize their heel in the increasingly competitive market, must actively adopt the new media marketing strategy, to innovate their management mode, to conform to the trend, twice the result with half the effort, fundamentally improve the core competitiveness of enterprises in the market, which not only contributes to the rapid development of our social economy, is also conducive to the construction of a harmonious society in our country.

#### **REFERENCES**

- Luo Wei. Research on promotion and application of Big logistics business based on "Internet + News Media" [J]. Journal of journalism research, 2020,11 (19):245-246.]
- Shen Yongdong. Practice and Thinking of Enterprise Development Strategy -- Taking municipal construction enterprises as an example [J]. China Business Theory,2020(19):121-124.]
- Zhao Hunze, Zhu Licheng, Dai Haojun. China Business Review, 2019(23):86-87.]
- Jiang Wenbing. Problems and Countermeasures in enterprise marketing [J]. Enterprise Science and Development, 2019(11):258-259.
- Gan yixin. Application analysis of marketing management based on new media information platform [J]. Journal of chifeng university (natural science edition), 2017,33 (09):107-109.
- Zhang yan. New media marketing strategy and management innovation experience [J]. News research guide, 2015,6 (05):146-147.

# RESEARCH ON THE IMPACT OF GREEN INNOVATION ON ENTERPRISE ECONOMIC PERFORMANCE

LUO XIAODAN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: lxd810906@163.com*

## ABSTRACT

This article uses quantitative methods to discuss the impact of green innovation on corporate economic performance. The results show that the green innovation strategy is significant Positive effect on corporate economic performance.

**Keywords:** Green innovation, Firm performance, Environmental Strategy

## INTRODUCTION

### 1. Connotation of green innovation

Green innovation is not only an important theory about innovation theory, but also a new field. The core of green innovation is green, and its essence is innovation. That is, enterprises through innovative activities to achieve energy conservation, emission reduction, efficiency, in the product production process to constantly improve the quality of the external environment and achieve economic benefits of the enterprise business process<sup>[1]</sup>.

"Green" means sustainable development, that is, activities that ensure that future human survival is met through a change in production or way of life. Therefore, the connotation of green innovation can be interpreted as an innovation activity under the sustainable development of enterprises, and its essence is an innovation process that plays a positive role in promoting the environment. The green innovation of enterprises often involves the development of new products, product services, including energy saving, waste recovery, green product design and enterprise environmental management and so on. The concept of sustainable development does not mean restriction, on the contrary, through the role of effective human activities, it includes the current technological and social organization environmental resources change, and ultimately realizes the interests of the organization. Sometimes green innovation is also called ecological innovation, that is, to reduce the impact or negative effects of the environment in the process of providing users and commercial organizations with the production of new products or new processes. The European Federation for Innovation defines green innovation as a new and creative competitive product, system, process service and process that meets human material or spiritual needs and brings about a high quality of

life with the least recyclable natural resources and minimal pollutant emissions<sup>[2]</sup>.

The content of green innovation from the perspective of innovation management is dynamic and diverse.

Compared with ordinary technological innovation, green innovation is a new type of innovation, its connotation is more abundant, and it is a highly situational concept. In particular, the concept of green innovation itself is related to the concept of "green ecology". The deeper the understanding of green concept, the more thoroughly the enterprise green innovation mechanism and innovation model will be studied. The scope of its content is very wide, and the corresponding content often changes dynamically with the change of time and space. From the perspective of system management, green innovation not only includes product, process and other technological innovation, but also includes service, management, system and other non-technological innovation, and ultimately constitutes a complete innovation system<sup>[3]</sup>. It can be seen that the content category of green innovation is wide, and each content is interrelated and influenced each other. Green innovation is an innovation process based on the consideration of environmental policy framework and environmental management elements. According to the classification of green innovation, green innovation can be divided into green process innovation, green product innovation and green organizational innovation according to the innovation object. Green innovation can be divided into green process innovation, green technology innovation and green management innovation.

## **2. Meaning of economic performance**

Economic performance is an important evaluation index to measure the success of enterprise strategy. Generally speaking, when the enterprise management produces the environmental problem, the enterprise adopts the green innovation strategy will increase the cost, damages the enterprise economic performance. Green innovation not only improves the ecological environment, but also improves the production of products. Therefore, it can reduce the economic benefits of enterprises. The implementation of a passive environment may lead to increased costs that undermine financial performance<sup>[4]</sup>. From this point of view, green innovation itself and the economy form a pair of contradictions. However, when Porter's green innovation value theory is considered, enterprises can save costs by improving effective use efficiency and expand product sales revenue by developing new product markets. This is very important to the improvement of corporate financial performance. The investment of enterprises in green innovation can improve their economic performance. This is because green product innovation is conducive to the development of low-pollution products this kind of products often have higher product quality, through specific product pricing can often help enterprises to obtain a better market share, so as to improve the economic performance of enterprises<sup>[5]</sup>. In addition, because the green product innovation shows that the enterprise is full of social responsibility, the reputation and image of the enterprise will be greatly improved, and the brand value of the enterprise will be improved to varying degrees, which will

also have an impact on the perceived value of the product, which will ultimately be conducive to improving the economic performance of the product.

From the market scale, the total output value of China's energy-saving and environmental protection industry increased from about 3 trillion yuan in 2012 to 7 trillion yuan in 2018, with an average annual growth rate of 22 percent. Especially in recent years, the investment around enterprise green ecological protection and comprehensive environmental management has increased greatly. With the promotion of air pollution control, soil protection and remediation, sewage treatment and other related work, the space of environmental protection industry in China will continue to expand. From the point of view of the value growth brought by green innovation, green innovation related to green energy saving and environmental protection has become an important emerging field. However, it should be noted that the current enterprises are pursuing the factors of maximizing profits and minimizing capital investment.

Under, often unwilling to take the initiative to participate in the source of green technology innovation. However, in fact, enterprises may eventually get more significant benefits through primitive green innovation.

Green innovation and enterprise economic performance green innovation is a new concept of enterprise development in the new period<sup>[6]</sup>. It has a profound impact on the performance of the enterprise itself, but whether this impact is positive or negative is generally controversial in the world at present. Generally speaking, there are two different voices about the impact of green innovation on enterprises. The first is that green innovation can improve ecology, but it will affect the promotion of economic benefits of enterprises; and the other part of thinking that green innovation in the process of development can improve economic performance and promote the development of enterprises.

Therefore, the impact of green innovation on the economic performance of enterprises needs to be studied, so as to effectively promote the green innovation of enterprises, improve the ecological civilization of our country, and promote the green development of economy. And to achieve the historical construction of the national economy. the relationship between green process innovation and enterprise performance

Green process innovation, process innovation in a broad sense is not only limited to enterprise production and process improvement, but also covers the innovation of various production processes. The improvement of methods, systems, operating procedures and other aspects of production and management activities is an one-sided understanding of process innovation. From standardized management to process management, mainly by removing redundant links within the organization and redesigning unreasonable processes in order to make the production and operation of enterprises more efficient, to ensure that the business process is customer-oriented, it permeates all aspects of enterprise production, all links. Liu Jiangyun deeply excavates the samples of high-tech enterprises from four cities in China and finds that the current organizational environment has undergone tremendous changes compared with the traditional organizational environment, and the personalized needs of customers are becoming more and more prominent. The process transformation of internal and external enterprises will embed

the control system, enhance the flexible operation and environmental adaptability of the organization, and thus improve the performance of the organization.

the relationship between green process innovation and enterprise performance  
The implementation of green technology innovation strategy can not only solve the problem of waste of resources in the production process, but also reduce the necessary links of pollution treatment<sup>[7]</sup>, which is conducive to enterprises to obtain greater economic returns. Therefore, with the passage of time, green technological innovation gradually reflects a positive impact on the growth performance of enterprises. However, it is worth noting that the role of green technological innovation on the output and growth of the organization is not always promoted, but there is a critical point, which, once exceeded, will have a negative impact on enterprises.

This has produced the "too much" effect mentioned above. The reason is that: first of all, the higher the level of green technology innovation, the higher the requirements for technology, will need to invest a lot of funds to upgrade and transform the original equipment, which will increase the cost of enterprises to a certain extent. The enterprise may have the corresponding innovation output, but the innovation ability is low, which may affect the marketing performance of the enterprise, and can not promote the improvement of the enterprise performance. Secondly, technological innovation must require the input of resources, but excessive allocation of resources will lead to the reduction of marginal output, which will make enterprises fail to make full use of, absorb and digest these resources, resulting in low utilization rate of green technological innovation resources, and unable to manage green technological innovation resources very well, resulting in organizational redundancy, then excessive organizational redundancy will lead to the increase of enterprise costs, thus hindering the development of innovation. Finally, whether it is personnel investment or capital investment, if the enterprise pays one-sided attention to the excessive investment in green technology innovation, it will ignore the investment of other business activities, resulting in the unreasonable business structure of the enterprise can not be developed in an all-round way, affect the output of the enterprise, to a certain extent, affect the progress and growth of the enterprise . Therefore, when the critical point is exceeded, the growth performance of enterprises shows a downward trend. To sum up, this study puts forward the following assumptions:

There is a significant inverted U-shaped relationship between green technological innovation and enterprise growth performance.

(VI) the relationship between green management innovation and enterprise performance.

Xia Tongshui and other research found that many enterprises agree with the concept of green development, and through the use of green management in production and management to improve the utilization rate of resources and environmental protection. Finally, through empirical research, it is concluded that green management can improve the innovation performance of enterprises, and when the government attaches more importance to environmental protection, this relationship is more prominent. Huang Xiaoxing and so on have come to the conclusion that green management innovation is

the foundation of the survival and development of enterprises in the industry, and faces the competitive pressure of all aspects calmly, including more and more non-traditional competitors. Under the pressure of environmental public opinion, we should conform to the trend, reform the traditional environmental protection concept of enterprises, and keep pace with the development of the times. Yuan Jianzhong and Lin Qingwei have found that there is a significant positive relationship among green supply chain management, knowledge management and green management innovation in high-tech enterprises. The implementation of opportunity environmental protection model by senior executives can obviously promote enterprise performance and future development, and encourage enterprises to vigorously develop green products. Wu Yanbo and other studies have found that supply chain collaborative management can effectively help enterprises to implement green innovation. In turn, the upstream and downstream cooperation of the supply chain can be optimized to improve the overall production efficiency and increase profits. Yu Chuanpeng and others found that exploratory management innovation combines innovation activities into projects rather than a series of random events. Its relationship with enterprise performance is positive U-shaped, through the improvement of management innovation to help enterprises directly or indirectly improve performance and maintain friendly to the environment. Liu Ruirui and Wu Jun concluded that only by combining enterprise performance management with enterprise innovation management and highly matching, and promoting mutual trust and cooperation between enterprises and external sources of innovation, can enterprises give full play to their competitive strengths and maintain long-term and stable development in the competition. Su Zhongfeng and Sun Yan found that compared with green technological innovation, green management innovation has a more significant positive relationship with the improvement of enterprise performance<sup>[8]</sup>. Although both can improve corporate performance, but the latter has a wider range of impact. Based on the above theoretical basis, this paper draws the conclusion that green process green management innovation has a significant positive impact on economic performance.

## CONCLUSIONS

Green process green management innovation has a significant positive impact on economic performance. Green technology green management innovation has a significant positive impact on economic performance. Green innovation green management innovation has a significant positive impact on economic performance. Green innovation is not a zero-sum game in improving environmental performance and economic performance. Different from the traditional view, only the remaining profits of enterprises can invest in the wrong logic of green innovation to improve the environment. This indicates that green innovation is not only not a burden, but a new profit-making machine enterprise should adopt an active environmental strategy, rather than using end-treatment to passively meet the minimum requirements of all kinds of pollution emissions set by the government. Because enterprises need a process to realize the win-win understanding of environmental performance and economic performance, in order to speed up the process of promoting the practice of green innovation in enterprises, the government should implement more stringent environmental regulation policy, formulate green technology standards and certification system, set up industry benchmark, and increase government green procurement and green subsidies.

## REFERENCES

- Qu Kejin & Liu Zuoming. (2022). Green innovations, supply chain integration and green information system: A model of moderation. *Journal of Cleaner Production* (), doi:10.1016/J.JCLEPRO.2022.130557.
- Yang Hao Chang, Feng Gen Fu, Zhao Xin Xin & Chang Chun Ping. (2022). The impacts of energy insecurity on green innovation: A multi-country study. *Economic Analysis and Policy* (prepublish), doi:10.1016/J.EAP.2022.01.017.
- Ma Xiang, Ock Young Seok, Wu Fengpei & Zhang Zhenyang. (2022). The Effect of Internal Control on Green Innovation: Corporate Environmental Investment as a Mediator. *Sustainability* (3), doi:10.3390/SU14031755.
- Zhang Zeye, Peng Xuerong, Yang Liuyong & Lee Seoki. (2022). How does Chinese central environmental inspection affect corporate green innovation? The moderating effect of bargaining intentions. *Environmental Science and Pollution Research International* (), doi:10.1007/S11356-022-18755-5.
- Zhu Zhaohui & Tan Yafei. (2022). Can green industrial policy promote green innovation in heavily polluting enterprises? Evidence from China. *Economic Analysis and Policy* (prepublish), doi:10.1016/J.EAP.2022.01.012.
- Zhang Yuming, Li Xiaolei & Xing Chao. (2022). How does China's green credit policy affect the green innovation of high polluting enterprises? The perspective of radical and incremental innovations. *Journal of Cleaner Production* (), doi:10.1016/J.JCLEPRO.2022.130387.
- Zhang Zhifeng, Duan Hongyan, Shan Shuangshuang, Liu Qingzhi & Geng Wenhui. (2022). The Impact of Green Credit on the Green Innovation Level of Heavy-Polluting Enterprises-Evidence from China. *International Journal of Environmental Research and Public Health* (2), doi:10.3390/IJERPH19020650.
- Li, Jingjing. (2022). Can technology-driven cross-border mergers and acquisitions promote green innovation in emerging market firms? Evidence from China. *Environmental Science and Pollution Research* (prepublish), doi:10.1007/S11356-021-18154-2.

# THE RELATIONSHIPS AMONG EXPERIENTIAL MARKETING, FACTORS OF CHOOSING TO STUDY ABROAD, SATISFACTION, AND PURCHASE INTENTION: AN EXAMPLE OF THE XINYIFANG EDUCATION & TECHNOLOGY COMPANY IN CHINA

RAN AN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1610483885@qq.com*

## ABSTRACT

Based on the relevant theoretical basis of experience marketing, this study mainly discusses the relationship between experience marketing, parents' choice of studying abroad for their children, satisfaction and purchase intention: Taking China Xinyifang education technology company as an example. China's study abroad market is a dynamic consumer market. At present, there are many foreign intermediaries in the Chinese market. Based on the above research motives, a model of the relationship between experiential marketing, selection of talent learning factors, satisfaction and purchase intention was developed. The above conceptual framework is verified by using students of New Yifang Company as the research subjects. Based on the research findings, research conclusions and feasibility recommendations are presented. In the highly competitive international education industry, it is necessary for New Yifang to understand the needs and desires of its students and to study whether the results are variable depending on individual background variables. To understand parents' thoughts on the factors of their children's choice to study abroad, so as to strengthen the students' experience in a targeted manner, enhance students' satisfaction, and further create a positive willingness to accept study abroad and achieve a satisfactory result in the international education industry. The author refers to a large number of documents and finds that: (1) Experience marketing has a significant positive impact on customer satisfaction. (2) Experience marketing has a significant positive impact on customers' purchase intention. (3) The factors of choosing to study abroad play a regulatory role in the relationship between experience marketing, satisfaction and purchase intention. According to the research motive stated in this paper, in terms of research objects, most of the past research related to experience marketing has focused on the leisure and entertainment industry, and fewer have taken the category of international education as a research object. The introduction of experiential marketing theory can guide the international education industry to update its concept and truly create a personalized and one-stop experience feast for students, oriented by the factors of choosing to study abroad and satisfaction. This study is an empirical measurement and study of parents' behavioral intentions towards their children's factors and satisfaction in choosing to study abroad, and a study of the relationship between each element, which further makes the audience have positive behavioral intentions, so this study also has certain guiding significance for practice.

**Keywords:** Experience marketing, Factors of choosing to study abroad, Satisfaction; Purchase intention

# INTRODUCTION

## 1. Introduction

### 1.1 Background

Nowadays, it is the era of the rise of experience economy, people's consumption style and concept are quietly changing, consumers' values are more diversified, needs are more diversified and performance is more personalized. The consumer group of studying abroad is getting more and more attention from all walks of life, especially because of the complicated kinds of international education institutions in the market and the increasing difficulty of upgrading qualifications in China, more and more parents are concerned about the development of international education. The market of study abroad education was also born in this context. By the end of 2015, the cumulative number of Chinese students studying abroad had reached 4,042,100, with an average annual growth rate of 19.06%, and the number of returnees is also increasing. From 248 in 1978 to 409,100 last year, the cumulative number of returnees reached 2,218,600, with an average annual growth rate of 22.46%.

The large number of Chinese students not only has an immeasurable impact on China's economy and politics, but also promotes the economic and cultural development of their countries of study, which has attracted the attention of domestic and foreign media, as well as the Chinese government and the governments of their countries of study. In recent years, there have been many media reports and government statistics. However, academic research on this social group is still a step behind, and scholars have not yet made much research on the appearance, substance, and development trend of this huge social group and its real and long-term impact on home countries and study abroad countries. This paper aims to analyze and evaluate the characteristics and development trends of the new generation of Chinese students through the complicated surface phenomena, oral interviews with Chinese students, local students abroad, faculty members of foreign universities and parents of Chinese students, data reports from official institutions and private research think tanks in both countries, observations from Chinese and English newspapers and magazines, and research papers published in existing Chinese and English academic journals, in order to identify the lessons learned from this study, and to offer advice on the concept and practice of study abroad for Chinese students.

### 1.2 Research Questions & Research Objectives

#### 1.2.1 Research Questions

The main research questions in this paper are as follows: Does experiential marketing in the international education industry provide Chinese students with a good experience and thus increase student satisfaction? And does student satisfaction increase students' willingness to continue to study abroad to improve their qualifications (repurchase)? What is the relationship between these three factors? Is there a moderating effect between experiential marketing and customer satisfaction as a result of parental factors in choosing to study abroad?

#### 1.2.2 Research Objectives

Based on the above research motives, a model of the relationship between experiential marketing, selection of talent learning factors, satisfaction and purchase intention was developed. The above conceptual framework is verified by using students of New Yifang Company as the research subjects. Based on the research findings, research conclusions and feasibility recommendations are presented. In the highly competitive

international education industry, it is necessary for New Yifang to understand the needs and desires of its students and to study whether the results are variable depending on individual background variables. To understand parents' thoughts on the factors of their children's choice to study abroad, so as to strengthen the students' experience in a targeted manner, enhance students' satisfaction, and further create a positive willingness to accept study abroad and achieve a satisfactory result in the international education industry.

### **1.3 Research Significance**

According to the research motive stated in this paper, in terms of research objects, most of the past research related to experience marketing has focused on the leisure and entertainment industry, and fewer have taken the category of international education as a research object. Therefore, this paper takes students studying abroad as the research object, which enriches the research field of experience marketing. In terms of research content, this study is based on the theory related to experience marketing, and starts from the perspective of students' experience psychology to empirically study the relationship between parents' factors, satisfaction and purchase intention of their children's choice to study abroad. The breeding and growth time of international education in China is relatively short, and some problems have emerged in the course of development, such as single content, serious homogenization and complicated types of study abroad, etc. Some international education also has the tendency of vulgarization and low quality. The root cause is the lack of practical experience and blindly following the trend, which leads to the above problems. The introduction of experiential marketing theory can guide the international education industry to update its concept and truly create a personalized and one-stop experience feast for students, oriented by the factors of choosing to study abroad and satisfaction. This study is an empirical measurement and study of parents' behavioral intentions towards their children's factors and satisfaction in choosing to study abroad, and a study of the relationship between each element, which further makes the audience have positive behavioral intentions, so this study also has certain guiding significance for practice.

In this paper, we argue that in the context of experiential marketing, some studies have introduced the characteristics of study abroad students (age, gender, occupation, income, etc.) as a moderating variable to investigate how the dependent variable would be affected under the influence of these characteristics. A few studies have also introduced the concept of selection of study abroad factors as a moderating variable. Therefore, based on the previous studies, this study introduces "parents' factors for their children's choice to study abroad" as a moderating variable from a new perspective to analyze whether the factors for studying abroad produce different satisfaction levels under the same consumption experience, and to explore the relationship between satisfaction and purchase intention in the five dimensions of experiential marketing strategy. The relationship between satisfaction and purchase intention is explored.

## **LITERATURE REVIEW**

### **2. Literature Review**

#### **2.1 Main Theory**

SOR model is a general model of human behavior, namely "stimulus - individual physiological, psychological - response". The model suggests that consumers' purchasing behavior is caused by various stimuli, which come from both internal physiological and

psychological factors as well as external environmental factors. Consumers are stimulated by various factors to generate motivation, driven by the motivation to make a decision to buy goods, the implementation of the purchase behavior, after the purchase will also make an evaluation of the purchased goods and their related channels and manufacturers, so that a complete purchase decision process is completed. When the consumer in order to meet a certain tourism needs and driven by the motivation of tourism purchase, the purchase of tourism products and a series of post-purchase behavior, then it is called a complete tourism purchase decision. Due to the influence of physiological and psychological factors and social conditions, tourism purchase decision shows obvious gender differences. The purchase decision of female travelers has its own unique pattern.

## **2.2 Experience Marketing**

In the era of experience economy, consumers not only need goods or services, but also need to get sensory enjoyment and unforgettable pleasure through the consumption of goods or services. Therefore, experience marketing came into being. It is a marketing model driven by experience, which quickly replaces the past marketing and operators (Schmitt, 1999).

To sum up, this study adopts Schmitt's definition of experience marketing as: "experience is divided into sensory, emotional, thinking, action and relevance. The implementation of experience marketing must rely on experience media. The five strategic experience modules proposed by Schmitt are as follows:

(1) Sensory experience, (Kotler, 1973) in his research, the consumption environment established by the five sensory dimensions is called store atmosphere. All the feelings that consumers can feel in the store can be defined as store atmosphere, which includes sound, smell, color, temperature, and the behavior and interaction of on-site personnel. Store atmosphere and environment will affect consumers' mood, And the willingness to visit and browse (ward & Robertson, 1992). Therefore, starting from the transformation of store environment is also an important means to create differentiation (Baker, Parasuraman, Grewal & Voss, 2002).

(2) Emotional experience. The marketing appeal of emotional experience is to induce consumers' mood and make consumers have feelings and emotions for the brand in the consumption environment. The marketing focus of emotional experience is that consumers not only care about customer satisfaction in the shopping environment, but also pay attention to their inner emotional feelings in the process of consumers accepting products and services (mccole, 2004). In the consumption environment, consumers' emotions are triggered by consumption experience such as using products (Russell, 1979).

(3) Think about the experience. (Pine & Gilmore, 1999) believes that after consumers get a sense of surprise in the experience, they will have the feeling of looking forward to the next cycle of surprise, because surprise can exceed the experience expected by consumers, while suspense further requires that surprise should be able to establish memory in customers' hearts, so as to form expectations for the next consumption and form a more unforgettable experience in consumers' hearts.

(4) Action experience. Through the enrichment of consumers' actual personal experience, mobile marketing shows alternative ways of doing things, alternative lifestyles, and interaction, so as to diversify consumers' lives.

(5) Associated experience. The main appeal is the personal desire for self-improvement and the desire to win the favor of others (such as boyfriend and girlfriend, spouse, family and colleagues). Let individuals connect with a wider social system (such as a country), establish strong brand relationship and brand community, and obtain a sense of belonging.

## **2.3 Customer Satisfaction**

### **2.3.1 Definition of customer satisfaction**

Cardozo (1965) was the first scholar to introduce the concept of customer satisfaction. He argued that an increase in customer satisfaction increases customers' repurchase behavior and further influences their purchase of other products. Novak (2002) suggested that customer satisfaction is a leading indicator of wealth creation as far as the industry is concerned.

In this paper, customer satisfaction is defined as the measurement of products, services and experiences by customers in the consumption process, which leads to an overall evaluation of the whole consumption experience and produces a state of psychological satisfaction, which influences customers' purchase intention and behavior.

### **2.3.2 Dimensions and measurement methods of customer satisfaction**

According to the research results of scholars, through the marketing stimulation of customers, the effect of experience marketing will directly affect customer satisfaction (Hong youl, 2005), which in turn affects purchase intention. It can be seen that customer satisfaction is an important indicator of the effectiveness of experiential marketing (Wang & Lin, 2010).

### **2.3.3 Research on customer satisfaction**

In marketing, Cardozo (1965) was the first scholar to introduce the concept of customer satisfaction. He argued that increased customer satisfaction would increase customers' repurchase behavior and further influence their purchase of other products. Since then, "customer satisfaction" has become a formal field of study. Although scholars still have many different views on the definition of customer satisfaction, such as the form of response (cognitive or emotional), the evaluation of time (immediate encounter or retrospective past consumption), etc., they basically study it from the following aspects.

Some scholars believe that customer satisfaction is related to specific transaction situations. It is the evaluation of customer's purchase behavior at a specific place and time, which can provide information analysis and judgment on the performance of specific goods and services. For example, (Woodruff, Cadotte and Jenkins, 1993) argues that customer satisfaction is the immediate response of consumers to the value of the goods used in a particular experiential context.

Some scholars argue that customer satisfaction is a subjective feeling in the mind of the consumer, a temporary and emotional response. oliver (1981) also showed that emotions have an important influence on satisfaction. (Spreng, mankenzie and olshavsky, 1996) proposed that satisfaction is a consumer's emotional response to a product or service.

Many scholars also proposed that satisfaction is the perception of whether consumers feel appropriate after being compensated for the sacrifices they make in purchasing a product or service (Howard & Sheth, 1969). oliver (1980) proposed the theory of "expectation inconsistency", arguing that when the actual performance of a product exceeds expectations, customers perceive it as satisfactory; but when expectations

exceed actual performance (negative inconsistency consistent), customers consider it unsatisfactory.

In summary, most of the domestic and foreign scholars' research on customer satisfaction starts from the perspective of consistency between consumers' expectations and actual feelings, or considers satisfaction as an overall evaluation of consumers' entire consumption experience, or starts from a more subjective level, considering satisfaction as an emotional state or psychological feeling of consumers after participating in consumption. However, most scholars study customer satisfaction after consumption or purchase, and argue that satisfaction is closely related to consumers' subsequent intention to repurchase. However, few scholars have conducted systematic studies on pre-purchase satisfaction to explore whether high satisfaction leads to high purchase. In this paper, customer satisfaction is defined as: customers' measurement of products, services and experiences during the consumption process, which leads to an overall evaluation of the whole consumption experience (pre-purchase) and produces a state of psychological satisfaction, thus influencing customers' purchase intention and behavior.

## **2.4 Purchase Intention**

### **2.4. 1 Definition of purchase intention**

Purchase intention is unfolded through the same concept, i.e. the probability that international students are willing to take a specific purchase behavior. It is defined as the customer's propensity to purchase a good or brand and to make a judgment about the product or brand considering the current situation and possibilities (Hellier, geursen & carrandruckard, 2003).

### **2.4. 2 dimensions and measures of purchase intention**

Reynolds and wells (1977) made a distinction between descriptive and predictive consumer characteristics. The results showed that it is more accurate to predict purchase behavior by intention than by preference. Therefore, this study uses purchase intention as a predictor of consumer purchase decisions and discusses the effects of different experiences on customer satisfaction and purchase intention.

### **2.4. 3. Research on purchase intention**

There is a lot of literature on purchase intention, but it is basically studied from the following four aspects.

#### **(1) Research on purchase intention based on consumer attitudes**

Attitude refers to the degree of emotion of approval or disapproval of a stimulus. In psychology, it is believed that an individual's attitude toward things affects his or her behavioral intention. shim and Drake (1990) found that there is a significant correlation between purchase intention and customer attitude. Consumers form their own attitudes toward a product or service by how they perceive or feel about it, which in turn affects the purchase intention of the product or service (Peter & Olson, 1987).

#### **(2) Purchase intention research based on maximum perceived value**

Perceived value is a customer's overall evaluation of the utility of a product or service after weighing what they can feel and what they pay for it when they get the product. Dodds and William (1991) mentioned that a customer's willingness to buy depends on the relative relationship between what he gets from the product he wants to buy and the price he pays for that product. Zeithaml (1998) pointed out through a large

number of empirical studies that there is a positive relationship between consumers' purchase intention and perceived value. When the perceived value rises to an acceptable level, consumers will decide to buy.

(iii) Purchase intention research based on minimum perceived risk

Scholars, represented by Bauer, believe that consumers will choose the option with the least perceived risk when making a purchase. Bauer (1960) defines perceived risk as the consequences caused by a consumer's behavior that he cannot clearly anticipate himself. It consists of two aspects: uncertainty and adverse consequences. Uncertainty refers to the uncertainty about the performance and other attributes of the product itself; adverse consequences refer to the loss of time, money, and psychological aspects after the purchase of the product.

(iv) Purchase intention research based on the theory of planned behavior

The theory of consumer planning behavior was proposed by Cong Ajzen (1991) and has been used to analyze and predict consumers' rational consumption behavior in recent years. The theory includes four levels: the first level is consumer behavior. The second level is the consumer's purchase intention. The third level is the factors that influence consumers' purchase intention, and the fourth level is the analysis of the factors that influence the aforementioned attitudes, "rules" and judgments, which vary from product to product.

In summary, although the formulation of the connotation of purchase intention varies, scholars agree that purchase intention is the content of consumers' mental activity and the probability of purchase behavior. Consumers with positive purchase intention develop positive commitment, and commitment implies that consumers want to maintain a significant relationship with the industry (Moorman, Zaltman & Deshpande, 1992). The relationship between purchase intention and purchase behavior has also been affirmed by most scholars. It is widely believed that purchase intention can be used to predict consumers' buying behavior. From the research results at home and abroad, four main aspects of purchase intention have been studied, namely through attitude, perceived value and perceived risk. The author believes that customer satisfaction is an attitude. Customers form an attitude of satisfaction or dissatisfaction with this experience in the process of experience, which in turn affects their purchase intention and purchase behavior. Therefore, this paper includes consumers' own values as a factor that influences customers' purchase intention.

## **2.5 Conceptual Framework**

The logical idea of this research framework is: the audience will have an experience when watching Xinyifang education company. On the one hand, this experience will affect the audience's satisfaction, on the other hand, it will affect the purchase intention through the intermediary variable of satisfaction. In addition, from a new perspective, parents "choose to study abroad" for their children is introduced into the model as an adjusting variable to analyze whether the factors of choosing to study abroad will produce different satisfaction under the same consumption experience. As shown in Figure 1.1:

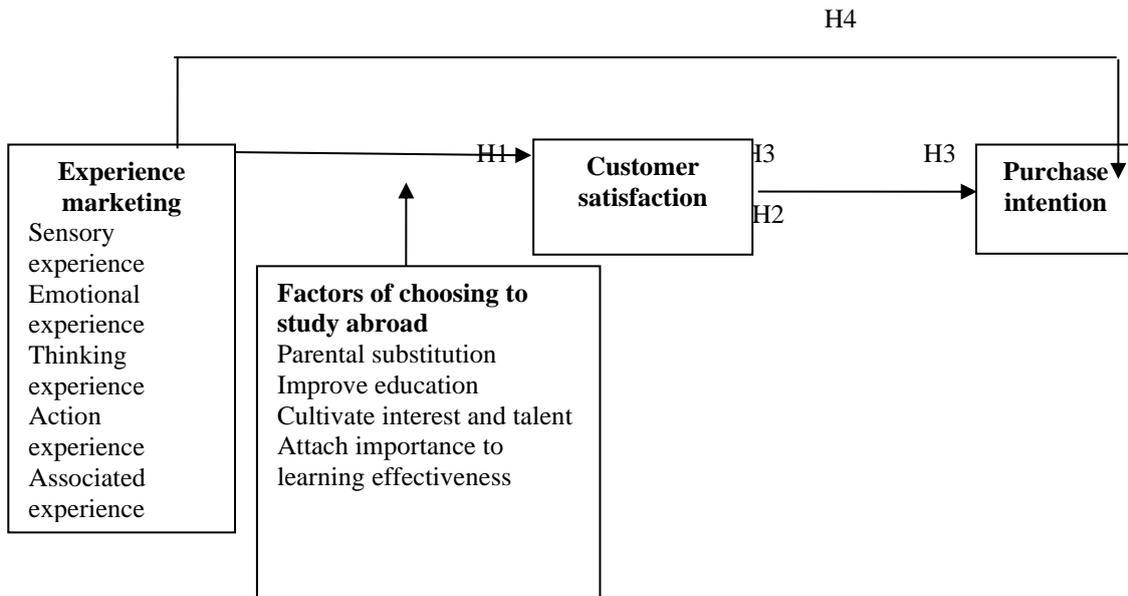


Table 1.1 Research framework of this paper

### 3. Research Methodology

#### 3.1 Operational Definition & Measurement

##### 3.1.1 Experiential Marketing Strategy Module

The independent variables are based on Schmitt's (1999) five major experiences and the subcategories under each experience, which are the five important research variables of sensory experience, emotional experience, action experience, thinking experience, and association experience. The sensory experience section contains five items: hearing, seeing, tasting, smelling and touching; the emotional experience section contains two items: consumption scenario (the whole consumption environment and the feelings and emotions brought by the scenario to the customers), and tactile media (e.g., the feelings and emotions of customers after receiving courteous and enthusiastic service from the service staff), and the thinking experience section contains: creating a sense of surprise, inducing, thinking and knowledge growth (e.g., giving parents with information about studying abroad): group belonging, social identification, cultural values, etc. In this paper, the operational definitions and measurement sources are: modified with reference to the Schmitt.B.H (1999) Experience Scale.

##### 3.1.2 Parents' factors in choosing their children to study abroad

According to a study conducted by Zheng Xiulan (2008) in Taiwan, the factors that parents choose to study abroad are: satisfying parents' vanity, improving personality and temperament, parents providing a learning environment, not wanting their children to lose at the starting line, parents' compensation psychology, cultivating interests and talents, complementing the lack of art education in schools, and future schooling needs. Reference for this scale: Exploring the factors of parents' choice of music talent learning for their children - A case study of Tainan region [D]. Chiu, Yi-Chin, 2016.

##### 3.1.3 International Student Satisfaction

Customer satisfaction is the state of pleasure or disappointment that a customer feels when the perceived effect (or result) of a product is compared to the expected value. The earliest theoretical literature on customer satisfaction dates back to 1965 when Cardozo published "An experimental study of customer effort, expectation, and satisfaction". Early research on satisfaction focused on the product side, and Cardozo (1965) argued that increasing customer satisfaction would lead to repeat shopping behavior and would not lead to switching to other products. In this paper, only process

satisfaction is used as a factor to measure customer satisfaction, and a five-point Likert scale (strongly disagree to strongly agree) is used to measure it. Refer to Oliver, R.L. (1981) Customer Satisfaction Scale modified.

### **3.1.4 International students' willingness to buy**

According to Mullet, consumers' attitudes toward a product or brand, together with external factors, constitute consumers' willingness to buy. Dodds et al. argue that purchase intention refers to the subjective probability or likelihood of consumers purchasing a particular product, while some scholars argue that purchase intention is a consumer's purchase plan for a particular product. Chinese scholars Han Rui and Tian Zhilong believe that purchase intention refers to the possibility of consumers to buy that product; while Zhu Zhixian believes that purchase intention is a psychological advisor for consumers to buy a good that suits their needs, which is a manifestation of consumer psychology and a prelude to purchase behavior. After revision, the Likert five-point scale (strongly disagree to strongly agree) was used for measurement. Refer to Juster. 1966; Biswas and Blair. 1991; Lichtenstein et al., 1989; Singh and Cole, 1991; Singh et al., 2000 Modification of the Purchase Intention Scale.

### **3.2 The scope of the research**

This study basically draws on the scales of foreign scholars and Taiwanese scholars, makes appropriate modifications and adjustments according to the linguistic and cultural characteristics of China, and designs a prototype questionnaire for international student consumers through semantic comparison and repeated deliberation. The research subjects are Chinese international students in the international education industry. In order to further ensure the validity and reliability of the measurement questionnaire, this study conducted a pre-survey study on international students' consumers, mainly to explore the relationship between experiential marketing, parents' factors on their children's choice to study abroad, satisfaction and purchase intention. Therefore, the sample selection for this study is the parents of New Yifang Education Company for the questionnaire.

### **3.3 Data collection process**

Based on the convenience of sampling, timeliness, recovery and financial considerations, this study adopted the convenience sampling method, i.e., a survey of Chinese international students at New Yifang. The questionnaire research of this study was conducted from December 15, 2021 to December 30, 2021 and lasted 15 days. The questionnaire was filled out entirely by students studying abroad at XinyiFang in the form of an online questionnaire, and the staff would go on stage and interact with the audience on stage to do the survey and distribute gifts towards the end of the study abroad presentation to ensure the authenticity and completeness of the questionnaire. In order to ensure the authenticity and reliability of the data obtained from the survey, this study took two measures to obtain the survey data: (1) the survey was conducted after the respondents' consent was fully obtained; (2) the sample data obtained were discriminated regarding the integrity and authenticity of certain key information. The survey was planned to distribute 500 questionnaires, 500 questionnaires were returned, and after eliminating invalid questionnaires, the number of valid questionnaires was 416, with a valid return rate of 83.2%.

## **4. Data Analysis**

This study is a quantitative questionnaire survey method, using AMOS and SPSS software to analyze the collected affected data. In this study, the model is divided into two parts for research, and the structural equation model is used to analyze this part of the

model from the independent variable. The part involving moderator variables was subjected to multiple regression analysis.

#### 4.1 Descriptive analysis

VARIABLE	CATEGORY	NUMBER OF PEOPLE	PERCENTAGE
GENDER	male	147	35.3
	Female	269	64.7
AGE	Under 18	5	1.2
	18-25	22	5.3
	26-30	192	46.2
	31-35	124	29.8
	36-40	41	9.9
	41+	32	7.7
	EDUCATION	High School and below	25
Colleges and Universities		115	27.6
Undergraduate		227	54.6
Master's Degree		35	8.4
PhD and above		14	3.4
INCOME	No income yet	10	2.4
	Under 2000 RMB	125	30
	2000-4000RMB	188	45.2
	4001-6000RMB	26	6.3
	6000 RMB	67	16.1
Family structure	Unmarried	12	2.9
	Married with no children	129	31
	Married, children underage	200	48.1
	Married, children of adult age	75	18
Pass member	Teachers with students	75	18
	Parents with children	217	52.2
	Elders with juniors	93	22.4
	Caring for the future education of children	18	4.3
	Others	13	3.1

table2.1 Descriptive Statistics Table of Sample Demographic Characteristics

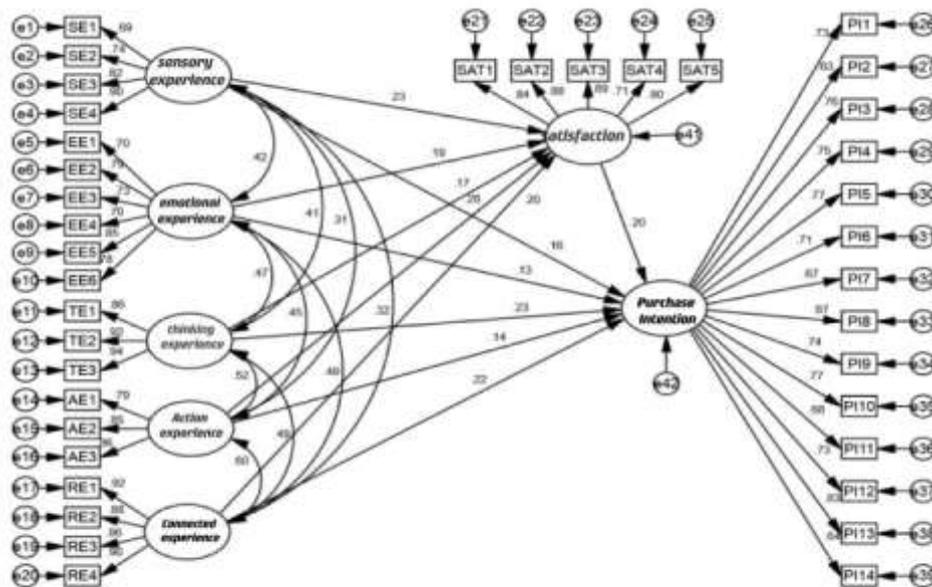
Reliability analysis is necessary to ensure the validity of model fit evaluation and hypothesis testing, and then to conduct reliability analysis after validity analysis. It is generally believed that the Cronbach's alpha coefficient must be greater than 0.7 if the variables are to have good reliability, and most of the general factors to improve reliability are variable reduction, which is done according to two conditions: 1. if the correlation between the deleted item and the total score of other items (Corrected Item-Total Correlation, CITC) is less than 0.5, then the question is deleted; 2. item; 2. If the Cronbach's alpha coefficient increases after the deletion of the item, the item is deleted. In this study, the above two points were used as the basis for purifying the items.

Confirmatory factor analysis (CFA) is a very important part of SEM analysis, the main role is to confirm whether the potential variables can really be represented by several

(usually more than three) measurement topics. thomopson (2004) suggested that SEM researchers should conduct structural equation modeling analysis before Kenny (2006) suggests that the social and behavioral sciences place much more emphasis on CFA than SEM because CFA provides sufficient information about model setting, evaluation, and the level of confidence in the results. CFA measurement model variable reduction is based on According to Kline's (2005) two-step modeling, the measurement model is tested before performing structural model analysis. First, if the measurement model fit is found to be acceptable, then a second step is performed to evaluate the full SEM model. When the model is found to be poorly fit, it is then corrected based on practical experience and mathematical models.

In this study, the AVE root value method was used to assess the discriminant validity of the factors. According to (Fornell and Larcker, 1981), the AVE root value of each factor must be greater than the correlation coefficient of each paired factor to indicate the discriminant validity of the factors. The diagonal line is the standardized coefficient of each factor whose AVE root number is greater than the off-diagonal coefficient, and the diagonal triangle is the correlation coefficient.

#### 4.2 SEM model test



After achieving good reliability and validity of the relevant measures, in order to better explore the relationship between the factors, this study used AMOS to model structural equations and validate the relationship between these variables. Based on the hypotheses of the study, a conceptual model was constructed, and on the basis of the conceptual model proposed, this study used AMOS 22.0 to build the complete structural equation model to be validated .

Table 4.1.1 Structural equation model fit

Model fit metrics	Judgment Criteria	Measured value
$\chi^2$	The smaller the better	1046.318
$\chi^2 / df$	<3	1.536
RMSEA	<0.08	0.036
GFI	>0.9	0.887
AGFI	>0.9	0.870
NFI	>0.9	0.914
IFI	>0.9	0.968
TLI	>0.9	0.965
CFI	>0.9	0.968

From the fit of the talent selection model, we can see that  $\chi^2 / df$  is  $1.536 < 3$ , which meets the criteria, RMSEA is  $0.036 < 0.08$ , which meets the criteria, GFI and AGFI are 0.887 and 0.87, respectively, which do not reach 0.9, but they are all greater than 0.85, which is within the acceptable range, NFI, IFI, TLI, CFI are 0.914, 0.968, and 0.965, and 0.968, all of which are greater than 0.9 and meet the criteria, and each fitting index meets the criteria of general studies, so this model can be considered to have a good fit.

表 4.12 Path factor

Paths			Standardization factor	Non-standardized coefficient	S.E	C.R.	P	Assumptions
Satisfaction	<--	Sensory Experience	0.227	0.303	0.059	5.127	***	成立
Satisfaction	<--	Emotional Experience	0.189	0.21	0.053	3.967	***	成立
Satisfaction	<--	Reflective Experience	0.171	0.179	0.049	3.641	***	成立
Satisfaction	<--	Action Experience	0.278	0.362	0.069	5.243	***	成立
Satisfaction	<---	Affiliate Experience	0.198	0.188	0.046	4.047	***	成立
Purchase intention	<---	Satisfaction	0.197	0.112	0.033	3.354	***	成立
Purchase intention	<---	Sensory Experience	0.155	0.117	0.032	3.666	***	成立
Purchase intention	<---	Emotional Experience	0.135	0.085	0.028	3.016	0.003	成立
Purchase intention	<---	Reflective Experience	0.225	0.133	0.027	5.012	***	成立
Purchase intention	<---	Action Experience	0.145	0.106	0.037	2.835	0.005	成立

							0 5	
Purchase intention	<---	Affiliate Experience	0.219	0.118	0.025	4.699	* * *	成立

In this study, through structural equation modeling of the model, it was found that the path from customer satisfaction to their purchase intention in the process of experiential marketing was not significant, and the rest of the path relationships supported the research hypothesis.

#### 4.1 Adjustment effect test

表4.13 Parental duty substitution adjustment test form

	Satisfaction					
	Step 1		Step 2		Step 3	
	$\beta$	t	$\beta$	t	$\beta$	t
Sensory Experience	0.221	5.970***	0.210	5.690***	0.196	5.430***
Emotional Experience	0.186	4.737***	0.178	4.549***	0.191	5.048***
Reflective Experience	0.177	4.329***	0.179	4.400***	0.163	4.103***
Action Experience	0.246	5.979***	0.236	5.739***	0.231	5.794***
Affiliate Experience	0.200	4.838***	0.181	4.339***	0.182	4.445***
parental replacement			0.092	2.638**	0.139	3.941***
Parental substitution & sensory experience					0.058	1.511
Parental replacement & emotional experience					0.020	0.490
Parental replacement & reflection experience					0.112	2.636**
Parental replacement & action experience					0.040	0.924
Parental substitution & association experience					0.009	0.195
R2	0.572		0.580		0.614	
$\Delta$ R2	0.572		0.007		0.034	
F	109.808***		93.996***		58.396***	

Note: \*\*\* indicates  $p < 0.001$ ; \*\* indicates  $p < 0.01$ ; \* indicates  $p < 0.05$

From the table, we can see that, from the first step, sensory experience, emotional experience, thinking experience, action experience and association experience all have significant positive effects on satisfaction; from the second step, we can see that, after adding the moderating variable of job replacement, each variable still has a significant positive effect on satisfaction; from the third step, we can see that, after adding the interaction term of each variable and job replacement, the interaction term of job replacement and sensory experience has no significant effect on satisfaction. The standardized coefficient of the interaction term between job replacement and sensory experience on satisfaction is 0.058,  $p > 0.05$ , which does not have a significant effect, indicating that the hypothesis is not valid (H2-1); the standardized coefficient of the interaction term between job replacement and emotional experience on satisfaction is 0.020,  $p > 0.05$ , which does not have a significant effect, indicating that the hypothesis is

not valid (H2-2); the standardized coefficient of the interaction term between job replacement and thinking experience on satisfaction is 0.020,  $p > 0.05$ , indicating that the hypothesis is not valid (H2-2); the standardized coefficient of the interaction term between job replacement and thinking experience on The standardized coefficient of the interaction term between the experience of taking and thinking is 0.112,  $p < 0.05$ , which has a significant effect, indicating that the hypothesis is valid (H2-3); the standardized coefficient of the interaction term between the experience of taking and acting is 0.040,  $p > 0.05$ , which does not have a significant effect, indicating that the hypothesis is not valid (H2-4); the standardized coefficient of the interaction term between the experience of taking and relating is 0.009,  $p > 0.05$ , indicating that the hypothesis is not valid (H2-4); the standardized coefficient of the interaction term between the experience of taking and relating is 0.009,  $p > 0.05$ , does not have a significant effect, indicating that the hypothesis is not valid (H2-5). The study showed that high parental replacement would reinforce the positive effect of thinking about the experience on satisfaction.

## CONCLUSION

Using structural equation modeling, combined with actual survey data and research theoretical models discussed in the literature, this study analyzes the relationship between experiential marketing, parents' factors on their children's choice to study abroad, satisfaction and purchase intention of Xinyi Fang Company, and mainly obtains the following research results.

### 5.1. Impact of experiential marketing on customer satisfaction

The standardized coefficients of sensory experience, emotional experience, thinking experience, action experience and related experience on satisfaction were 0.227, 0.189, 0.171, 0.278 and 0.198, respectively, and the corresponding p-values were less than 0.05, indicating that the hypotheses were valid (h1, h1-1, h1-2, h1-3 and h1-4). The results showed that action experience had the greatest weight of influence, sensory experience ranked second, and thinking experience had the least influence. In other words, the better the parents' experience of their children's choice to study abroad, the higher their satisfaction. This further validates the findings of scholars on the positive correlation between experience and satisfaction.

### 5.2 Relationship between experiential marketing and customer satisfaction

According to the results of this study, the factor of choosing to study abroad is the moderating variable between experience marketing and customer satisfaction, while the ability to develop interest is the main factor for parents to choose study abroad for their children. Parents can only bring real value when they decide to study abroad from their children's perspective. Most parents have highly positive attitudes and perceptions about the choice to study abroad. Research has shown that high parental substitution enhances the positive impact of thinking experiences on satisfaction, and high assisted learning enhances sensory experiences, thinking experiences, and action experiences, which have a positive impact on satisfaction. Fostering high interest enhances the positive impact of action experiences on satisfaction. Cultivating high interest will enhance the positive effect of action experience on satisfaction. Focusing on learning will strengthen the positive impact of thinking experience and action experience on satisfaction.

### 5.3 Impact of experiential marketing on purchase intention

At Faithful Fang Education, customer experience has a positive impact on their purchase intention. In other words, the better the customer's study abroad experience is, the higher their purchase intention is. This further validates scholars' findings that experience is positively related to purchase intention, suggesting that this result is also

applicable in the study abroad field. Specifically, all subhypotheses were accepted. This suggests that the actual experience of the hospitality and professionalism of the service staff is very important when consumers come to Xinyi Fang Education, which may significantly influence their purchase intention. Likewise, the actual experience is very important. Research shows that the thinking experience has the greatest weight of influence, the relevance experience takes second place, and the emotional experience has the least influence. The better the experience, the higher the purchase intention.

#### **5. 4 Influence of customer satisfaction on purchase intention**

In the literature discussion, it is generally believed that purchase intention works through customer satisfaction, that is, only when the customer is satisfied can the desire to purchase be further generated. This paper proposes that customer satisfaction is a mediating variable between experiential marketing and its purchase intention, that is, consumers will further generate purchase intention only when they feel satisfied after the consumption experience. The study shows that the standardized coefficient of satisfaction on purchase intention is 0.197, and the corresponding p-value is less than 0.05 indicating that customer satisfaction has a positive influence on purchase intention.

### **REFERENCE**

- Allen, M. W. (2001). A practical method for uncovering the direct and indirect relationships between human values and consumer purchases. *Journal of consumer marketing*.
- Baker, J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of marketing*, 66(2), 120-141.
- Cardozo, R. N. (1965). An experimental study of customer effort, expectation, and satisfaction. *Journal of marketing research*, 2(3), 244-249.
- Dodds, W. B. (1991). In search of value: how price and store name information influence buyers' product perceptions. *Journal of Consumer Marketing*.
- Day, E. (2002). The role of value in consumer satisfaction. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 15, 22.
- Olaru, D., Purchase, S., & Peterson, N. (2008). From customer value to repurchase intentions and recommendations. *Journal of Business & Industrial Marketing*.
- Fisk, R. P., Brown, S. W., & Bitner, M. J. (1993). Tracking the evolution of the services marketing literature. *Journal of retailing*, 69(1), 61-103.
- Gassenheimer, J. B., Houston, F. S., & Davis, J. C. (1998). The role of economic value, social value, and perceptions of fairness in interorganizational relationship retention decisions. *Journal of the Academy of Marketing Science*, 26(4), 322-337.
- Holbrook, M. B. (1999). *Consumer value. A Framework for Analysis and Research; Routledge: London, UK*.
- Moorman, C., Zaltman, G., & Deshpande, R. (1992). Relationships between providers and users of market research: The dynamics of trust within and between organizations. *Journal of marketing research*, 29(3), 314-328.
- McCole, P. (2004). Refocusing marketing to reflect practice: The changing role of marketing for business. *Marketing Intelligence & Planning*.
- Novak, J. D. (2002). Meaningful learning: The essential factor for conceptual change in limited or inappropriate propositional hierarchies leading to empowerment of learners. *Science education*, 86(4), 548-571.

- Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy.
- Russell, J. A. (1979). Affective space is bipolar. *Journal of personality and social psychology*, 37(3), 345.
- Schmitt, B. (1999). Experiential marketing. *Journal of marketing management*, 15(1-3), 53-67.
- Woodruff, R. B. (1997). Customer value: the next source for competitive advantage. *Journal of the academy of marketing science*, 25(2), 139-153.
- Westbrook, R. A. (1987). Product/consumption-based affective responses and postpurchase processes. *Journal of marketing research*, 24(3), 258-270.
- Dolby, N., & Rahman, A. (2008). Research in international education. *Review of Educational Research*, 78(3), 676-726.
- Stevenson, H. W., & Lee, S. Y. (1996). The academic achievement of Chinese students.
- Wijaya, T. T. (2021). How chinese students learn mathematics during the coronavirus pandemic. *IJERI: International Journal of Educational Research and Innovation*, (15), 1-16.
- Hu, Y., & Dai, K. (2021). Foreign-born Chinese students learning in China:(Re) shaping intercultural identity in higher education institution. *International Journal of Intercultural Relations*, 80, 89-98.
- Jin, Y. Q., Lin, C. L., Zhao, Q., Yu, S. W., & Su, Y. S. (2021). A study on traditional teaching method transferring to E-learning under the COVID-19 pandemic: From Chinese students' perspectives. *Frontiers in Psychology*, 12.
- Li, J., & Han, H. (2021). Learning to orient toward Myanmar: ethnic Chinese students from Myanmar at a university in China. *Language, Culture and Curriculum*, 34(4), 360-378.
- Ma, Y., & Zhan, N. (2022). To mask or not to mask amid the COVID-19 pandemic: How Chinese students in America experience and cope with stigma. *Chinese Sociological Review*, 54(1), 1-26.
- Xu, C., Li, H., Burr, S. D. L., Si, J., LeFevre, J. A., & Huang, B. (2022). Divide and conquer: Relations among arithmetic operations and emerging knowledge of fraction notation for Chinese students in Grade 4. *Journal of Experimental Child Psychology*, 217, 105371.
- Binah-Pollak, A., & Yuan, S. (2022). Negotiating identity by transnational Chinese students during COVID-19. *China Information*, 0920203X211065013.

# INNOVATIVE DESIGN THINKING ON TRADITIONAL WATCHES WITH WEARABLE TECHNOLOGIES

CHUKUI CHEN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: ckc888@126.com*

## ABSTRACT

Wearable technology is the latest buzzword at tech forums and is expected to see huge growth in the coming years. Of all the devices, the "smartwatch" is the most promising. Many companies have launched smartwatches or expressed interest in exploring the sector. As the share of traditional watches is constantly divided by the time function of smart watches and mobile phones, traditional watches need to use wearable technology to carry out industrial innovation and upgrading, and make breakthroughs in the market.

In this article, we try to understand the following: traditional watches, the definition of smartwatch and how "watch" has changed over the years, what does a watch do? What factors will determine whether consumers buy a smartwatch?, what are the market prospects and development trends of smart watches? In the era of rapid development of intelligent electronics, how to combine traditional watches with wearable technology for innovative design, and thus consolidate their market position.

The concept design of smartwatch has the same connotation as the concept design of watch, which means that the method of product concept design is applied to the design of smartwatch to promote the design of smartwatch to be innovative, thematic and advanced. In addition to the decorative and functional basis of traditional watches, smartwatches add the word "smart" to show that their functions are more intelligent. Smartwatch designs are also diversifying to meet the needs of different aesthetic groups. The innovative product design of traditional watches combined with wearable technology needs to combine the existing experience accumulated for many years, especially in the aspect of appearance and waterproof, and also needs to attach importance to conceptual design, creative products, innovative design concepts and market-oriented.

**Keywords:** Traditional watch, smart watch, wearable technologies, innovative design thinking, new product development, watch market

## INTRODUCTION

The miniaturization of computer chips provides more possibilities for people, objects and the environment to communicate, and the way of life and work of human beings becomes more convenient and intelligent. Human beings are eager for and gradually accept the emerging smart technology products, the launch of smart watches quickly won the favor of people. At the same time, the improvement of material living standards makes people's pursuit of the aesthetic value and cultural value of traditional watches more and more intense. But the limitation that people can only wear one

wearable product on their arm has created a contradiction between smartwatches and traditional watches. Traditional watches retain noble characteristics while increasing part of the larger demand for intelligent functions has become a design direction. For example, a Bellamy smart watch launched by Swatch at the beginning of 2016 has built-in NFC chip, which can solve the pain points of mobile payment, traffic card swiping and other functions.

Embedding smart elements does not mean that every smart function is crammed into a traditional watch. The limitations of the screen and power storage make it impossible for traditional watches to meet all the functions of people like smart watches. However, traditional watches can maintain the basic value features and timing structure while adding functional components to achieve specific intelligent functions according to the needs of their target population, the scene of using the watch or the theme of the traditional watch. For example, the traditional watch with the theme of sports can be integrated with the chip of GPS, gyroscope and other devices, combined with the display function of smart phone, to inform the climber of the current height, climbing track and other movements.

At the end of the 20th century, after experiencing the huge impact of Japanese electronic watches and quartz watches, traditional watches have maintained good sales and profits by virtue of exquisite design and exquisite craftsmanship. The improvement of the quality of life and the transfer of consumption concept make people pay more attention to the decorative function and cultural value of watches. Consumers know how to appreciate the fine grinding of the movement of watches, the ingenious mechanical design and the proper decoration of the dial. They express their love for watches just like pursuing works of art and luxury accessories. In the context of the new era, consumers did not give up the pursuit of artistic attributes and design beauty of watches because of the increase of functional elements. The design and manufacture of traditional watches still requires inheriting cultural values that have developed over a century. (1) pay attention to the artistic value of the watch, watch traditional mechanical design, machine core, explaining the watch dial decoration production of polishing "spirit", also makes the watch became the artistic value extremely the handicraft and well-respected, such as Vacheron Constant in height of tabulation technology, Cartier jewelry decoration are favored by people; (2) pay attention to the aesthetic design of the watch; The design of the shape, the collocation of the color and the choice of the material determines the love of different people for different watches. Beauty is an important factor for people to choose watches. For example, DW watches are favored by consumers who pursue fashion with colorful nylon watchband and thin watch body. (3) Pay attention to the brand story of the watch. The brand means that consumers highly identify with the enterprise spiritually and eventually form a strong brand loyalty. Distinct brand positioning can bring stable iterative development of watch products and effective accumulation of consumer groups. For example, swatch's brand positioning of "fashion on watches" promotes the continuous innovation of products and is highly respected by young groups.

Elements of smartwatch concept design. In the current smartwatch market, the factors influencing consumption decisions are primarily function, followed by color, material and shape. The four elements of product conceptual design are functional element, layout element, form element and color element respectively. In accordance with the principle of the concept design of the watch product, based on the comprehensive analysis of the product concept design and the characteristics of the smart watch, it can be concluded that the three elements of the concept design of the smart watch product are functional elements, structural layout elements and appearance elements.

First, functional elements. The functional elements of smartwatch conceptual design should follow the market direction and be designed according to the needs of the audience. The focus of smartwatch is on "intelligence", that is to say, in the whole concept design of smartwatch, it should focus on functional design elements. Compared with traditional watches, smartwatches should be designed with more functions besides displaying the time. What kind of smartwatch do market users really want? What are the differences in functional needs between children, young people and the elderly? That's all to consider. For example, children need smartwatches that can talk, locate, read, play and so on. Young people expect smart watches with video, wechat, alarm clock and other functions; Older people want smartwatches that measure heart rate, record audio and make phone calls. These are information that can only be obtained through market analysis and user demand survey. Functional elements can be said to be the most important factor determining whether the market can be successfully launched and whether the bottleneck of the current smartwatch market can be broken.

Second, structural layout elements. The basic structure of the traditional watch includes movement, case, dial, strap, bottom cover, needle, etc. While smartwatches are high-tech products, their components lack some mechanical components, such as digital screen smartwatches without a watch needle, or no crown. In the conceptual design of smart watches, designers pay more attention to the structural layout elements of watchband and body, in which batteries, microphone, speaker, fingerprint recognition module, gyroscope, optical heart rate module, navigation, etc. The influence of structural layout elements is very large, so it is necessary to design and experiment a variety of schemes. It is also necessary to consider from a macro perspective and select the optimal scheme based on the stability and intelligence of smart watches. Traditional watches have accumulated very rich experience in structural waterproof design, which can be highlighted in the innovative design of smart watches

Third, appearance elements. The appearance of a smart watch is similar to that of a traditional watch. Material, color, pattern, shape and other factors should also be considered. The appearance of a smartwatch is a detailed design process, rather than a structural one. Like traditional watch design, it should be based on the personalized needs of the audience. Just like functional design, children, youth, the elderly and other different audience groups have different functional needs, so it is the same in appearance elements. Different audience groups have different aesthetic needs of appearance, children like bright color, a little cartoon design style; Young people prefer changeable shape, delicate appearance of the design style; The elderly love low-key, simple and atmospheric design style. This process also needs to go through rigorous scientific market research, in order to determine the final appearance of the concept design scheme. The appearance of smartwatch is the first element for people to receive product information of the watch, and it has the first sense of visual impact on consumers. This is the overall image design of smartwatch. Materials, colors, patterns, shapes and other factors should be coordinated and matched, so as to design products that satisfy the market audience. In terms of appearance design, traditional watches have also accumulated very rich experience, but it is also necessary to actively study the possible impact of the market on the appearance of consumer electronics products. The market's aesthetic appreciation of electronic products may be different from that of traditional products, which also needs to be concerned.

This figure reveals the supply chain system and resources of some important components of traditional watches combined with wearable technology, which is an important reference for cross-boundary innovative design.

## LITERATURE REVIEW

### 1. Research Background

"We can see an ice age in the making sweeping through traditional watchmaking." Elmar Moke, co-founder of Swatch, said at the launch of the Apple Watch. The advent of the era of intelligence make people known as the traditional product more or less with a smart labels, the watch is not exceptional also, watch implanted into the health management, social management, entertainment, and many other elements of intelligent application, make a watch on the basis of the time display gives more enhance the user experience and change the way of human life, new features, and praised by the people of all ages. The traditional watch, which has accumulated cultural value for hundreds of years, seems to be facing an unprecedented attack. How does the traditional watch design, which symbolizes the quality of life and aesthetic taste, innovate and break through in the intelligent era? Whether the traditional watch will be like the Japanese electronic watch and quartz watch has experienced a huge impact, after ups and downs to be preserved has become a new topic.

### 2. Problem Statement

Traditional watch industry by intelligence watch sales growth and the constant challenge of mobile phone sales growth, look forward to upgrade the products, a breakthrough product innovation design, are also looking at the escalating intelligent electronic products for cross-border product innovation, integration of its own traditional watch design and intelligent electronic resources, to make high quality, fashion features of smart watches, However, the traditional watch industry is not familiar with the supply chain system and industrial characteristics of the electronic industry, which obviously reflects the weakness in the intelligent electronic application in the aspect of cross-border integration.

### 3. Research Significance

At present, the traditional watch market is in a downturn. Designers need to combine market demand and design elements, integrate multiple factors, attach great importance to market research, demand analysis, functional design, structural design and conceptual design, and devote themselves to designing innovative crossover smartwatch products, so as to revitalize the market. The rise of smart watches such as Huawei Watch and Apple Watch adds the property of life management tool to the definition of time management tool. The change of user demand and the shift of consumption concept make people pay more attention to the new smart watch products, but the technological value and cultural connotation of traditional watches can not be ignored. Under the background of the new era, how to inherit and accumulate the cultural characteristics of a hundred years of traditional watches, while carrying out the innovative design of the elements of the intelligent era has become a new focus of development. This paper intends to analyze the trend and methods of innovative design of traditional watches on the basis of studying the characteristics of intelligent electronic era and traditional watches, so as to provide new ideas and reference for the transformation and upgrading of traditional watch enterprises.

### 4. Innovative Design Thinking on watches

#### 4.1 Traditional watch vs Smart Watch

Watch is a device used to measure the passage of time. Over years, there have been many different ways in which time was measured. Time measurement initially started out by looking at shadows determining time. These devices were called Sundials.

The oldest record that is available shows sundials in use in ancient Egypt in 1500BC. The positions of shadows are used to determine approximate time of day. Over years, a lot of improvements were done on Sundial and many were installed. One of the famous Sun-dials in India is Jantar Mantar which was built in 1724. Another interesting way of measuring time was using an hour glass. They were quite popular in Europe and there are documented references dating back to 13th century. Hour glasses are still used for ornamentation or in children's games where accurate time measurements are not required. In recent centuries, mechanical clocks were built to tell time. These were huge in size and expensive to own. They were deployed in clock towers, churches and other public buildings. Then, came the watches that we are familiar with today. Small Pocket Watches dominated the 17th-18<sup>th</sup> century. These were small watches that were typically carried in ones pockets. In early 19th Century, the wrist watches were mass manufactured and are now a globally accepted. So, now that we have looked at existing watches, let's look at the latest disruptor in Watch Industry, a Smart Watches. Wikipedia defines it as follows "A Smartwatch (or smart watch) is a computerized wristwatch with functionality that is enhanced beyond timekeeping, and is often comparable to a personal digital assistant (PDA) device. While early models can perform basic tasks, such as calculations, translations, and gameplaying, modern smartwatches are effectively wearable computers. Many smartwatches run mobile apps, while a smaller number of models run a mobile operating system and function as portable media players, offering playback of FM radio, audio, and video files to the user via a Bluetooth headset. Some smartphone models, (also called watch phones) feature full mobile phone capability, and can make or answer phone calls." Smart watches were one of the first Consumer goods to embrace wearable computing concept. That said, it was also the most logical device to move into the Smart Domain because of number of factors: Worn by almost everyone, socially accepted since decades, an extension of existing device, built to be on user for majority part of day, available power source which can be used for additional functionalities, etc. All these helped Smart Watches to be where they are presently. The journey of Smart Watch started a long time back. People realized that they could try to get a lot more functionality on Wrist Watch. This was especially helped by the digitization of time keeping mechanism and better battery life. Seiko launched one of the first smart watches in 1980 called Data 2000. It had capability to store 2000 characters and display them on its screen. The data is input via large keyboard which communicated with the watch using electromagnetic pulses. Some recent smart watches were made by:

- IBM in year 2000(WatchPad – Ran Linux)
- Palm in 2003(Palm Fossil Wrist PDA – which ran Palm OS)
- Microsoft in 2004(SPOT – used FM signals to receive information)

We may have not heard a lot of these watches due to various factors. Eg size, visibility, functionality etc. There was nothing really captivating with these devices and hence over a period of few years, these devices were no-where to be seen. But, that was not the end of Smart Watches as we see now. Companies have reinvented the Smart Watches to be more powerful, be able to do a lot more things and eco-systems are being developed for

these devices. So, what functions do new Smart watches perform. Smart Watches today are being seen as natural extension of Smart Phone and beyond. They interface with the Smart Phone and display alerts, setup reminders etc. The interfaces can also be used to share information from Smart Watches to Smart phone so that Applications on Smart Phone can use this data(eg ability of Smart Watch to detect wearers physical activity like walking) and feeding this information to App which processes this information and graphically display this as trend. Smart Watches also have other capabilities like GPS

which can be used for tracking applications. One use include tracking children and setting up perimeters for them. One of the older smart watches still being used are Timex Datalink. These watches have the ability to connect to Computer and download information like phone numbers, alarms, etc. These were supposed to replace PDA's with added benefit of being small and comfortable to carry. However, they were not as successful as expected and in fact PDA's are also not seen today. Lets look at current smart watches, understand how they are built and functionalities that they provide the top selling smart watch today is Pebbles Smart Watch. This started off as a Crowd sourcing project(this is where funding for project is provided by ordinary people who pledge to support the project by contributing small amounts and are entitled certain benefits) in 2012. The project met its initial goal on \$100,000 in fi rst two hours, it had collected \$10 Mil by the time it closed funding. At present, Pebble is the best Smart Watch available and they have sold about 400k pieces. Let us see what Pebble has to offer: Other Major USP are its ability to work seamlessly with Android and iOS, specially built Apps that add more features and functionalities to Watch and Battery that lasts for 5-7 days. The Pebble App store has about 1000 apps which include different Watch Face, Apps for Cycling, Running etc.

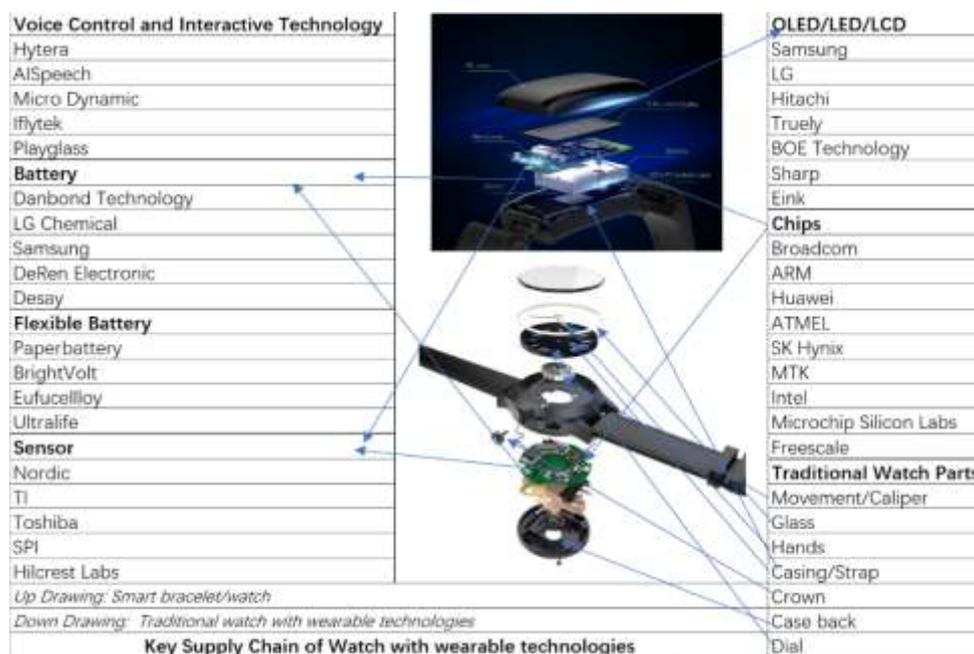
#### **4.2 Features of Smart Watch**

So, practically, what does a Smart Watch do? Let's look in detail the features that are supported by Smart Watches today and their usefulness:1. Call Notification: Smart watches are capable of displaying Call Notifications. The Watch can display who is calling and also give you options to Accept or Reject Call. However, to speak to caller, one would need the Smart Phone or Blue Tooth headset connected with the Smart Phone. Some Smart Watches also allow access to Call Logs & Phone Menus. Pros: Useful feature when Smart Phone is not easily accessible eg when Driving, walking, etc. A flick of wrist and you know who is calling. Further action like Rejecting call or Pulling over to speak to person can be decided. Cons: Most Smart watches do not have ability to speak and hear via Watch (even those who have, it is very cumbersome to talk to a watch). This means Smart Watch only acts as an additional Notification device. This makes Smart Watch more of an Accessory to Smart Phone rather than a standalone communication device. Samsung Gear S which will be released this yearend will have be able to interact with Mobile networks without connecting to Smart Phone. 2. Display Text Messages and Emails: Smart Watches have ability to display incoming Text Messages and Emails. One does not need to remove Mobile Phone from pocket to view these Pros: Fast access to incoming messages. Especially useful if one receives a lot of Messages and need to respond to few. Cons: Can only display messages. To respond, one still needs to use the Smart Phone (Exception– Some Smart Watches have ability to reply with pre-configured replies or use speak recognition). There are also problem of Small font & basic display of messages that make experience seem like reading messages on feature phone. 3. Collect data via by sensors: Smart Watches also incorporate a number of sensors which measure and store data in Watch or pass it on to Smart Phone. Some examples are Bio-Metric sensors like Pulse measurement, Pedometer, GPS for location tracking, gyroscope for identifying orientation, Magnetometry for Compass like applications and Accelerometer for measuring acceleration. These sensors collect data and can be converted into Intelligence by either the Smart Phone or Smart Watch. Pros: The availability of sensors enables specific use cases like health monitoring. Though, such sensors may already be available on Smart Phone, the ability to use these without the hassle of handling a phone, and being continuously connected to body has its own advantages. Cons: Limited by available hardware, there is a constraint on amount of data a Smart Watch can process and display.

For complex calculations and display, there will be dependency on Smart Phone. 4. Integration with Smart Phone Apps: Smart Watches also integrate with a number of Apps on Smart Phone. Types of Apps also depend on the ability of Smart Phones. Generally Smart Phones are able to access some Native applications like Music Control, whereas others may integrate with GPS on Smart Watch and use location information intelligently. Other examples can be Apps that track distance walked, speed etc. Others include integration to Twitter notifications, Translator Apps, Baby Sitting apps, display Stock notifications, etc. Pros: Though, all what is being said above can be done by a Smart phone, the advantage that Smart watch provides is the ability to do/use all these apps without having cumbersome phone in your hands. It also becomes an additional sensor device for these applications. Cons: No new feature that makes Smart Watch a must have accessory.

### 4.3 Material Information of Wearable technologies for watches

This figure reveals the supply chain system and resources of some important components of traditional watches combined with wearable technology, which is an important reference for cross-boundary innovative design.



### 4.4 Competitive Landscape

The smartwatch market is a fragmented market, and therefore companies are banking on product innovation and product development to gain an edge and the number of local players. This makes the rivalry intense in the market. Key players are Apple Inc., Fitbit Inc., Samsung Electronics Co. Ltd, among others.

### 4.5 The future of traditional watch with wearable technologies

The global smartwatch market was valued at the volume of 68.59 million units in 2020, and it is expected to reach 230.30 million units by 2026, registering a CAGR of 21.98% during the forecast period (2021-2026). With the recent outbreak of COVID-19, the global demand for electronics slumped significantly during the first quarter of 2020. However, the sales of wearable devices such as smartwatches witnessed a major influx from online sales, cutting out various other costs involved in sales, owing to which the buyers were capable of buying products for lower prices on online platforms and comparing features and prices.

#### **4.6 The Opportunity and Obstacles for Smartwatches and Wearable Sensors**

In September 2017, the U.S. Food and Drug Administration (FDA) made a striking announcement. Transforming its current regulatory practice for approving and certifying medical devices—the FDA announced a bold new plan, the Digital Health Software Precertification (Precert) Program, to offer an entirely new regulatory model to assess smartphone apps, wearables, sensors, and software. This transformation and medicalization of the consumer health market present both opportunities and obstacles, by opening up large markets for health monitoring and diagnosis using inexpensive mass-market, off-the-shelf devices. It also raises challenges, both related to privacy and effective uses of the devices to promote health. The Fitbit and Apple Watch are examples. Initially, a glorified pedometer and electronic watch, Fitbit and Apple Watch, respectively, have expanded their focus (and sales pitches) increasingly toward healthcare, and many competing devices have been introduced with similar capabilities. Wearable monitors can now measure pulse rate, the electrocardiogram (ECG), blood oxygen levels via pulse oximetry, and other physiological parameters. These devices are being accompanied by smartphone apps that are intended to detect health conditions such as cardiac arrhythmias, or to monitor workers' activity for occupational health improvement. Apple Series 4 watch, released in September 2018, is a case in point. In addition to cell phone connectivity and GPS, and acceleration sensors, the watch has a pulse rate sensor (using photoplethysmography) and a set of ECG electrodes. On Dec. 6, 2018, Apple released an app that will analyze the ECG and detect atrial fibrillation (AF) in the wearer. "Capturing meaningful data about someone's heart in real time is changing the way we practice medicine," said Ivor Benjamin, president of the American Heart Association at the product's introduction. The watch also tells time, by the way. However, what are the health benefits of all this technology and what are its possible harms for the user? Many studies have been conducted on healthcare applications of wearables and answers are starting to emerge. The most reliable answers come from systematic reviews, which summarize results from numerous individual assessments.

#### **4.7 Mining and satisfying user needs**

Product design in the intelligent era pays attention to "human-centered", and the object of use of products is people. Only by centering on people's needs and psychological feelings can the design meet consumers' psychological expectations and satisfy users' purchasing preferences. The product design of traditional watches is often determined by the enterprise strategy, market environment and upper level will. The product design does not keep up with the changes in the market pattern, and is often slow. The design thinking also does not keep up with the development of The Times. The whole process from production to production is basically stripped of users, and does not start from their own needs. Products designed and produced often fail to meet users' expectations, resulting in poor market sales and failure in product design. In particular, low-end watches, which are more facing the general public, price restrictions make these watches unable to pursue the advantages of materials and exquisite workmanship, and design and production usually reflect the will of designers or enterprises themselves, but ignore the power of consumer groups. Under the background of the new era, the user-centered design of traditional watches should constantly explore the explicit and implicit needs of users to meet the needs of users. Through user research to understand the needs, user participatory design to meet the needs, user evaluation feedback needs, user use tracking and correction needs to maintain the iterative development of the product, so as to adapt to the updating of user habits and the trend of The Times.

#### **4.8 The trend of Traditional watch with wearable technologies:**

Recent Development

- Sep 2021- Fossil announced the launch of its Gen 6 touchscreen smartwatch line in a virtual press conference. There are two size variants of the watch, 42mm and 44mm. The watch will be powered by the Qualcomm Snapdragon Wear 4100+ Platform, providing users with faster application load times, responsive user experiences, and more efficient power consumption.
- August 2021 - Huawei Technologies announced the launch of its revolutionary flagship smartwatch, the HUAWEI WATCH 3 Series. The HUAWEI WATCH 3 Series is powered by Harmony OS, creating a new smart interactive experience on the wrist and turning the smartwatch into a smart assistant and health center. Moreover, it is the first smartwatch to support eSIM technology to launch in Singapore in August 2021.
- June 2021 - Garmin announced the Forerunner 55, an easy-to-use GPS smartwatch designed for people of all skill levels, mainly those new to running, to track their stats and achieve their fitness goals. With the simple press of a button, users can start their run or walk and track their time, distance, speed, pace, and heart rate data right from their wrist. The Forerunner 55 also offers detailed running data, daily suggested workouts, additional built-in sports apps, etc.

## **RESEARCH METHODOLOGY**

This research is the documentary research by using the data from documents and related research in the cases study, analysis and synthesis data in order to get the components of each factor on innovation that influence the competitiveness of new product development of on cross-border in fashion industry.

## **CONCLUSION**

In conclusion, we have extensively investigated and analysed the watch industry during our process to complete this report. Looking into the demand each company faces, from a variety of segments, and how those can be used to drive competitive advantage and generate long term success. We have also looked at the supply side and how, even during a deadly pandemic, this industry manages to continuously adapt in order to distribute and produce the highest quality products they can, at whatever price point. Additionally, and possibly more important, we have also dedicated space in our analysis for the strategic aspect and competitive nature that is required from companies to survive and thrive in one of the more fragmented markets that we have studied. The necessity to have established goals, within each target market, as well as a reliable and well-integrated value chain is what often differentiates successful and globally known companies from those that simply survive in the industry. Lastly, we looked at the future, debating how the pandemic will affect the industry and the improvements necessary for companies to thrive once the world surpasses our current daily challenges. The watch industry, its demand analysis and the supply chain will have to evolve, and the necessary adjustments will have to be made ahead of time. Those companies who fail to see such needs will be left behind which, within such a competitive industry, and in a time that economically many will struggle, can be deadly for their existence in the market.

### **Acknowledgment**

This paper is an output of the smart fashion development project, which includes the innovation management knowledge, thanks to the opportunities offered by College of Innovation and Management, Suan Sunandha Rajabhat University, Bangkok, Thailand.

## REFERENCES

- Jonathan Rodriguez (2015), Fundamentals of 5G Mobile Networks, by John Wiley & Sons.
- Sibel Deren Guler, Madeline Gannon, Kate Sicchio (2016): Crafting Wearables: Blending Technology with Fashion: Apress Media.
- Gerard Meijer(2014), Smart Sensor Systems: Emerging Technologies and Applications, Published by John Wiley & Sons.
- Tom Kelly (2001), The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm.
- Rebeccah Pailes-Friedman (2016): Smart Textiles for Designers: Inventing the Future of Fabrics: Laurence King Publishing Ltd.
- Tina Seelig (2015): Insight Out: Get Ideas Out of Your Head and Into the World: HarperOne.
- Smashing Magazine (2013) :User Experience Design: Smashing Media GmbH
- Mark Dodgson, David M. Gann, Nelson Philips (2014): The Oxford Handbook of Innovation Management: Oxford University Press 2014.
- Rowan Gibson (2015): The 4 Lenses of Innovation: A Power Tool for Creative Thinking: John Wiley & Sons, Inc.
- Pervaiz K Ahmed, Charles D Shepherd (2010): Innovation Management: Context, Strategies, System and Processes: Pearson Education Limited
- Thomas Vogel (2014), Breakthrough Thinking: A Guide to Creative Thinking and Idea Generation: How Books
- Paul Trott (2017), Innovation Management and New Product Development, 6<sup>th</sup> Edition: Pearson Education Inc.
- Garry D Bruton, Margaret A White (2011), Strategic Management of Technology and Innovation, 2<sup>nd</sup> Edition: South-Western, a part of Cengage Learning.
- Edward de Bono (1985), Six Thinking Hats: 1999 by MICA Management Resources, Inc.
- Gwyneth Moore (2012), Fashion Promotion, AVA Publishing SA 2012
- Mark Tungate (2012), Fashion Brands 3<sup>rd</sup> Edition, by Kogan Page Limited.
- Lowey Bundy Sichol (2019), From An Idea To Google, Houghton Mifflin Harcourt  
Illustrations by C.S. Jennings.
- Vincent Ryan Ruggiero (2009), The Art of Thinking: A Guide to Critical and Creative Thought, 10<sup>th</sup> Edition., by Pearson Education Inc.
- Barbara Minto (2007), The Minto Pyramid Principle: Logic in Writing, Thinking and Problem Solving, Thinkingdom Media Group Limited.
- Richard Paul, Linda Elder(2012), Critical Thinking: Tools for Taking Charge of Your Learning and Your life, 3<sup>rd</sup> Edition, by Pearson Education Inc.
- Gary R. Kirby, Jeffery R Goodpaster (2007), An Interdisciplinary Approach to Critical and Creative Thought, Pearson Education Inc.
- Sabine Seymour, Fashionable Technology(2009), Springer-Verlag/Wien
- Brian Christian and Tom Griffiths (2016), The Computer Science of Human Decisions, by Henry Holt and Company, LLC.
- Kate Hartman (2016), Make: Wearable Electronics, by Maker Media Inc.
- Tony Olsson (2015), Design, Code, and Build Exciting Wearable Projects Using Arduino Tools, by Packt Publishing.
- Michael J. McGrath, Cliodhna Ni Scanail (2014), Sensor Technologies: Healthcare, Wellness and Environmental Applications, by Apress Media.

# RESEARCH ON THE IMPACT OF GOVERNMENT HUMAN CAPITAL INVESTMENT ON ECONOMIC GROWTH

CHANGYU LIU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: liuchangyu@deheng.com*

## ABSTRACT

China's economic development has shifted from high-speed growth to medium-high growth, and from high-speed growth to high-quality development. It is in a period of "critical problem solving to change the development model, optimize the economic structure and transform the growth capacity". The actual need of economic growth has changed from factor growth to innovation growth. Innovation and reform are closely related to the "people-oriented" factor. Modern endogenous economic growth theory believes that the decisive factor of economic growth is the level of human capital. Due to the strong externality of human capital, it is difficult to achieve supply balance only by relying on the market. The government plays an important role in human capital investment. Only the government can participate in investment in human capital and science and technology, so as to combine talents with technology, form advanced productive forces, improve the level of human capital, and transform the economy from "broad-based" growth to high-quality growth through knowledge innovation, technology innovation and industrial innovation.

Because of its externality, human capital investment with the government as the main body is indispensable. As a part of public expenditure, education, science and technology and medical expenditure are the main body of government human capital investment. According to the actual situation of government human capital investment in China and the empirical results of government human capital investment promoting economic aggregate and quality of economic growth, it can be concluded that increasing the intensity of human capital investment expenditure from the perspective of government plays a positive role in promoting China's economic growth. Therefore, it is suggested that the government continue to increase investment in human capital, flexibly define market boundaries, and realize efficient investment.

**Keywords:** Traditional watch, smart watch, wearable technologies, innovative design thinking, new product development, watch market

## INTRODUCTION

### 1.1. Research background and significance

#### 1.1.1. The research background

China's economic development has changed from high-speed growth to medium and high-speed growth, and from high-speed growth to high-quality development. It is in a "key problem solving period of changing the development mode, optimizing the economic structure and transforming the growth power". The practical need of economic

growth has changed from factor growth to innovative growth. In the face of a considerable amount of economic volume, the speed and quality of economic growth are the issues we need to focus on. Low economic quality, lack of motivation for innovation and unreasonable industrial structure will be the resistance for China to cross the middle-income trap. It is an urgent problem to cultivate new drivers of economic development and change the mode of economic growth. In this case, the improvement of the quality of China's economic development requires the transformation of the mode of economic development and the realization of innovation driven. Innovation and reform are closely related to the "human" factor. Modern endogenous economic growth theory believes that the decisive factor of economic growth is the level of human capital. The negative effect of diminishing marginal efficiency of capital and other factors can be offset by the accumulation of technical knowledge, especially human capital.

Due to the strong externality of human capital, it is difficult to achieve the supply balance only by relying on the market. The government plays an important role in human capital investment. Only the government participates in human capital investment and science and technology investment, so as to combine talents and technology, form advanced productivity, improve the level of human capital, through knowledge innovation, technological innovation Industrial innovation has transformed the economy from "extensive" growth to high-quality growth. The government's social expenditure, such as education expenditure, science and technology expenditure and medical and health expenditure, as public expenditure, is an important part of human capital investment. When the total amount and quality of economic growth require human capital investment, it is necessary to study the investment status of government human capital and its impact on the economy, and further understand the significance and role of government human capital investment, so as to promote high-quality economic development.

### **1.1.2 The research significance**

In recent years, China's traditional economic growth path has been unsustainable, and it is urgent to turn to the mode of all factor driven growth. In this case, facing the huge population stock, it is necessary for China to transform it into a huge human capital stock advantage through further human capital investment, so as to make it a powerful and irreplaceable driving force for high-quality growth. Investment in human capital can not only improve labor productivity, but also promote the absorption of advanced science and technology, give full play to late development advantages, and further promote the optimization and upgrading of industrial structure through independent innovation.

## **1.2 The literature review at home and abroad**

### **1.2.1 foreign literature review**

#### **(1) Definition and measurement of human capital**

The concept of human capital in the modern sense began with Schultz. In the 1960s, Theodore W Schultz clearly put forward the concept of human capital for the first time, and explained the role of human capital investment in human capital in promoting economic growth. He defined human capital as people's ability as producers and consumers, which reflects the knowledge, ability and health of human body Keeley (2007) adopts the cost method, that is, the human capital stock is calculated by adding the initial human capital stock to the total investment minus depreciation. Tangible human capital investment is mainly the cost of raising children; Intangible human capital investment includes education and training expenditure, medical, health and safety

expenditure and labor mobility expenditure. The characteristic method is a derivative of the income method (LE, Gibson and Oxley, 2005), but the income method measures human capital by monetary value, while the former constructs the human capital index (such as education level) based on a certain characteristic of human capital, so it can centrally reflect the development trend of human capital changing at any time and the regional distribution characteristics of human capital.

#### (2) Theoretical model of human capital and economic growth

Romer (1990), Grossman and Helpman (1991) studied the impact of Fiscal Science and education expenditure on economic growth rate by constructing endogenous growth model, and believed that there was a positive relationship between the long-term growth rate of average output and the knowledge level of workers. Mankiw, Romer and Weil (1992) established the production function MRW model of human capital expansion, and believed that the steady-state equilibrium level of a country's economy was determined by its human capital level and technology level. Zon、 Muysken (2001) introduced health into production function and utility function at the same time, and established an extended Lucas endogenous growth model, so as to carry out a detailed discussion on the relationship between health human capital and economic growth. Finally, he came to the conclusion that: on the one hand, the growth of health investment will positively affect the economy through production function; On the other hand, because health investment improves the utility of consumers, it will continue to increase in the process of economic growth. When the amount of investment reaches a certain level, it will have a reverse effect on the economy.

#### (3) Theoretical and empirical research on the role of human capital in economy

Denison's outstanding contribution in human capital theory is to use empirical methods to verify the role of human capital in economic growth. He made a reasonable explanation with human capital from this perspective. Through research, he found that the contribution rate of economic growth brought by scientific and educational innovation in the United States from 1948 to 1984 was as high as 66%, and the investment of material capital decreased, while the result of sustained economic growth was the increase of human capital investment.

### **1.2.2 domestic literature review**

#### (1) Definition and measurement of human capital

The domestic method of measuring human capital mainly adopts the variable substitution method. Cai Fang and duyang (2000) use the adult literacy rate as the substitute index of human capital stock<sup>[14]</sup>, Shen Kunrong (2002) takes the total number of employed people with college degree or above in various regions as the substitute of human capital<sup>[15]</sup>, and Hu Angang (2002) uses the average number of years of education of people over the age of 15 as the substitute index<sup>[16]</sup>, Wang Jinying (2001) obtained the human capital stock of China's employed population and the average number of years of education according to the enrollment of schools at all levels from 1978 to 1998 and the census of previous years<sup>[17]</sup>.

#### (2) The impact of government human capital investment on economy

Domestic empirical research on the impact of human capital investment and economy from the perspective of the government mainly focuses on the impact of government human capital investment on the economy, in which science and technology expenditure and education expenditure are the key investment directions of human capital.

Firstly, some studies are about the impact of fiscal expenditure on science and technology and education on the total economy; Secondly, some studies are about the

impact of the fiscal expenditure structure of human capital investment and infrastructure investment on the economy; In addition, some studies have introduced a new perspective of government human capital investment according to the actual situation of our country or region; Finally, in terms of the economic growth of the explained object. The meaning of economic growth includes both quantity and quality. Economic growth first shows the increase of economic aggregate, which generally refers to the increase of GDP and output.

From the perspective of transnational data, the number of economic growth with GDP as the main measure is still the key research direction. Compared with the impact on the total amount of economic growth, domestic research on the impact of human capital investment on the quality of economic growth is less, and the views are more scattered.

## **LITERATURE REVIEW**

### **2 Analyzes the current situation of government human capital investment in China**

#### **2.1 Scale and distribution of government human capital investment in China**

##### **2.1.1 Total amount of government human capital investment in China**

China's budget human capital expenditure has been showing a stable growth trend, increasing from 231.9 billion yuan in 2000 to 5105.756 billion yuan in 2018, an increase of 21 times. In terms of average annual growth rate, the growth rate from 2000 to 2012 has been high. Except 2001, 2002 and 2003, the growth rate is more than 20%, of which the growth rate in 2007 is the highest, 47.69%. The growth rate of expenditure from 2013 to 2018 was slightly weak, showing a downward trend. Although it rebounded in 2015, it was below 20%. Compared with the growth rate of total government expenditure, the annual growth rate of government human capital expenditure is at a higher level in most years, especially in 2007, with 47.69% steadily exceeding the growth rate of total government expenditure of 23.2%.

##### **2.1.2 structure and distribution of government human capital expenditure in China**

###### **(1) China's government expenditure on Education**

From the perspective of education expenditure, the national financial education expenditure is the main source of education expenditure. With the annual growth of the total expenditure of education expenditure, the national financial education expenditure has also increased steadily, and its proportion in the national financial education expenditure has increased steadily, accounting for more than 80% since 2012. From the perspective of the annual growth rate of national financial education funds, from 2001 to 2012, the annual growth rate showed a double-digit rapid growth trend, of which the growth rate in 2007 was as high as 30% compared with the previous year. However, since 2013, the growth rate of financial education funds has become less than double-digit, and the growth rate has slowed down slightly. From the perspective of the proportion of national financial education funds in GDP, this proportion has been showing an upward trend from 2.56% in 2000. In 2012, it exceeded the investment target of 4% for the first time, and since then, it has not been less than 4% of GDP every year, showing a relatively ideal investment proportion.

###### **(2) Government health expenditure in China**

From the perspective of health expenditure, the total health expenditure consists

of three departments: government health expenditure, social health expenditure and personal cash health expenditure. From the perspective of total health expenditure, health expenditure showed a rapid growth trend, from 458.7 billion yuan in 2000 to 5912.2 billion yuan in 2018, an increase of nearly 12 times. Government health expenditure increased from 71 billion yuan in 2000 to 1639.9 billion yuan in 2018, an increase of 22 times, much higher than the growth rate of total health expenditure. From the proportion of government health expenditure in the total health expenditure, the value also showed an increasing trend over time, increasing to 30.66% in 2013, double that in 2000. However, it is worth noting that the growth trend began to fluctuate from 2013, but they all stabilized at about 30%.

### (3) Government science and technology expenditure in China

From the perspective of national financial science and technology allocation, the national financial science and technology allocation has shown a rapid growth trend over the years, but from the perspective of the ratio of science and technology allocation to GDP, the financial science and technology allocation still has a large growth space, accounting for only 0.57% of GDP in 2000, until it broke 1% for the first time in 2010.

## **2.1.3 international comparison of three government human capital investments**

### (1) International Comparison of education funds

From the perspective of international comparison, the proportion of China's public education expenditure in GDP is below the average level. In 2000, 2010 and 2016, it is lower than the world average level, the average level of high-income countries and the average level of middle-income countries. Among them, in 2016, it was 0.8%, 0.56% and 1.26% lower than that of the United States, Germany and France respectively. However, it can still be seen that the proportion of public education funds in China's GDP has made some progress in the development process of about 20 years. For example, China's share in 2000 was lower than that of the following countries, but it exceeded Singapore by 0.44 percentage points in 2010 and Japan, Russia, Singapore and other countries by 0.75, 1.34 and 0.44 percentage points respectively in 2016.

### (2) International Comparison of health expenditure

From the perspective of international comparison, the proportion of China's medical expenditure in GDP not only has a certain gap with the world average level, but also was 4.3, 5.4 and 5 percentage points lower than the world average level of 8.6, 9.6 and 10 in 2000, 2010 and 2016 respectively; Even in 2010 and 2016, it was 1.7 and 0.4 percentage points lower than that of low-income countries, respectively. There is a large gap between the per capital medical expenditure and the world average. The per capital medical expenditure of the world average in 2016 was 1.57 times higher than that of China. Although there is a certain gap between China's medical expenditure and developed countries objectively, from the perspective of time, this gap is narrowing year by year, indicating the gradual improvement of China's medical and health security system.

### (3) International Comparison of science and technology funds

From the perspective of international comparison, the proportion of China's research and development expenditure in GDP is still below the world average, but we can see obvious progress, which shows the importance and progress of China's scientific research. The distance gradually narrowed from 1.2 percentage points in 2000 to 0.1 percentage points in 2016, showing a gradually flat trend. Compared with the average level of high-income countries, the gap has also narrowed significantly, from 1.4 percentage points in 2000 to 0.4 percentage points. Compared with Japan and South Korea

in East Asia, the proportion of South Korea in 2016 was twice that of China, and that of Japan was 1.48 times that of China. Compared with European and American countries, China was 0.8 percentage points lower than Germany and 0.6 percentage points lower than the United States in 2016, but it changed from 0.7 percentage points lower than the United Kingdom in 2000 to 0.4 percentage points higher than the United Kingdom in 2016.

## SUGGESTIONS

### **3 suggestions on optimizing government human capital investment in economic growth**

#### **3.1 increase the government's investment in human capital and further improve the stock level of human capital**

In recent years, the requirements for China's economic transformation and upgrading to be innovation driven and the above empirical results show that human capital plays an important role in economic development. However, the annual growth rate of government human capital expenditure has gradually slowed down since 2013, falling below double digits, which requires the government to continue to increase human capital investment, Promote the formation of high-quality human capital stock and make it the core driving force of endogenous economic growth.

From the perspective of education, only by maintaining stable and high-quality education investment can we provide the most basic intellectual and ideological talent support for China's economic innovation and avoid falling into the middle-income trap. Although China's total financial investment in education has steadily increased and reached the goal of accounting for more than 4% of GDP, the proportion of public education expenditure in GDP is still lower than the international average of 4.8% until 2016. From the perspective of medical and health investment, the proportion of government health expenditure in the total health expenditure in 2018 was 27.8%, while from the perspective of international comparison, the proportion of China's medical expenditure in GDP in 2016 was 5%, which was lower than the world average of 10%, indicating that there is considerable room for progress in health human capital investment, Therefore, the government needs to further increase the intensity of medical and health expenditure, especially pay attention to the full coverage of residents' medical insurance, and strive to raise the participation rate of basic medical insurance to a higher level, so as to comprehensively improve the health level of human capital in China. From the perspective of science and technology investment, although the proportion of science and technology human capital investment in China's GDP has been on the rise, there is still a "neck" phenomenon in the field of basic science and technology research in China, which requires the government to increase the investment in the field of basic science and technology, so as to help the in-depth development of domestic science and research and the further improvement of the level of scientific and technological strength<sup>[21]</sup>.

#### **3.2 optimize the human capital investment structure and ensure the efficiency of human capital investment**

From the perspective of the internal structure of educational human capital investment, the number of students in vocational schools in China is similar to that in senior high schools in recent years. However, from the perspective of the investment in the number of teachers, the number of teachers in vocational education is significantly less than that in ordinary senior high schools, which reflects the tendency of neglecting vocational education investment in China's educational investment structure. Vocational education plays an important role in cultivating skilled talents. Only by paying attention

to the investment in vocational education and providing different types of human capital stock matching the transformation and upgrading of the current industrial structure through the special training of vocational education, can the structural optimization of educational human capital investment help the optimization and upgrading of industrial structure, Inject a steady stream of kinetic energy into the high-quality development of China's economy. Therefore, it is necessary for the government to further increase the investment in the field of basic research and ensure the steady growth of the proportion of funds in the field of basic research in the total investment funds.

### **3.3 clarify the boundary with the market and take flexible ways to participate in human capital investment**

Government human capital investment needs to focus on problems that cannot be solved by private enterprises, such as social equity, areas with strong externalities and so on. In view of the large gap between urban and rural human capital investment, the government needs to focus on investing education and medical resources in rural grass-roots areas that are difficult to adjust by the market, increase the construction of rural primary schools and village level medical and health facilities, promote the equalization of education and medical and health services, and improve the level of basic education and medical treatment in rural areas Help the population in rural areas realize inter-generational mobility through education and promote the formation of human capital stock in rural areas. In terms of basic fields, the government needs to continue to make efforts in basic colleges, medical research institutions, scientific research institutions and university scientific research platforms, ensure the level of human capital investment in the public sphere at the national level, and ensure that investment in basic education, scientific research, especially basic application research, and national public safety and health continues to make considerable progress, And then close to or even catch up with the level of education, science and technology and medical treatment in developed countries. In a word, human capital investment is mainly divided into three categories: government, enterprises and individuals. The government should further clarify the boundary with the market, focus on the areas where the private can not bear or bear the cost too much, and form a good situation of cooperation and cooperation between the government, private and enterprises.

## **CONCLUSION**

The realistic needs of China's high-quality economic development urgently need the important input factor of human capital to play a role. Human capital investment has become one of the key factors to promote China's economic growth. Due to its externality, human capital investment with the government as the main body is indispensable. As a part of public expenditure, education, science and technology and medical expenditure constitute the main body of government human capital investment. According to the actual situation of our government's human capital investment and the empirical results of the government's human capital investment promoting the total economic volume and the quality of economic growth, we can draw the conclusion that increasing the intensity of human capital investment expenditure from the perspective of the government plays a positive role in promoting China's economic growth. Therefore, it is suggested that the government should continue to increase human capital investment and adopt flexible ways to clarify the boundary with the market, so as to realize efficient investment.

Due to the limitations of data and the definition of government human capital, the

analysis of the results is relatively limited. I hope to improve the data and methods in the future, and then draw more constructive results and suggestions for economic growth.

## REFERENCE

- Albert Tavidze(2021). Progress in Economics Research. Volume 47[M].Nova Science Publishers, Inc.
- Catherine M. Casserly(2021). African-American Women and Poverty:Can Education Alone Change the Status Quo?[M].Taylor and Francis.
- Denison(1985).R.H.A new ptyctodont placoderm, Ptyctodopsis, from the Middle Devonian of Iowa [J]. Journal of Paleontology. 59:511-522.
- Elvir Munirovich Akhmetshin(2018). Research of Human Capital and Its Potential Management on the Example of Regions of the Russian Federation[J]. Journal of Entrepreneurship Education.
- Fernando López Castellano(2018). Perspectives on human and social capital theories and the role of education: An approach from Mediterranean thought[J]. Educational Philosophy and Theory.
- Fleisher, Belton(2009).Human Capital, Economic Growth, and Regional Inequality in China[A], Journal of Development Economics, forthcoming.
- Fleisher, Belton., and Chen, Jian(1997),The Coast-Noncoast Income Gap,Productivity and Regional Economic Policy in China[J], Journal of Comparative Economics ,25: pp.220-236.
- Iacopo Odoardi , Fabrizio Muratore(2019), The role of human capital after the crisis in Italy: A regional analysis[J]. Socio-Economic Planning Sciences Volume 66, June 2019, Pages 58-67.
- Junhan Luo(2017). Energy Consumption, Carbon Emission Constraints and Regional Economic Growth[J]. Journal of Simulation,7(6).
- Jorgenson, Dale W. and Fraumeni, Barbara M. (1992), “Investment in Education and U.S. Economic Growth,” Scandinavian Journal of Economics, Vol. 94, supplement, pp. S51-70.
- Keeley(2007). Human Capital, How What You Know Shapes Your Life[R],2007, OECD Insights, Paris.
- Liu Guanchun,Liu Yuanyuan,Zhang Chengsi(2021). The effect of human capital in the financial sector on corporate debt maturity[J]. China Economic Review.
- Le, Trinh Van Thi, Gibson, John, and Oxley, Les,(2005) Measuring the Stock of Human Capital in New Zealand[J], Mathematics and Computers in Simulation,Volume 68, Issue 5-6, May, pp.485-98.
- Lucas.R.E(1988). On the Mechanics of Economic Development[J].Journal of Monetary economics,22:3-42.
- Mankiw(1992). N. G, Romer. D and Weil D. N. A Contribution To The Empirics Of Economic Growth[J].Quarterly Of Economics 107, May, 407-437. 67
- Romer(1994).P.M. The Origins of Endogenous Growth[J].Journal of Economic Perspectives. 8, 3-22.
- Steven S. Zahniser (2021) . Mexican Migration to the United States:The Role of Migration Networks and Human Capital Accumulation[M].Taylor and Francis.
- Solomon Kebede Menza(2018). Determinants of Quality Human Capital Development (The Case of Wolaita Sodo University (WSU) Main Campus)[J]. Information and Knowledge Management.

- Tetsuo Ono , Yuki Uchida(2018). Human capital, public debt, and economic growth: A political economy analysis. *Journal of Macroeconomics*. Volume 57, September ,Pages 1-14.
- Uzawa,(1965)H.Optimal Technical Change in an Aggregate Model of Economic Growth[J].*International Economic Review* , 6: 18-31.
- Van.Zon,Muysken.J(2001). Health and Edogenous Growth[J].*Journal of Health Economics*,(2):169-185.

# RESEARCH ON THE TRANSFORMATION MODE OF ENTERPRISE FINANCIAL MANAGEMENT UNDER THE BACKGROUND OF DIGITAL ECONOMY

HANLEI MA

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 842138226@qq.com*

## ABSTRACT

With the continuous development of information technology, the digital economy has gradually become the main force of my country's new economic form, and has penetrated into the real market economy. With the emergence of this new situation, higher requirements are placed on the financial affairs of enterprises. , The inherent disadvantages of traditional finance can no longer adapt to the current development of the new economy, so companies have to consider reforming and optimizing traditional financial management models and systems. By analyzing the characteristics and current situation of the digital economy, studying the shortcomings of traditional finance and the necessity of transformation, as well as the problems that may be encountered in the current financial management transformation, we propose specific strategies for the financial management transformation of enterprises under the background of the digital economy in order to help enterprises Optimize the staff structure to enhance its own advantages.

**Keywords:** digital economy, financial management, transformation strategy, industry-financial integration

## INTRODUCTION

In an environment where information tools such as smartphones and network infrastructure are constantly evolving, people's ability to process big data in quantity, speed, and quality is constantly improving, and the methods they adopt are becoming more automated, which promotes the global economic form from traditional industrial economic form to knowledge In the economic era, the innovation and upgrading of the smart economy (Wei H, 2021). has not only saved a lot of social transaction costs for enterprises, but the efficiency of resource optimization has also been continuously improved, which has promoted the growth of the added value of enterprise industries and products and the increase of social productivity.

The rapid development also provides technical support for the development of economically underdeveloped countries ( Yuying J, 2019).

The "14th Five-Year Plan", the Fifth Plenary Session of the 19th Central Committee, and the 2035 long-term goal outline clearly point out that it is necessary to further promote the development of the digital economy, increase support for the integration of the digital economy and the real economy, and accelerate the digitalization of economic development Process to create a more valuable new digital economic model

(Yan G, 2019). At present, under the influence of many uncertain factors such as the instability of the international situation, the digital economy has become synonymous with high-quality economic development. The shortcomings of traditional finance are not compatible with the development of this new model. Therefore, to adapt to the era of the great development of the digital economy, companies must innovate traditional finance and realize the transformation and upgrading of financial management.

## **LITERATURE REVIEW**

### **1. Concepts and characteristics of digital economy**

#### **1.1 The concept of digital economy**

The digital economy can also be called the smart economy, which refers to the use of modern information technology to digitize the information in life and work, and to integrate and optimize the resources controlled by the enterprise, so that these resources can maximize their value. To promote social and economic development, and to bring a new economic system to global economic activities (Lan L, 2020). To some extent, the essence of the digital economy actually lies in informatization. Informatization can be understood as a social economic process caused by the revolution of production tools such as the Internet and computers. Specifically, informatization mainly covers the content of the four major sectors, namely the informatization of infrastructure, the informatization of lifestyles, the industrialization of information technology, and the informatization of traditional industries. The key to the last two sectors is the production of information. And application. Information production involves a series of high-tech and industrial R&D and development, including communication equipment, network equipment, computer products and microelectronics products, etc. It also involves the storage and processing of some data and information; in the economic field, information technology is mainly The role is to enhance traditional industries such as industry and service industries, as well as the transformation of information technology (Wenxiao J, 2020).

#### **1.2 The characteristics of the digital economy**

##### **1.2.1 Digitization**

The most basic manifestation of the digital economy is digitization. In the context of the era of big data, big data not only provides technical support for the highly digitalized business of enterprises, but also improves the efficiency of information collection, optimizes the way of data storage, and creates favorable conditions for enterprises to query data in real time, store data for a long time, and supervise data.

##### **1.2.2 Direct and quick**

With the rapid development of the Internet era, the structure of economic organizations has gradually become flattened. Producers and consumers at both ends of online transactions can communicate directly, which shortens the communication

link for intermediaries, saves a large amount of transaction costs for enterprises, and increases them invisibly. Increase the economic benefits of the enterprise. The emergence of the Internet has broken geographical restrictions. Countries and countries, regions and regions are connected through the Internet. The entire world is closely connected. The global village appears in front of people. The Internet also breaks the time limit. People's economic exchanges and information Transmission can be carried out in a smaller time span without being restricted by time (Huimin C, 2017). Finally, the digital economy is a fast-developing economic model. The speed of information network transmission is getting faster and faster, and the speed at which companies collect, process, and apply information has achieved timeliness.

### **1.2.3 High permeability**

The rapid development of modern information technology has led my country's information industry to gradually penetrate and expand into traditional industries in all directions. The boundaries between the primary, secondary and tertiary industries have begun to blur, and various industries have merged with each other before, and cross-border development has occurred. the trend of. To a certain extent, the digital economy can effectively prevent the excessive development and consumption of natural resources and energy in the production process of traditional industries, which leads to the negative phenomena of link pollution and ecological deterioration (Xiajing C, 2020).

## **2. The necessity of financial transformation of traditional enterprises**

### **2.1 The financial deficiencies of traditional enterprises**

#### **2.1.1 Low degree of information**

In fact, traditional enterprises mainly focus on improving the economic efficiency of the enterprise in their daily management process, and they do not pay enough attention to informationized financial management. Due to the long-term traditional financial management mode, most companies have become accustomed to this inherent management mode. They believe that financial management has not touched the red line or major accidents. It is difficult to realize the importance of reforming financial management. At this stage, there are still a large number of enterprises whose financial management is decentralized, and the degree of informatization is not high. It is difficult to manage and share the financial information of all enterprises in an all-round way, and the efficiency of financial management is very low.

#### **2.1.2 The financial and business are not closely linked**

For a long time, the lack of close connection between the financial department and the business department, and the disconnection between the finance and the business has become a common phenomenon in many enterprises. In many traditional enterprise management models, each department is independent of each other and considers issues from their own standpoint. There is less communication between departments and the information they hold is asymmetry, which leads to deviations in corporate decision-making. On the other hand, the main function of traditional finance is to provide follow-up feedback on economic matters. In the digital economy environment, information delays seriously hinder the basic needs of enterprises to obtain information in real time. In

addition, finance does not have a thorough understanding of the business development and current situation, and fails to communicate on the long-term development of the business, which reduces the quality of accounting information, which not only affects the company's decision-making execution, but also seriously leads to investors' investment Willingness decreases.

### **2.1.3 Too much emphasis on post-event accounting and neglect pre-event and during-event participation**

One of the most important tasks of corporate finance is accounting, but at present, many financial workers only know afterwards and neglect to plan and organize the work in advance. As a result, the company's business does not meet the company's business scope and business development does not meet the financial requirements. Issues such as regulations have virtually increased the operating costs of enterprises. Many corporate finances do not pay attention to the company's new products when they are launched, and do not pay attention to process control. Instead, they focus on the follow-up summary analysis, forming a situation of reversal of priority and priority. If this goes on, it will seriously affect the operation of the company. Management, resulting in the loss of economic benefits.

### **2.1.4 Focus on data reporting and light on financial analysis**

Another inherent working mode of traditional finance is that most of the energy is spent on summarizing fact reports, ignoring the importance of data analysis, and seriously affecting the decision-making of management. In the context of big data, once the enterprise encounters challenges, it will be open and transparent. Financial information will only make business development more difficult. Therefore, modern financial departments must not only use information to integrate massive amounts of data, but also conduct research and analysis on them, and dig out the information that is beneficial to the development of the enterprise to maximize the profits of the enterprise. However, traditional financial reports can only see data results, and often lack financial analysis. The data is too one-sided and loses the value of the information itself. Therefore, traditional financial reports must take action and strive to transform and upgrade. More attention should be paid to the comprehensive abilities of job applicants, especially data analysis and management abilities.

## **3.2 The need for financial transformation of traditional enterprises in the digital economy**

### **3.2.1 Adapt to the digital economy environment**

Compared with modern financial management, the traditional financial management mode is mainly aimed at some enterprises with relatively simple internal information and low economic development level. This mode has become a past tense and is incompatible with the development of modern economy. With the development of the digital economy era, huge changes have taken place in both the scale of enterprises and the way in which information is disseminated, and science and technology have also become important tools for business management. The traditional financial backward and template-based management model can no longer adapt to the development of modern enterprises, and the financial management of enterprises is facing difficulties; therefore, enterprises must rely on modern information technology for data storage and management, give full play to the potential of financial management, and do a good job in the expansion and development of enterprises Lead the way.

### **3.2.2 Meet the needs of informatization development**

The digital economy is a new digital revolution that reflects the great economic

changes in the information age. It is believed that many financial workers have faced the following problems, such as imperfect accounting information, lagging information, difficulty in financial data management and control, etc., and these have also become stumbling blocks to the development of financial informatization. Therefore, finance should keep up with the trend of the digital economy, strive to transform and upgrade, guide the financial system to become intelligent, solve the current financial problems of the enterprise, reconstruct an efficient and reasonable financial system, and at the same time ensure the authenticity and authenticity of financial information. Can use value.

### **3.2.3 The digital economy puts forward higher requirements on the ability of financial personnel**

With the continuous development of science and technology, the employment pressure of financial personnel is increasing. Some traditional simple accounting operations have been replaced by information technology, and the job market is not optimistic. Enterprises have put forward higher requirements on the professional and comprehensive capabilities of financial personnel. Therefore, apart from handling daily work, financial personnel must also be good at summing up experience, constantly learning new knowledge, striving to improve their comprehensive capabilities and advantages, and striving to become a reserve talent for the transformation and upgrading of corporate financial management.

## **3. The dilemma of financial management transformation in the digital economy era**

### **3.1 Lack of financial management concepts**

The scientific concept of financial management is the target of corporate financial management. So far, many companies still believe that financial management is to do some simple accounting and recording. They do not realize that in the era of digital economy, the introduction of advanced science and technology in financial management will bring what new opportunities. The senior leadership of an enterprise is the backbone of the enterprise and determines the development direction of the enterprise. Many enterprise leadership thoughts are traditionally backward, which often causes the company to pass by with development opportunities. Financial management personnel are the specific executives of financial management work. If the financial management personnel's thinking is also backward, mechanically executing orders, they cannot make information to make judgments and trade-offs, and cannot realize the beneficial impact that big data technology will bring to the enterprise. It will also lead to the stagnation of corporate financial management, which seriously affects the realization of the company's long-term goals.

### **3.2 Lack of management and technical personnel**

In the digital economy environment, the application of science and technology in financial management is becoming more and more common, and enterprises have an increasing demand for compound financial management talents. At this stage, many companies do not have a deep understanding of advanced science and technology, and there are even some misunderstandings. In the era of the digital economy, a series of changes have taken place in the financial management of enterprises, from the preparation of the most primitive statements to the level of data analysis and budget management analysis. This means that financial personnel are based on solid professional knowledge. It is also necessary to be proficient in using Internet technology and computer technology, but many traditional finances are difficult to make changes due to age, self-learning and other reasons. In addition, some companies are unable to provide higher salaries and other

resources to recruit senior financial practitioners due to capital constraints and insufficient capabilities; on the other hand, the existing outstanding financial personnel of the company may also be due to salary and development space. Wait for other reasons to choose to leave, and find another job.

### **3.3 Increased financial information privacy and security issues**

The development of computer network technology is a double-edged sword. On the one hand, it provides technical support and channels for the financial management system and improves the operating efficiency of the enterprise. However, it is undeniable that it also brings many different security risks to the enterprise. . With the continuous development of science and technology, the construction of network security defense systems is ignored. If the core secrets of a company are stolen by peers, it will undoubtedly be a fatal blow to the company. On the other hand, companies use computer technology to store data in the cloud, which can easily be hacked and cause losses to the company. In the process of data transmission, the risk of information leakage is also easy to occur. If it is maliciously modified by others, it will aggravate the security problem of corporate financial data Lack of advanced financial management software Financial management software is the carrier of financial management, and advanced financial management software can also provide a basic guarantee for the transformation of corporate financial management. With the continuous advancement of science and technology, financial management software is also constantly iterating, but there are still many practical problems. Although the logical thinking of financial management is the same, different companies face different financial situations and have different requirements for financial management software. The same financial management software cannot meet the needs of all companies, making it difficult for many companies. Find the financial management software suitable for the actual situation of the enterprise.

### **4.5 Excessive cost pressure**

In modern society, many activities cannot be carried out without financial support, and the same is true for financial management transformation. First of all, the enterprise must rent a professional financial management system, not only have to bear the expensive financial management system lease fee, but also update the office computer equipment to enable it to carry the financial management system. Secondly, the financial management system is highly professional and complex, and requires higher professional and learning abilities of the operators. The enterprise has to bear the related expenses of hiring experts to train the operators. Finally, the financial management system will continue to be updated with changes in the economic environment, and companies also need to pay for subsequent upgrades and maintenance costs. The above-mentioned series of related expenses will undoubtedly increase the financial pressure of enterprises, and for small and medium-sized enterprises with poor economic benefits, they may also affect their normal business activities.

## **5. Strategies for corporate financial transformation in the digital economy**

### **5.1 Establish and improve the integration of industry and finance**

Financial integration refers to the combination of business operation and financial management, which not only provides basic support for business operations and strategy implementation, but also accurately analyzes the status of various financial indicators of the enterprise, promotes the transformation of corporate financial management, and makes business conform to financial norms and financial promotion Business development creates greater value for the enterprise. Building a complete business integration system is inseparable from the support of modern information technology, using big data to

integrate resource information, and combining the company's mid- and long-term planning to finally determine its development scale. At the same time, it is necessary to ensure that the implemented planning and development are matched through research to achieve the integration of dynamic resources. Finally, on the basis of big data technology, it is necessary to fully tap external resources and increase the use of external resources. The effective combination of business and finance, based on the integration of relevant financial requirements into daily business management based on enterprise value management, provides enterprises with professional and comprehensive process management services, which helps enterprises to allocate resources rationally and objectively and impartially. Make evaluations to help enterprises achieve effective management and complete transformation as soon as possible. In addition, the integration of business finances intuitively reflects the causes of enterprise cost fluctuations, makes objective evaluations of the effects of enterprise cost control, and guides enterprises to establish correct cost control awareness, thereby reducing operating costs and improving management efficiency for enterprises.

## **5.2 Changing financial management thinking**

With the continuous development of the digital economy, the application of big data technology in financial management has become more and more extensive. Traditional financial thinking can no longer meet the current needs of enterprise development, forcing companies to change their financial management thinking. First of all, financial personnel must increase their awareness of big data technology, fully realize the importance of big data technology to financial management, and rationally integrate information age thinking into financial management; in addition, companies must continuously improve its own financial management system, increase support for the integration of information technology and financial management, make financial management more in line with the development needs of modern enterprises, guide enterprise financial management work on the right track, and make the enterprise development model better adapt to the general trend of social development.

## **5.3 Promote the transformation of financial accounting to an intelligent financial system**

The prosperous development of the digital economy has brought new opportunities and challenges to enterprises. It has higher requirements for financial management, promotes the transformation of traditional finance to an information-based financial management system, and improves the ability of enterprises to collect accurate information in a timely manner. Strengthen the supervision of accounting information, ensure the authenticity and timeliness of accounting information, and promote the accounting business to be more informatized and more adaptable to the development of the new era. Therefore, enterprises should actively promote the construction of information-based financial systems, establish more advanced and scientific financial management models, and promote the transformation and upgrading of traditional finance. In this process, the company must make a plan for the transformation and development, pay special attention to protecting the security of accounting information, and control the construction cost of the informationized financial system within a reasonable range. It can also decide whether to set up a financial system based on the company's own situation and needs. Sharing center, but it is worth noting that we must not blindly informatize the financial system from reality. At present, the cost of building a complete information-based financial system and performing routine maintenance is still relatively high, but with the continuous development of information technology, the cost will be reduced, and enterprises will then choose to use these technical means to improve their financial

management capabilities.

#### **5.4 Accelerate the transition from financial accounting to management accounting**

Traditional financial accounting has the ability and responsible positions, it has been difficult to meet the needs of enterprises in the digital economy era, the transition from financial accounting to management accounting is imminent. Compared with traditional financial accounting, the management accounting model is more in line with the development of the new economy in the Internet age. Based on the accounting profession, it participates in business management activities through various forms such as mathematics and computer technology to make "finance" Close integration with "management" brings good economic benefits to the enterprise. Whether traditional finance can be transformed into management accounting, the key lies in whether corporate leaders can realize the difference between the two, promote the orderly development of management accounting reforms, and gradually create a standardized and reasonable management accounting in the exploration of actual work. Accounting mode. At the same time, companies must also understand the importance of budget management in business management. From budget preparation and execution to the final assessment, it can affect the company's strategy and performance evaluation system. Finally, the various departments of the enterprise can cooperate to use modern information technology to optimize the management accounting business and build an accounting business with a higher degree of financial informationization.

#### **5.5 Actively promote the transformation of financial personnel**

The financial transformation in the context of the digital economy is not only the optimization and adjustment of business and systems, but also for corporate financial workers. The transformation should also be achieved as soon as possible to adapt to the new financial system. Financial personnel keep up with the pace of the times and deepen their understanding of the digital economy. They cannot just stay on the surface of the data. The first task is to sort out management accounting thinking as soon as possible. At the same time, companies should increase the training of financial personnel, improve their professional practice capabilities, improve their understanding of business management, data analysis and information technology applications, and build a high-quality accounting team that can use big data technology , To systematically evaluate the company's own development and the challenges it faces to meet the high requirements of the modern environment for financial personnel and improve the company's market competitiveness

#### **5.6 Building a cloud computing big data management system**

Traditional financial management models are inefficient and inaccurate. In the era of digital economy, enterprises can effectively solve this problem through Internet computer technology, which greatly improves the efficiency and professionalism of financial management work, and promotes the rapid development of enterprises. The cloud computing big data management system effectively broadens the scope of financial data collection, strengthens the previous information sharing between the financial department and other departments, and helps improve the level of corporate strategic planning. On the other hand, the cloud computing management system also helps enterprises' financial planning and analysis capabilities, and enhances their ability to evaluate investment projects. In summary, the cloud computing management system has opened a new chapter in the financial management of enterprises and promoted the continuous improvement of financial management.

## CONCLUSION

The information industry created by the digital revolution is a strategic industry. The rapid development of information technology has had an important impact on social progress and economic development. The competition for comprehensive national power characterized by the information economy is increasingly encouraging. Nowadays, all countries attach great importance to informatization, and they even regard accelerating the informatization process as a strategic task of national progress. The digital economy has become a major trend in today's social development. The backwardness of traditional financial management models has been unable to keep up with the economic development of informatization. It is imperative to adapt to the development, transformation and upgrading, establish a sound business-finance integration model, and promote traditional financial management to management accounting. In terms of transformation, enhance the comprehensive strength of corporate financial management personnel and ensure the sustainable development of the company.

## REFERENCES

- Wei H.(2021). Talking about the transformation of corporate financial managers in the digital economy era. *Human Resources Development*, 2021 (5).pp. 90.
- Yuying J.(2019). Research on Financial Management Transformation Strategies in the Digital Economy Era. *Enterprise Reform and Management*, 2019 (15).pp.159.
- Yan G.(2019). Discussion on the problems caused by corporate finance in the era of big data . *Science & Technology Economic Guide*, 2019, 27 (24).pp. 222.
- Lan L.(2020). Innovations in corporate financial management under the background of big data——Comment on "Research on Corporate Financial Management in the Era of Big Data" . *Journal of Guangdong University of Finance and Economics*, 2020, 35(05).pp. 116-117 .
- Wenxiao J.(2020). Application strategies of big data and cloud computing in enterprise financial management . *Chinese Agricultural Accounting*, 2020(04).pp.50-51
- Huimin C.(2017). Research on the Application of Cloud Computing in Financial Management Informationization . *Modern Economic Information*, 2017(02).pp.177-178+180.
- Xiajing C.(2020). Enterprise financial management transformation strategy under the background of big data era. *Investment and Cooperation*, 2020(12).pp.100-101.

# RESEARCH ON THE MECHANISM AND STRATEGY OF ENTERPRISE MANAGEMENT INNOVATION: BASED ON THE PERSPECTIVE OF DIGITAL ECONOMY

**XIAOFANG XIONG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: xxf5945@163.com*

## ABSTRACT

With the rapid development of information technologies such as the Internet, big data, cloud computing, and artificial intelligence, the social economy has entered a new era of digital economy. The digital economy not only brings opportunities and new momentum for social and economic development, but also brings opportunities and challenges to the digital management of modern enterprises, the main body of the digital industry market. In today's digital economy era, the inherent management model of enterprises lags far behind the needs of the development of the digital industry, conforming to the trend of the digital age, innovating management concepts, and becoming a powerful backing for the high-quality development of modern enterprises. Through a comprehensive exploration of the dilemma, influencing factors and mechanism of enterprise management innovation from the perspective of the digital economy, it proposes methods and strategies for optimization of enterprise management innovation, so as to improve the modern management level of the enterprise and realize the development goal of all-round, lasting stability, high level and high quality of the enterprise.

**Keywords:** digital economy, business management, innovation, strategy

## INTRODUCTION

As an important part of the national economy, the enterprise economy needs to deal with a new round of challenges triggered by the digital economy era. The rapid development of the digital economy era puts forward higher requirements for the development of enterprises. Enterprises must also actively innovate traditional management techniques, improve management capabilities, achieve multi-directional and three-dimensional development of enterprises, and remain invincible in the fierce market competition. Management innovation is not only the original intention of the internal management reform of the enterprise, but also the realization of the high-quality and efficient development goal of the enterprise through external cross-border integration management.

## LITERSTURE REVIEW

### 2. Summary of the theory of digital economy and business management innovation

#### 2.1 Theory of Digital Economy

##### 2.1.1 Connotation of Digital Economy

After the rapid development of digital technology, the digital economy is a new economic format that uses the Internet as a carrier and relies on big data to provide a series of products, services, data and technologies for the modern economy to promote the development of the modern economy, that is, digital industrialization. [1] The digital economy is also a process of integrating information and business activities into digitization, that is, industrial digitization. All economic entities will conduct transactions through digital networks to create a win-win economic environment for enterprises and consumers. Emerging technologies and advanced productivity represent a leap forward in Internet technology. "Internet+" is the integration of technology and information under the Internet technology, which uses innovation as the carrier to empower various social and economic industries, while the digital economy is the integration of digital technology and economic formats, connecting various economic formats through data platforms. The benefits and economic value realized together.

With the continuous development of the digital economy, the connotation and extension of the digital economy are also expanding. The application forms of the digital economy can be divided into basic industries using the digital economy and industries based on the digital economy according to the type of industry, which can be summarized as the application category of the digital economy. It can be seen that the digital economy is also a process that promotes the continuous integration and development of economy and industry, which is a phased concept. This form of digital economy continues to permeate all fields and links of economic and social activities, thereby accelerating the high-quality development of the national economy.

##### 2.1.2 The nature of the digital economy

The digital economy is actually the informatization of social production, manufacturing, services and life. At the same time, informatization will promote the development of industries or the emergence of new types of industrialization. In fact, all industries have realized the industrialization of effective information through the information transmission and collection process of the Internet, computers, and some digital technology carrier tools. The large amount of data generated by industrialization has been fed back, and industry informatization has appeared. In other words, the continuous interaction between the production and application of information is a cyclical and relay-driven process that continuously promotes social and economic development. Its characteristic is to collect, mine and process digital technology information, make decisions for economic operation, and then promote economic development. The digital economy is actually an economic phenomenon caused by the impact of information on social industries or sectors. The source of the power for the development of the digital economy is the development and application of digital information technology. [2] Therefore, the development of the data-driven economy is a manifestation of the essential characteristics of the digital economy.

##### 2.1.3 Characteristics of the digital economy

###### (1) Continue to maintain strong development resilience

China's digital economy continues to maintain strong development flexibility at the new starting point of the "14th Five-Year Plan". In the first half of 2021, the growth rate of multiple core industries such as the electronic information manufacturing industry,

software industry and information technology service industry exceeded 20%, and the output growth rate of important products such as new energy vehicles, industrial robots, and integrated circuits exceeded 40%. Investment in important areas such as equipment manufacturing and e-commerce services has increased by more than 20%, and the leading development potential of the digital industry has been fully demonstrated. E-commerce consumption and online and offline service consumption are common. National online retail sales were 6.11 trillion yuan, a year-on-year increase of 23.2%. (Data source: 2021 China Central Economic Conference Report) The trade in digital services such as telecommunications, computers and information services has grown substantially, which has fully enhanced the capabilities of production, investment and consumption. With the recovery and growth of trade, the new momentum of the digital economy continues to strengthen.

(2) The cultivation of the data element market has entered a new stage

All parts of China have strengthened the top-level design and system guarantee of the data element market. Guangdong Province is the first to promote the special action of the market-oriented configuration reform of data elements, and Jiangsu is exploring and practicing the chief data officer system. Internet platforms, communication service providers and data service providers develop various emerging technologies with "data available and invisible" as the core, lay out the construction of the data element market operation system, enrich the supply of data resources, and create professional circulation service models and application scenarios. Industry enterprises have vigorously improved their data management capabilities, deepened data development and utilization, and gradually participated in the circulation and transactions of the data market. 149 units completed the national standards for maturity of data management capabilities, and the data value bonus space was fully opened.

(3) Speed up basic reconstruction

Following the successive releases of the "National Comprehensive Big Data Center Collaborative Innovation System Computing Capability Center Implementation Plan" and the "Three-year Action Plan for the Development of New Data Centers" (2021-2023), the national comprehensive big data center computing capability network system has been initially completed. [3] The establishment of 8 national-level hub nodes such as the Beijing-Tianjin-Hebei Region and the Guangdong-Hong Kong-Macao Greater Bay Area took the lead in exploring areas such as the construction of regional data center clusters, the breakthrough of the collaborative scheduling mechanism for computing capabilities and the innovation of data center market-oriented operation models. Under the guidance of national policies, Beijing, Shanghai and other places have successively issued overall development plans or guidelines for data centers to accelerate the evolution of data centers to the "four highs" of high technology, high computing capabilities, high energy efficiency and high security. The integration of open computing capability services and edge scenarios shows the blueprint of a multi-level infrastructure system.

(4) Break through the bottleneck of time and space, highlight the fast characteristics

First of all, the digital economy can be said to break the boundaries of time and space. Second, unlike traditional information that is blocked and difficult to transmit, all information in the modern Internet era can be transmitted to every corner of the earth at any time, arriving almost in real time. This is the most prominent feature of the digital economy, avoiding the impact of information asymmetry on economic development. Digital technology has greatly improved the collection, processing and application of information. In other words, the most important feature of the digital economy is speed,

which provides unparalleled convenience for economic development.

## **2.2 Enterprise management innovation theory**

### **2.2.1 The connotation of enterprise management innovation**

Joseph Schumpeter, the proponent of the innovation theory, put forward the view that innovation is the internal driving force for economic development from the perspective of economic development. Peter Drucker, respected as the "originator" in the industry, discussed innovation from a management perspective. He believes: "Innovation has the ability to radiate the inherent vitality of resources, and through the development of new capabilities of resources, create greater return of value." [4] As a unique tool for entrepreneurs, innovation can explore different career fields. Therefore, it is not difficult to find that innovative behavior has far-reaching significance for accelerating the long-term development of modern enterprises and promoting the steady development of social economy.

Enterprise innovation is a basic component of innovation in the modern economy. Enterprises are often composed of functional departments such as production, procurement, marketing, service, technology research and development, finance, human resource management, etc. Therefore, enterprise innovation covers these functional departments. Enterprise innovation includes product innovation, production process innovation, marketing innovation, and corporate culture innovation. Enterprise management innovation, etc. In the article "Technical Innovation, Commercial Innovation, Enterprise Innovation and All-round Innovation", Daoyi He divides enterprise innovation into ten aspects: enterprise strategic innovation, model innovation, process innovation, standard innovation, concept innovation, atmosphere innovation, structural innovation and system innovation. [5]

Enterprise management innovation refers to the establishment of a series of new management systems, such as experience concepts, organizational structures, decision-making mechanisms, and incentive and restraint mechanisms that adapt to the socialist market economy. In the era of digital economy, big data has become a key factor indicator, and enterprise management innovation is particularly important. Scientific and reasonable enterprise management innovation requires companies to use big data and information technology as the supporting conditions for all aspects of management, whether they are formulating company strategic deployments, managers' highest decision-making opinions, or the next level of production and sales. Help companies achieve the best input-output ratio.

Facing fierce market competition, enterprise management innovation is a systematic project. To enhance the vitality of state-owned enterprises, enterprises must face the market to carry out continuous management innovation in order to improve their own competitiveness. Only by facing the market and continuously creating products and services that adapt to changes in market demand according to customer needs, the enterprise will grow and develop.

### **2.2.2 The necessity of business management innovation**

The manager realizes the production goal of the enterprise, according to certain theories and norms, the use of scientific technical methods and means is enterprise management. Enterprise management refers to a series of activities and implementation process of the manager's decision-making, planning, organization, command, coordination, control and supervision of the production and operation of the enterprise within its jurisdiction. It can be seen that enterprise management innovation is to create a new and more effective way to integrate the limited resources of the enterprise on this basis. It can be a new complete system that runs through the entire process of business activities, or it

can be a new The specific methods of using limited resources, marketing strategies and corporate target formulation and other specific work and program changes. Enterprise management innovation is the key to the success or failure of enterprise management. In general enterprises, product innovation, technological innovation and process innovation are often valued, while management innovation is often overlooked. However, modern enterprises believe that “one-third of the success of an enterprise is technology and seven-tenth is management,” [6] demonstrating the core position of management innovation. Therefore, the indispensable core content of enterprise innovation is management innovation. To strengthen and improve business management, the fundamental way is to continuously carry out quality-oriented and market-oriented business management innovation is very necessary.

### **3.The dilemma of business management innovation in the context of digital economy**

Affected by traditional business concepts and insufficient corporate management experience, many companies still have the following problems in their own management:

#### **3.1 Lack of professional and innovative guidance**

In the context of the digital economy, companies can effectively control costs, improve production efficiency and competitiveness, and improve technology, quality and service levels. The urgent requirement for innovation and development space is to guide enterprises to innovate management, improve quality and efficiency. First of all, companies have not adjusted their business management models in a timely manner in accordance with the overall environment, and they lack innovation in management strategies. In addition, companies do not have a long-term plan for economic management in the development process, and they are blindly expanding their scale, and they only care about immediate benefits in management. Secondly, in management, enterprise staff have been slow to improve their skills, work efficiency is generally low, error rate is high, and professional guidance is lacking, which can easily lead to blockage of capital flow, which in turn will bring losses to the enterprise, even due to management problems, Bring business risks to the enterprise.

#### **3.2 The level of human resource management needs to be improved**

Although China's digital economy has developed to a certain extent, many large enterprises are still bound by traditional management concepts and models, and it is difficult to give full play to the positive role of human resource management. Human resource management is not only an important factor that affects the ability of employees, but also has a certain impact on the long-term stable development of the enterprise. At present, most companies can invest more energy in human resource management to effectively improve the deficiencies of human resource management. However, some companies do not pay enough attention to human resources work, especially in the operation of some family businesses, there are still phenomena of partiality and proximity, which not only bring negative problems to the internal management of the enterprise, but also cause the rigidity of the enterprise management model, increase in processes, and interaction. Ineffective activities have led to a decline in the economic benefits of the company, unable to meet the objective requirements of the development of the digital economy, and inhibit the improvement of the level of internal control of the company.

#### **3.3 Disadvantages of traditional enterprise organizations are prominent, and reforms are weak**

At present, many companies usually use fixed teams to deal with various problems and solve business problems. Such an outdated and single management method of

organizational structure will undoubtedly have a very negative impact on the company and hinder the development of the company. However, due to the lack of experience in corporate reform and the individual characteristics of the company, some companies began to reform after recognizing that the organizational structure was too traditional, but they did not achieve good reform results. On the one hand, some companies cannot choose a system reform model suitable for their own development. Specifically, there are two types of current corporate organizational reform models: incremental and radical. Relevant enterprises can only achieve certain results if they choose a reform method that suits their own development and suits their own characteristics, otherwise they may have a greater negative impact. However, many companies neither have a thorough understanding of the key points and characteristics of the two reform models, nor have they conducted detailed investigations and assessments of the companies themselves and the market environment, making it difficult to select and apply the correct reform model. [7] On the other hand, the resistance of corporate employees also hindered the reform of the organizational structure. Affected by traditional concepts and life pressures, many employees do not agree with the internal reforms of the organization. They just want to settle for the status quo, and organizational reforms without effective support from employees will also face failure. In short, the shortcomings of traditional enterprise organizations and the difficulties of organizational reform have brought adverse effects on the sustainable and effective development of enterprises.

### **3.4 Management innovation concept lags behind**

Although the development of social economy has brought pressure on the innovation of enterprise management mode, if the business operators' own ideas are out of date and lack the management innovation concepts that keep pace with the times, the enterprise will not be able to carry out effective innovation and development. In addition to the lack of innovative management development concepts that keep pace with the times, many business managers lack the awareness and foresight to avoid risks. For example, some corporate managers neither predicted the risks that the company might suffer, nor did they formulate preventive measures or first aid measures based on predictions. Therefore, when the real challenge comes, they can only do nothing. For another example, many business managers do not have forward-looking awareness and focus on the meager profit in front of them, ignoring the long-term stable development of the company.

### **3.5 The lack of digital top-level design of enterprises, and infrastructure facilities need to be improved**

First of all, affected by the lack of digital management thinking by business decision-makers, even if they are willing to actively invest funds to accelerate their digital transformation, the number of companies is still limited; Software and hardware can't do anything. Therefore, the application of digital technology in most enterprises, especially in small, medium and micro enterprises, is still at the primary networked management stage of office system networking, online office, and the use of office software to communicate, communicate, and communicate. The proportion of digital software and hardware applications is low, and it has failed to enter the intelligent stage of the digital stage of information aggregation, digital analysis, decision-making and automated production; failed to achieve a production management model based on intelligence and automation. Use big data and cloud computing to provide deeper, broader, and more precise expansion for enterprise management and operations. [8]

## **4.The impact of the digital economy on business management innovation**

Today, the driving force of industrial upgrading, transformation and development

is the digital economy as a new economic form. The consensus of all countries in the world is to comprehensively promote the digital transformation of the economy, accelerate digital development, and build a digital economy. The digital economy is having a profound impact on the management innovation of enterprises.

#### **4.1 Digital technology promotes management innovation**

The digital economy has gradually become the main battlefield for corporate competition. Emerging information technologies such as big data, artificial intelligence, block chain, and 5G have emerged in the rapid development of the digital economy. They are widely used in the fields of corporate product design concepts, production research and development, and have a profound impact on the reorganization and reform of corporate production methods. [9] The vigorous development of the Internet and digital technology has created an information-rich era, and information has promoted the rapid development of society and economy. Information plays an important role in this era. Only when companies have more information can they adjust and reform their own development according to the development of various industries and the needs of society. Nowadays, the Internet makes it easy for companies to obtain all kinds of information. As long as they access the Internet, they can not only collect data from all walks of life through digital information technology, but also flexibly adjust their own business management through data identification and screening, allowing companies to find cross-field objects and opportunities for border integration, and promote corporate innovation and development.

#### **4.2 Enterprise innovation is faster and lower cost**

The reason why companies can store effective data related to the company through data collection, identification and screening before innovation is because of the high integration of digital technology and modern technology, and they provide a basis for corporate decision-making. In the context of the digital economy era, network information technology and big data can be used to promote enterprises to reduce management costs: "First, the development of digital technology eliminates intermediate links, reduces the cost of information collection, and reduces information asymmetry or incompleteness. Costs and expenses caused. With the support of digital technology, customers can even participate in the production process, personalization and customization become possible, so as to achieve a high degree of conformity between customer ideas and product reality, and accurate production. Second, digital technology Development has reduced production costs. Under the background of digital technology, intelligence and automation will gradually replace labor, and the error-proofing mechanism will be more scientific and sound, so that the production process will be accurate, and the increase in cost due to manual errors and rising labor costs will be reduced. Third, the development of digital technology has reduced the cost of "feedback correction"." [10] According to customer reservations, sales and after-sales evaluation, the cost of verification and decision-making is further reduced. Real-time online evaluation system and data analysis are used to distinguish high-quality products from those to be improved. The advantages and disadvantages of the products will ultimately determine the company's "main force" products, and the product quality and services will be further improved and perfected, laying the foundation for building brand effects and enhancing brand reputation. The most common is the roadshow of listed companies. Compared with the traditional inviting investors to participate in the company, online roadshows can obtain massive amounts of investor information and investment intentions. The analysis of this massive amount of information will make more correct decisions. Second, the network road show greatly reduces costs.

### **4.3 Enterprise innovation becomes more open**

In the context of the digital economy, the information brought by digital technology has become an important production factor for enterprises, as well as an important concept and foundation for enterprise innovation. Enterprise innovation is not only limited to the transformation and adjustment of internal operation and management of enterprises. The changes brought about by digital technology have enabled enterprises to become the main body of diversified innovation by collecting and processing large amounts of data related to enterprise operation and management, using big data and data information analysis ,Optimize and effectively allocate corporate resources. Enterprises have also made corresponding innovations in production organization models and corporate systems. A large number of texts, pictures, and audiovisual data are flooding in. Through the analysis of these data, companies can not only innovate and change the current company, but also predict the future trend of the company through big data.

In the context of the digital economy, enterprise management can first effectively strengthen the information sharing and connection of internal management. Through digital technology, the information resources of various departments and levels within the enterprise have been shared from the traditional regular or irregular emails, meetings to the real-time open sharing of information resources between departments and levels, realizing the exchange and sharing of information. Intercommunication. Communication between departments and levels is smoother, reducing information barriers, and facilitating enterprise management. [11] Second, the exchange of internal and external information can be effectively strengthened. Through digital technology, strengthen the communication between enterprises and customers, realize the timely communication and transmission of information between internal and external customers, and improve the overall understanding and trust of original customers and potential customers on the enterprise; it enhances the enterprise's understanding of the different needs of customers. Finally, give greater play to the role of information aggregation. Through digital technology, the internal work information resources and the collected external information resources are unified, sorted and analyzed, and the information data that is conducive to the promotion of enterprise management and development are excavated, and a richer reference basis for management decision-making is provided in manufacturing, purchasing, In terms of sales and service, solve their actual problems.

### **4.4 Promote the optimization of business management processes**

The management and connection of multiple links such as plan formulation, review, development, implementation, marketing, after-sales, etc. is a traditional enterprise management process. There are often many management levels, which need to be reviewed, approved, implemented, feedback and corrected level by level according to the process. Because the process is complex and inefficient, it is prone to problems of poor management processes. [12] With the effective application of digital technology in enterprises, the time and space limitations of traditional management models can be reduced, the boundaries between departments can be broken, management can be flat and efficient, and the layering problem in the management process can be optimized. And let all departments understand data resources, work information and the latest changes in the first time, make work forecasts in advance, improve response speed and work efficiency, quickly complete, update or modify work content, and quickly adapt to the ever-changing information environment.

## **5. The mechanism of the digital economy on enterprise innovation management**

### **5.1 The digital economy brings new opportunities for enterprise development**

Enterprises have entered an unprecedented period of huge opportunities. Many enterprises have innovated because of the changes in the economic operation mode brought about by digital technology. All companies are eager to try and think about how to innovate every day to allow companies to seize the golden opportunities brought by digital technology, so that companies can catch up or lead. All Chinese companies are striving to tap the innovative potential of the huge benefits behind the digital economy. They can't help but join the ranks of innovation, whether passive or active. They embrace and welcome the opportunities that the digital economy brings to corporate innovation, and vigorously promote corporate digital transformation or upgrade, that is, innovation and change. The digital economy has risen to the height of the national strategy, and the state vigorously supports the development of the digital economy. This provides more opportunities for enterprise management innovation.

### **5.2 The digital economy provides more ideas for enterprise innovation**

For business organizations, innovation must be based on the characteristics of the digital economy. On the one hand, companies can extract and analyze big data provided by the Internet, and innovate in all aspects of the company. On the other hand, the internal operation of the enterprise itself can use digital technology to innovate, and use digital technology to replace traditional operating methods to improve efficiency and reduce costs, that is, to match and reset corporate resources to make them play an effective role. For example, companies can form teams or organizations at any time according to their own development needs to more effectively complete their specific projects. At the end of the project, the team can be disbanded. This new way of organization and cooperation is currently a very popular management concept. It not only allows the elite employees of the company to give full play to their talents, but also effectively complete their work goals.

### **5.3 The digital economy promotes the integration of data and information**

In the new era, we should scientifically understand the value of information. In today's era, combined with technical means, it is possible to accurately filter out operation-related information from massive amounts of data and information to ensure the authenticity of the information. This strategy applies information to guide scientific decision-making, and promotes managers to scientifically study and judge the market situation. The application value of financial information is irreplaceable, focusing on information collection, comprehensive integration of information, in-depth analysis and correct interpretation of information, effective use of data information, and promotion of the expected role of financial statements. [13] Therefore, in the era of big data, managers of modern enterprises have abundant advanced information resources and technical support to promote the transformation of enterprise informatization models. Through technology upgrades and information integration, managers can refine information resources to obtain high-quality information and quickly improve the level of information management.

### **5.4 The digital economy enhances the competitiveness of enterprises**

In the context of the digital economy, companies are facing a more fierce market competition environment. With the integration of the world economy and the formation of a buyer's market in China, market reforms are accelerating, and business management models should also face various challenges. Therefore, this requires companies to be fully prepared, scientifically formulate response plans, and meet challenges at any time; this requires companies to be market-oriented, fully investigate the market situation, grasp

market changes at any time, and take corrective measures to ensure that the quality of corporate management is higher than the same level, thereby enhancing the competitiveness of enterprises. The implementation of enterprise management innovation means respecting the market, operating in accordance with market-oriented requirements, ensuring that all internal activities of the enterprise better integrate with the market, maintaining competitive advantages, improving the level of operation and management, and promoting the improvement of enterprise economic efficiency. If an enterprise wants to gain a place in market competition, it must adjust its development strategy from the changes in the market environment brought about by the digital economy, and carry out a series of major innovations in the adjustment process. It can be said that in today's dramatic changes in the external environment of enterprises, only major innovations can enterprises achieve the purpose of adjustment. In other words, only in this way can companies truly gain a competitive advantage.

## **6. Innovative mechanism of business management in the context of digital economy**

### **6.1 Cross-border integration is the direction of future innovation of enterprises**

Traditional enterprises only pay attention to the trends of their own industries, and all management and business decisions are based on their own industry trends and corporate status. In the context of the digital economy, companies increasingly feel that they not only need to pay attention to the technological innovation and development trend of their own industries, but also that information technology in other industries can greatly inspire and help their own innovation. Integration with other industries can enable their own development. [21] Once this innovation is successful, the benefits will be even more substantial. On the basis of cross-industry integration, the manufacturing and service industries are accelerating their digital, networked, and intelligent transformation. The theory of business management innovation that takes numbers as the element and business process as the leading factor and focuses on the analysis of complex organizational structures has become a powerful tool for guiding cross-industry integration. [14]

### **6.2 Data assets become an important element of enterprise management**

Digital technologies such as cloud computing, block chain, interconnected internal and external networks, smart equipment facilities, industrial Internet, and e-commerce platforms are becoming more and more popular in enterprises, generating massive amounts of data all the time. The British economist once commented: "In this century, data is like oil in the last century. It is a driving force for growth and change. The flow of data creates new infrastructure, new businesses, new monopolies, new politics, and the new economy." [15] On the one hand, with the development of smart sensors, mobile Internet, Internet of things and other technologies, the speed and scale of data generation have exploded; and low-cost data generation, collection, transmission and storage have become possible. On the other hand, Big data, artificial intelligence and other technologies have greatly improved the efficiency of data processing, reduced processing costs, and made it possible to clean, analyze, and utilize massive amounts of unstructured data. Therefore, data management dedicated to transforming data, knowledge and information into customer value and market value has become an important part of enterprise management innovation.

### **6.3 Intelligence and modernization have become the mainstay of enterprise management improvement**

Driven by the power of science and technology, the rapid development of the digital economy has broken the boundaries of time and space, brought global connections

closer, and spawned the world's digital industry market. Economic exchanges between countries have become closer, and enterprises have obtained more opportunities in transformation. In the era of digital economy, the application model of data technology is constantly improved, and the continuous innovation and development of technology not only provide a guarantee for the business development of enterprises, but also promote the intelligent and modernization of enterprise management.

#### **6.4 Compound talents have become an important support and platform for enterprise management innovation**

High-level professional technical talents and cross-border compound talents are increasingly sought after by enterprises. The widespread application of digital technology, especially the improvement of robot performance, the decrease of cost and the rise of artificial intelligence, will change the employee groups faced by traditional human resource management. [16] Some traditional positions in enterprises have been reduced or disappeared, and the demand for compound, professional and technical talents and high-skilled talents continues to be strong, and emerging positions such as data architecture and digital modeling are becoming more and more important.

### **7. Further exploration of corporate management innovation strategies in the digital economy era**

#### **7.1 Broaden management ideas**

Today, as the digital economy has entered the fast lane, the digital transformation of industry is the direction of the future development of enterprises, especially since China is still plagued by COVID-19, and domestic epidemic prevention and control tends to be normalized. In order to obtain more development opportunities and broaden management ideas, the specific procedures are as follows: "First, we must understand the role of big data technology in corporate economic management. Generally speaking, big data technology has multiple functions such as data mining and risk awareness. With the help of the above functions, companies can understand their own operating conditions at a certain stage in the past, analyze their own future risks, and combine the analysis results to conduct orderly management, which is of great significance and can ensure the healthy development of the company. Then, we need to cultivate big data thinking." [17] Generally speaking, in enterprises, employees must establish big data technical thinking, rationally promote the application of big data, and guide operation and management. Finally, establish a powerful database based on data integration and analysis methods, use the database to analyze corporate risks, summarize business deficiencies, locate weak links and improve risk awareness.

#### **7.2 Accelerate digital application and infrastructure construction**

The construction, support and application of digital infrastructure determine the advanced level of enterprise digital management. Therefore, companies should fully understand the importance of digital infrastructure construction and applications, increase capital investment in their digital transformation, choose digital equipment, platform software, and other software and hardware that can be integrated with their own corporate development positioning for digital transformation. Based on the advanced experience of other companies. Generally, medium and micro enterprises can choose to cooperate with an analysis cloud platform or a third party with mature operating experience to centrally manage the data of all levels and departments within the enterprise, and realize system-wide analysis, which can not only improve efficiency, but also effectively reduce expenses. Sufficient companies can choose to purchase their own digital software and hardware, carry out the digital transformation of internal management structure and operations, and

explore a digital path that is more suitable for their own business development through continuous improvement of digital management. [18]

### **7.3 Strengthen risk awareness and improve risk control level**

Managers should understand some of the problems and potential risks existing in the economic management of enterprises, and pay attention to risk prevention and control. Employees can use big data technology to analyze and count the data generated by the company's operations at a certain point in time. If they need to master the existing laws, they need to discover the abnormalities of the data so that managers can quickly make a decision when they encounter problems. In terms of risk prevention, it can play a positive role and is of great significance to maintaining the normal growth and development of the enterprise. Every link can be applied, and only in this way can the value of data application be brought into play. Throughout the economic management cycle, human resource management, enterprise risk management, and resource allocation management can use data and integrated technology as a means to promote multi-dimensional risk prevention and control, and consolidate the foundation of internal core strength.

### **7.4 Cultivating digital management talents**

In the process of digital management transformation, companies need a comprehensive digital management team with professional backgrounds in data design, human-computer interaction, data analysis, and corporate management experience. Regarding the cultivation of digital management talents, two considerations can be made: one is to train and upgrade existing management talents. Since the original internal management personnel of the enterprise are familiar with the situation of their own enterprise, as long as they increase the training of the original management team and improve the digital management thinking and digital application capabilities, they can grow into their own digital integrated management talents. The second is to introduce external professional and technical personnel. For some "high-precision" professional and technical positions where internal training is difficult to meet the requirements, consider introducing high-quality professional and technical personnel, hiring experts or outsourcing to a professional team to ensure that the problem can be solved. [19] Dealing with it in a timely manner to solve the problems of long talent training cycle and high cost is also conducive to the rapid establishment of a brand-new digital management system for enterprises to provide support for the digital transformation of enterprises.

### **7.5 Upgrade management mode**

In order to seek long-term development and long-term survival, enterprises often need to withstand competitive pressures and accept the test of the market. In terms of management, realize the organic integration of big data technology and management elements, establish an efficient management system, and truly enable enterprises to enjoy efficient services. By collecting and storing effective information, companies will improve the accuracy of analysis and calculations. Not only can it carry out classified management, but it can also predict the company's next stage of development advantages, gain insight into the company's internal defects, break through limited management models, innovate management ideas, and broaden management ideas. [20] At the same time, big data technology can be fully applied to strengthen data mining and assist enterprise managers in decision-making. With the help of technical advantages, we can efficiently analyze and process the data of each project, laying a solid foundation for future big data technical analysis. Therefore, through the collection, screening, mining and processing of various data and information, business managers can accurately implement policies and optimize management models.

## CONCLUSION

In short, in the context of the digital economy, companies will face many challenges, and corporate management innovation decisions have become the key to sustainable, stable and high-quality development of companies. In the fierce market competition environment, the traditional management model can no longer meet the objective needs of the development of the digital industry. The digital transformation of enterprise management has become a top priority. In other words, the digital economy is both a challenge and an opportunity for enterprises. Adapting to the impact of the digital economy, building a digital management thinking structure, expanding the application of digital technology in corporate management, improving corporate management efficiency, and looking for more development opportunities in the wave of digital economy have become an inevitable choice for corporate development. Enterprise management optimization process.

## REFERENCES

- Wenbo Li, Jing Yang, Aixia Duan, Jizhong Li. Strengthen business management and demand benefits from the market [J]. *World Nonferrous Metals*. 2017 (20): 226-228.
- Xiaoqin Zhang. Enterprise economic management innovation strategy under the new situation [J]. *Modern Marketing*. 2017 (12): 4.
- Tao Zhou. Thoughts on the innovation of business management models in the era of big data [J]. *Industrial Technology Innovation*. 2019 (36): 117-119.
- Narver J C. Responsive and proactive market orientation and new product success [J]. *Journal of Product Innovation Management*, 2004 (5):334-347.
- Xiangxiang Zhao. Approaches to business management innovation under the new normal [J]. *Modern Marketing (Business Edition)*. 2019 (12): 138.
- Xiao Zhao, Qin Wu, Xin Yu. The logic of enterprise cross-border subversive innovation in the Internet era [J]. *China Industrial Economy*. 2019(3): 156-174.
- Yonghong Li, Rui Huang. Research on my country's Digital Industrialization and Industrial Digitalization Mode [J]. *Science and Technology Management Research*. 2019(16): 129-134.
- Narver J C. Responsive and proactive market orientation and new product success [J]. *Journal of Product Innovation Management*, 2004 (5):334-347.
- Rui Wang, Lingling Xu. Innovative strategies for business management under the new economic normal [J]. *Modern Marketing (Business Edition)*. 2020(9): 24-26.
- Qiang Fu. Innovative strategies for business management under the new economic normal [J]. *Management and Technology of Small and Medium-sized Enterprises (Mid-Saturday)*. 2020(05): 70-71.
- Xiaofei Han. My country's enterprise management innovation strategy under the new normal [J]. *Management Observation*. 2020(4): 168-170.
- Xiangxiang Zhao. Approaches to business management innovation under the new normal [J]. *Modern Marketing (Business Edition)*. 2019(12): 138.
- Xin Yang. Analysis and Research on Innovation Strategies of Enterprise Operation and Management in the Era of Network Economy [J]. *Market Modernization*. 2019(16): 104-105.
- Feng Cheng. Research on Huawei Enterprise Management Innovation [J]. *Operation and Management*. 2021(1): 97-100.

- Yong Niu, Dongdong Yu. Thoughts on business management innovation in the era of network economy [J]. China Business Forum .2021(1):141-142.
- Yining Yang. On the transformation of marketing strategies in the era of network economy [J]. Public Investment Guide. 2017 (2): 48.
- Wenbin Zhang. Digital Economy Reconstructs Enterprise Management [J]. Enterprise Management, 2019(10):109-111.
- Daan He, Xiao Ren. The evolution and prospects of the resource allocation mechanism in the Internet era [J]. Economist. 2018 (10): 63-71.
- Zhen Liu, Yandan Zhao. Research on the innovation trend of modern business management under the digital economy [J]. Sichuan Metallurgy. 2018(6): 6-8.
- Tie Ly. The trend and path of the digital transformation of traditional industries [J]. People's Forum. Academic Frontiers. 2019(18): 13-19.
- Weiling Wang, Jing Wang. Research on the development trend and promotion policy of my country's digital economy [J]. Economic Aspects. 2019(1): 69-75.
- Shiqiang Zeng, "Chinese Management", Beijing United Publishing Company, 2015.
- Honglei Li, "Confucian Management Philosophy" (Third Edition), Guangdong Higher Education Press, 2010; "Confucian Business Wisdom", People's Publishing House, 2017.
- Libo Zhang and Shaofeng Chen, "New Middle Way's Business Management Philosophy", Peking University Press, 2012.
- United States) Peter. Drucker, "Effective Manager", translated by Xu Shixiang, Machinery Industry Press, 2009
- United States) Zhongying Cheng, (Theory C: Chinese Management Philosophy (Revised Edition), Oriental Publishing House, 2011.
- Jinping Xi, speech at the private enterprise symposium [[N], People's Daily, 2018-11-02.

# COMPETENCY MODEL APPLICATION IN THE FUNCTIONS OF MANUFACTURE: MIDDLE MANAGERS IN A MANUFACTURING CHINA COMPANY

SHUZHONG YU<sup>1\*</sup>, LIHUI HUANG<sup>2</sup>

<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

<sup>2</sup>*Nanfeng College Guangzhou, China*

*Email: yushzh@nfy.edu.cn*

## ABSTRACT

Middle managers, believed as the connection between top management and grassroots employees, play an important part in the company. Furthermore, for a manufacturing company, the managers in Manufacture position, who are responsible for leading the team to complete the production and quality targets, seem to be even more vital for development. In order to explore the competency characteristics of middle-level managers in these two functions, this paper carries out the study of competency model towards 23 middle managers from a manufacturing company in China and sets up a general competency model for middle managers through Behavioral Event Interview (BEI) and the 360-degree evaluation. Moreover, certain applications of competency model for middle managers in the Manufacture functions have been discussed, including six basic competencies, such as specialty, group leadership (group development, incentives, team building, etc.), problem solving (execution, responsiveness, process control, etc.), market awareness, communication, and upward management, and four advanced competencies, such as overall consciousness, innovation, self-motivation, and attention management. This paper will supply innovative thoughts and methods for the research on job performance of middle managers in manufacture position and provide great research values for the application in recruitment & internal training standards regarding to these two departments.

**Keywords:** Manufacture position, Competency model, Middle managers, Behavioral Event Interview, 360-degree evaluation

## INTRODUCTION

For a long time, among the large group of corporate managers, senior managers represented by the CEO are often more likely to get extensive attention from the society and the media. Middle managers not only execute the company strategies and decisions set by top management, but also coordinate and organize the routine job of grass-roots employees. Therefore, the development of enterprises is depending on their work performances (Xu, 2016). At the same time, considering that product quality plays a vital role in maintaining the competitiveness of corporate performance, middle managers, who are responsible for production and its quality in the Manufacturing function, are even more crucial for the company. They are also a group of experts with a direct relation to enterprise survival.

However, there are only limited researches in the field of competency model for middle-level managers on the manufacturing function worldwide, and the research on one

of the Fortune Global 500 companies in China is even rarer, leaving plenty of gaps in related fields. According to this reality, this paper utilizes the competency model, the Behavioral Event Interview and 360-degree evaluation among 23 middle managers from a Chinese Fortune Global 500 company (referred to as M company). Thus, a general competency model for middle-level managers based on 23 middle-level managers of M company has been constructed, including 10 factors of competency dimension for middle managers in the Manufacturing positions. It provides some benchmark value and research support for talents choosing for middle managers in the Manufacturing function, as well as team member evaluation and optimization.

## LITERATURE REVIEW

### 2. Literature Review

#### 2.1 Competency and competency model

McClelland (1973), a famous American management master, puts forward the theoretical concept of competency in 1973. He proposed employers should have a combination test of a candidate's professional skills, such as performance results, leadership ability and interpersonal skills, instead of intelligence only. Boyatzis (1982) demonstrated that employees should be responsible for delivering excellent performance at the workplace, and develop a competency model of leadership. The JCA method created by him was recognized by Spencer et al. (1993) after several years. In his book, Hoffmann (1999) noted that competency should reflect standards or performance levels and believes that defining competency is to improve people's performance at work. Based on these researches, Bartram et al. (2002) proposed that competency is a collection of behaviors which are vital for the result of expectations or achievements. This definition has been recognized and adopted by Zhou Han and Srivastava (2014).

Over the past few years, competency-related theories and models have been expanded in various industries around the world. Muller et al. (2017) initially used competency model in learning industries as an overall ability development tool, targeting to provide a choice for the competency-based teaching concepts establishment in higher education. At the same year, Prifti et al. (2017) pointed out the desired competency in highly educated employees in the Era of Industry 4.0 in their researches, which can help the enterprise to transfer to Industry 4.0 successfully. Polish researcher Dzieko Squawski (2017) set up a competency model in the construction industry for project managers in his home country, which supplies a benchmark along the career development path in Polish construction companies. Shum et al. (2018) interviewed 98 managers in the hotel industry about the prior competency of grass-roots managers and director-level managers, giving a new thought for revealing the leadership competency models of different types of managers in the hotel industry. Sun et al. (2020) developed a model about the general abilities in solving collaborative problems, which becomes a benchmark when training students to become qualified collaborative problem solvers. Marneros et al. (2021) took a famous European tourism country, Cyprus, as the research object in the first time, exploring the crucial core competencies for successful operation in the hotel industry.

In China, although the beginning of competency research is not as early as abroad, more and more researchers and institutions have been taking related research in past several years. By the aid of Behavioral Event Interview (BEI), Shi, etc. (2002) set up the competence model for top managers of Chinese telecommunication industry, and

summarized the competence dimensions of 10 aspects including organizational commitment, influence, etc. Based on the related theories of competency and performance management, Liu (2011) pointed out the factors and elements of competency for top managers and took them as a crucial benchmark in the performance evaluation system. By applying the competency model, Wang et al. (2013) measured the competency of middle-level directors in Xinjiang Mobile Company and made conclusion that the competency levels had highly relationship to the local economic level and work nature. Chen (2015) developed a middle managers competency model for a tobacco enterprise, including the ability of interpersonal relationship management, by utilizing the Behavioral Event Interview, survey and factor analysis. Li (2015) also used the Behavioral Event Interview to interview the principals in higher vocational colleges, and formed the Gestalt model of higher vocational colleges principal's competency in China, including excellent competence part and qualified competence part. Wang et al. (2015) developed a research on the international senior management teams of Chinese enterprises and initiated a preliminary competency model, including a three-factor and nine-dimension structure.

## **2.2 Behavioral Event Interview**

Flanagan (1954) created Behavioral Event Interview (BEI) in 1954, which was further studied by McClelland (1998). He regards that competency factors, which can lead to success, can be evaluated reliably and effectively by Behavioral Event Interview (McClelland, 1998). The core thought of BEI is to describe detailed work performance behavior by interviewing and analyzing past behaviors of the employees (Raisova, 2012). In past few years, BEI has been widely applied in competency research field. By conducting Behavioral Event Interview among outstanding 19 principals, Hitt et al. (2018) concluded seven sorts of competency according to the interview recording, which represented the unique behaviors and characteristics of outstanding school principals. Das et al. (2018) used Behavioral Event Interview with 57 salespeople from a Fortune Global 500 company in eastern India, and got the differentiated competency of salesperson in the Indian oil industry. In the book, Ravindranath (2019) described how to apply Behavioral Event Interview in competency research and how to use the results of the interview to obtain the corresponding competency factor. In addition, Behavioral Event Interview with competency research has been applied in many regions and industries across the world (Wan et al., 2017; Sudirman et al., 2019; Kim et al., 2020).

## **2.3 360-Degree Evaluation**

360-Degree Evaluation, also called Multisource Feedback (MSF), is known for being widely introduced in enterprises (Cormack et al., 2018). Through a 360-degree evaluation process in multiple dimensions such as direct leaders, colleagues, subordinates, and customers, the employees' performance could be evaluated comprehensively and effectively (Morrison et al., 2020). Studies have shown that the 360-Degree Evaluation can effectively stimulate and strengthen employees' innovative behaviors in enterprises (Karkoulian et al., 2019). In recent years, several scholars (Jani et al., 2017; Brown et al., 2017; Hosseini et al., 2018; Cormack et al., 2018) have widely applied it to the construction of competency models for positions in the medical industry and companies. Considering that the evaluation method can reflect the performance of the evaluatees in a relatively comprehensive and objective way, this paper also introduces the 360-Degree Evaluation as one of the tools to implement the competency evaluation of M Company.

### **3. Research design and implementation**

#### **3.1 Selection and determination of research methods**

Specialist Evaluation Method (SEM), Functional Job Analysis (FJA), Behavior Analysis, and Behavioral Event Interview (BEI) are the main methods for constructing competency model. Each of the above has its own advantages and drawbacks. Despite of requiring a lot of manpower and energy, Behavioral Event Interview (BEI) is well-recognized as the most suitable competency model construction method because of its strong effectiveness (Defang Li, 2015). Behavioral Event Interview is implemented mainly by taking current staff members as interviewees, trying to uncover the most successful and least successful things during their tenure in the position and digging deep into the details of certain related incidents, so as to derive the competencies required by this position (Kan Shi, 2006). Based on this, this study mainly takes the Behavioral Event Interview (BEI) as the research method, and simultaneously the Delphi Method (Hui Wang et al., 2019) has also been used to solicit expert opinions.

#### **4.1 Implementation of Behavioral Event Interview**

##### **3.2.1 Selection of interviewees**

This paper chose the middle-level managers in Manufacture position in M company as the interviewees for this study. The total sample number is 23, including 13 males and 10 females, accounting for 57% and 43% of the samples respectively. Notably, the number of middle managers in the Manufacturing function is 6, accounting for 26% of the sample.

##### **3.2.2 Design of interview questionnaire**

The interview was carried out in an open-minded way. Interviewees were asked to describe "three most successful and least successful things in their work" as well as reviewing the key behaviors, in an attempt to explore the capabilities required by middle managers from both positive and negative aspects. According to the questionnaire, the interviewees needed to report in detail what happened at that time.

##### **3.2.3 Preparation before the interview**

Before the interview, relevant outline should be designed referring to the STAR principle (Zhen Peng & Defeng Chen, 2020; Shengquan Luo & Xianyun Meng, 2017; Chang Zhou, 2018). STAR principle can be summarized as follows:

S stands for the situation, that is, when the key event occurred, what was the situation at that time? What caused this situation? Who was involved in this activity?

T stands for the task, i.e., what was the main task? What did you want to achieve?

A stands for the action, i.e., in order to achieve the goal, what were your thoughts and actions?

R stands for the result, i.e., what was the final result? Was there anything special happened in the process of reaching an agreement?

The interview outline was sent to the interviewees the day before the interview, so the interviewees could make preparations in advance according to the outline to improve the efficiency. Before the formal interview, the interviewees were clearly informed that the whole interview would be recorded (Li, 2015) so that they were interviewed with clear understanding and consent.

### 3.2.4 Implementation of Behavioral Event Interview

The interview was conducted from March to April in 2019, and the whole process was conducted according to the interview outline. Specifically, the entire interview lasted about 1.5 hours, with the shortest duration of 1 hour and 10 minutes, the longest duration of about 2 hours, and the average duration of 1 hour and 40 minutes.

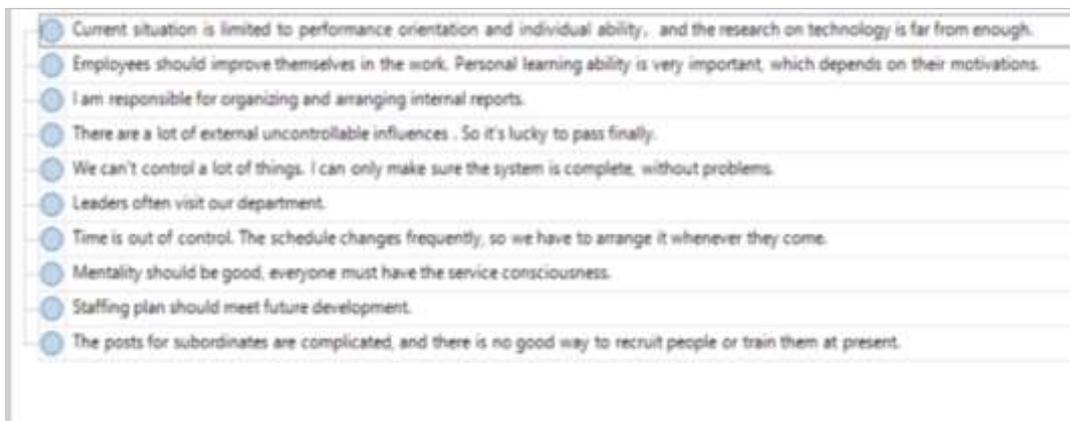
## 4. Construction of competency model for middle-level managers

In this study, the competency model of middle managers in M Company refers to the collection of all the elements that constitute the competency of middle managers. After the behavioral event interviews, the interview recordings were transcribed by the assistance of the qualitative analysis tool NVIVO12.0 to obtain 23 valid interview text data. On this basis, data were coded for three times and the corresponding competency model was constructed. The specific implementation steps are listed as follows:

### Step 1: Encode interview data for the first time

In accordance with the original intention of interviewees, the interview recording text was sorted into the manuscript. Coding data processing team, composed of two or three coding analysts with high coding consistency, applied NVIVO12.0 to preliminarily extract the key events in the original interview recording. Finally 773 competency features were obtained (as shown in Figure 1), for example, personal learning ability is very important, staffing plan should meet the future development, etc.

Figure 1: Initial encoding of the interview text data



### Step 2: Encode interview data for the second time

In this step, through the analysis of the subject and content, combined with the Competency Classification Dictionary, 773 competency features coded in the first step were further classified into thematic keywords. After the supplement of experts' suggestions to eliminate obscure and abstract competency features, finally 25 competency factors in table 1 were extracted, such as the innovation ability, communication ability and overall planning ability, etc. Taking innovation ability, for example, among the whole 773 competency features, there are 44 competency features that fit the key words of innovation theme, so the frequency of this competency factor is 44. The specific refining process is shown in Figure 2.

Figure 2: Secondary encoding of interview text data

No.	Features of Competency	Competency Factor
13	Innovation: The important thing is how to achieve continuous improvement. We don't have to make a completely different one. It's more important to make the original work better.	Innovation Ability
658	Innovation ability: Business sense is the most important, First to have the idea, then there will be actions.	Innovation Ability
691	The answer is innovation. Innovation in efficiency, innovation in problem discovery, how to compete with competitors and how to communicate with high-quality suppliers.	Innovation Ability
720	Innovation ability is really important, which is related with the boss's leadership style. My boss has a divergent mind and he needs new ideas to pay attention to.	Innovation Ability
748	Innovation. The frame of the whole business division has been finished and it is impossible to change. We can just make minor changes.	Innovation Ability
96	The biggest supplier cooperated, and so did the others.	Communication Skills
97	We have to tell them the impact of problems on us when they don't take these problems seriously.	Communication Skills
564	Don't promise if you can't complete. Do what you promise before.	Communication Skills
12	There are some things we should not do blindly, we should not grasp everything in the same way and we should do it step by step.	Overall Planning Ability
49	Leaders need to have the ability to plan and set the overall goal, then the subordinates will follow.	Overall Planning Ability
372	It's our own problems. We did not give the advertising company a good plan and scheme because we didn't have a clear plan in the early stage.	Overall Planning Ability
463	I have been planning since the very early stage.	Overall Planning Ability

Table 1: 25 competency factors extracted by secondary coding

Number	Competency factors	Frequency	Number	Competency factors	Frequency
1	Professional Ability	44	14	Attention Management	22
2	System Building Ability	15	15	Self-achievement Motivation	38
3	Overall Planning Ability	16	16	Executive Power	33
4	Problem-solving Ability	31	17	Adaptability	5
5	Upward Management	58	18	decision-making Ability	13
6	Integrated Team Management	15	19	Learning Atmosphere	5
7	Team Development	89	20	Influence	26
8	Team Motivation	18	21	Information Acquisition Ability	4
9	Team Building	33	22	Anti-pressure Ability	8
10	Communication Skills	133	23	Emotional Management	13
11	Market Awareness	62	24	Time Management	5
12	Overall Awareness	33	25	Process Control	10
13	Innovation Ability	44			

### Step 3: Encode the interview data for the third time

On the basis of the second coding, the coding team further classified and integrated each competency factor, and generated 10 competency dimensions, such like innovation ability, communication skills, problem-solving ability, team management and other abilities. Among them, under the team management, there are three sub-capacity dimensions, including team development, team motivation, and team building, while the problem-solving ability has three sub-capacity dimensions, such as executive power, adaptability and process control.

### Step 4: Form the model

Through three coding processes of interview data, combined with relevant knowledge of competency theory and expert discussion, 10 competency dimensions are divided into basic competency (including professional ability, market awareness,

communication skills, upward management, team management, problem-solving ability, etc.) and advanced competency (including overall awareness, innovation ability, attention management, self-achievement motivation, etc.), each corresponding to middle-level managers with ordinary performance and middle-level managers with high performance. Furthermore, in the process of expert discussion, the definition of each competency dimension has been drawn out and the competency model of middle-level managers in M Company has been finally formed in Table 2. The above process is shown in Figure 3.

Figure 3: Flowchart of conducting Behavioral Event Interview and building middle-level managers' competency model

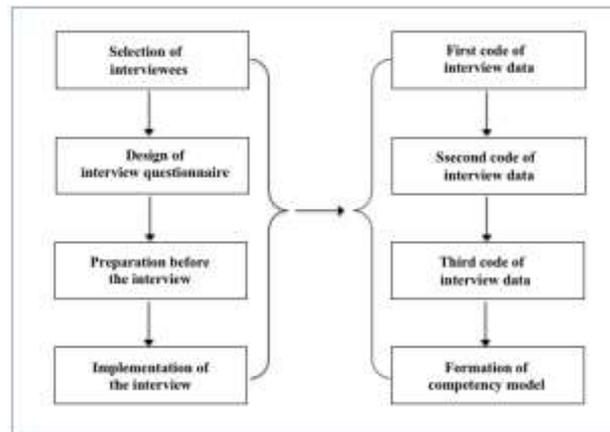


Table 2: Competency model of middle-level managers in M Company

Competency Category	Competency Dimension	Definition
Basic Competency	Professional Ability	Having knowledge and skills of products, services, processes and technologies necessary to perform the job or role.
	Market Awareness	Working with market orientation, changing from paying attention to the market passively to being sensitive to the market.
	Problem-solving Ability	Execution ability in work, including the process control ability and the ability to respond to unexpected problems.
	Communication Skills	The ability to understand the needs of partners at work, effectively transform information, and achieve mutual understanding and support with others through various means.
	Upward Management	Having the cognition of the leader's expectations, the ability to communicate with the leader to get support and even can exert influence on the leader's decisions.
	Team Management	The ability to grow, motivate and build a team.
Advanced Competency	Overall Awareness	The ability to stand in the overall perspective of the problem, think of solutions and make decisions from an overall perspective.
	Innovation Ability	The ability to acquire new knowledge and skills in various ways, apply them to work, make continuous improvement or even make major breakthroughs in work.
	Attention Management	The ability to draw attention to one's own needs in a variety of ways.

	Self-achievement Motivation	Having clear goals and plans for self-development, a strong desire for achievement, and the ability to constantly surpass oneself through action.
--	--------------------------------	---

## **5. Application of competency model in middle-level managers of manufacturing department**

### **5.1 Research implementation**

As a comprehensive evaluation method, the 360-degree evaluation is particularly innovative in evaluating how to obtain superior competence (González-Gil et al., 2020) since it can increase the competitiveness of enterprises in plenty of potential ways (London & Beatty, 1993). Therefore, in practice, the 360-degree evaluation has become a mainstream tool used to provide feedback to management (London & Beatty, 1993), and has been widely adopted by numerous companies for comprehensive evaluation of individual performance. As the backbone of enterprise managers, middle-level managers in Manufacturing position link top management to grassroots employees. Consequently, it is extremely appropriate and valuable to apply the 360-degree evaluation, which covers both superiors and subordinates, to study the competence and work performance of middle-level managers in M company's Manufacturing function.

#### **5.1.1 The identification of evaluation subjects**

In the process of implementing the 360-degree evaluation for the middle-level managers of the Manufacturing department in M company, this paper selects the direct superior, subordinate and colleague of the evaluated as the evaluation subject to objectively evaluate their competency and work performance in an all-round way.

#### **5.1.2 Competency assessment scale development and assessment questionnaire design**

In social science and many related research fields, it is crucial to measure the attitude of interviewees. The Likert scale, which consists of a group of statements and each statement has its own grade and score, has become a very common assessment tool (Höhne et al., 2021). Previously, the Likert scale has also been widely used in papers related to the 360-degree evaluation written by some international scholars (Cormack et al., 2018; Sadeghi & Loripoor, 2016). Based on this, this paper also introduces Likert scale, a professional competency assessment tool, into the competency assessment process.

Taking the 10 competency dimensions drawn from the previous discussion as an outline, a series of the questionnaire statements were compiled correspondingly. Each statement was set with five options from A to E, the score of which ranks from 1 to 5 respectively. It should be noted that the evaluation subjects should answer, according to the assessed object's daily performance faithfully. Therefore, 3 types of assessment questionnaires were designed according to the specific evaluation subjects (see Appendix for details).

Meanwhile, according to the evaluation level, the 10 competency dimensions drawn from the previous discussion are divided into five levels from C1 to C5. Each level from C1 to C5 indicates that the degree of competence is progressively advanced. Thus, the general competency assessment scale for middle managers in Manufacturing positions of M company has been developed as a reference for assessment, which is shown in Table 3 (a) - 3 (c).

Table 3. (a) General competency assessment scale for middle-level managers in Manufacturing position of M Company (basic competency 1)

Competency Dimension	Assessment Level				
	C1	C2	C3	C4	C5
Professional Ability	Have some slightly understanding of the skills required for work, but not systematically.	Be familiar with the professional knowledge required by the work, but not able to flexibly apply in the work.	Be familiar with the professional knowledge required for work, and can flexibly apply in actual work.	Be able to properly innovate and improve on the work to promote the performance of the department.	Become an authority in related field, and be able to extend the application of professional knowledge to external fields.
Market Awareness	Market awareness is weak and only focus on the work within the department's responsibilities.	Passively carry out routine activities within the scope of responsibility for market-related work.	Keep close contact with the market, and take the initiative to communicate with other relevant departments for joint improvement.	Strong market sensitivity, quick response to the market, put forward problems and improvement measures in time.	Highly sensitive to the market, anticipate market trends or problems in advance, and make creative attempts or propose improvement measures.
Communication Skills	Be able to inform partners of relevant events and actions in a timely manner.	Be able to empathize, understand the needs of partners, and promote positive communication through feedback and listening.	Be able to put oneself in other's shoes, and solve problems with the help of multi-channel resources.	Get support from partners through powerful data and detailed solutions before communication.	Win the trust and support of partners through personal charm and establish solid interpersonal relationships.
Upward Management	Lack of timely communication with leaders, and feel difficult to get support from leaders.	Understand the expectations of the leaders through thorough communication, and be able to formulate detailed and feasible plans to win their support.	Be able to fully understand the expectations of leaders through communication, and take the initiative to inform the leaders of the key points of work to attract attention.	Cooperate with the leader very tacitly, and can obtain the absolute trust and support of the leader.	Work results exceed the expectations of the leaders, provide constructive opinions for the leaders' decision-making, and assist in the improvement of leaders' performance.

Table 3. (b) General competency assessment scale for middle-level managers in Manufacturing position of M Company (basic competency 2)

Competency Dimension	Assessment Level					
	C1	C2	C3	C4	C5	
Team Management	Team Development	The awareness of team-training is weak, and lack of training methods.	Have the awareness of team-training, and can only passively impart experience.	Have the awareness of team-training, can develop the team by experience transfer, job rotation, etc.	Have a strong awareness of team-training, and plan to make team members work independently with full trust.	Be able to point out the direction of team development and create opportunities for its growth.
	Team Motivation	Criticize team members more than praise them.	Be tolerant of team members' mistakes.	Magnify the strengths of team members and encourage them.	Set a benchmark for members with strengths and make him feel valued and cultivated.	Attribute all achievements to team members with strong points, and attract the attention of senior leaders.
	Team Building	Do not understand the personality and ability of team members, the team is like a mess.	Be familiar with the ability of team members, and arrange them reasonably.	Set clear goals to team members and conduct performance interviews regularly.	Set clear goals to team members and create a team learning atmosphere.	Flexible deployment of team members and create a team atmosphere of knowledge sharing.
Problem-solving Ability	Executive Power	Helpless when encountering a problem, making the issues tougher.	Be able to find out the cause of the problem, but lack of solutions.	Be able to find out the cause of the problem and find out the key person to solve the problem.	Be able to find out the cause of the problem and solve the problem with various forces.	Predict possible problems before they occur, and formulate corresponding measures.
	Adaptability	Usually be able to solve the problems, but can't find out solutions when encountering unexpected problems.	Be able to find out solutions of the problem, but unable to judge the quality of various solutions.	Be able to find out the best solution according to the change of the situation.	Be able to quickly find out the key point of the problems and minimize the loss.	Be able to beat the odds and solve problems quickly without negative impacts.
	Process Control	No process monitoring, passively waiting for results.	Do everything personally without getting the main points and priorities.	Distribute tasks reasonably and check up constantly.	Distribute tasks reasonably and check up regularly.	Identify and set up key nodes, and provide timely guidance and supervision.

Table 3. (c) General competency assessment scale for middle-level managers in Manufacturing position of M Company (advanced competency)

Competency Dimension	Assessment Level				
	C1	C2	C3	C4	C5
Overall Awareness	Low overall awareness, always considering issues from the perspective of the department.	Know how to empathize with the relevant departments at work and realize effective cooperation.	Think from the perspective of the company's overall process, focus on internal and external customer collaboration and cooperation.	Able to consider the positioning of the department and future work planning from the perspective of realizing the company's strategy.	Consider the Department's positioning and future work planning from the perspective of realizing the company's strategy.
Innovation Ability	Apply existing knowledge to complete the work without improvement or innovation.	Take initiative to learn new knowledge and skills, but do not effectively apply them to work improvement.	Actively acquire new knowledge and skills from multiple channels to improve existing problems.	Be able to apply the skills learned to the work, actively discover problems that others have not found and improve continuously.	Be able to introduce new knowledge and skills and make great breakthroughs at work.
Attention Management	Lack of logic and focus at work and don't know what to focus on.	Work with clear logic and focus, and capture the attention of relevant personnel in various ways.	In the work that requires cooperation, can use simple methods to make the relevant personnel know exactly what to focus on.	In the work that requires cooperation, simple methods can be implemented to obtain the attention and support of relevant personnel.	Create focus by focusing on areas that will help improve performance while other people won't pay attention to.
Self-achievement Motivation	Have goals without action.	Being satisfied with the existing state without having a clear plan for future development.	Constantly self-examination, self-improvement, but passively waiting for opportunities.	Challenging by constantly setting short term goals that can be achieved.	Surpass himself/herself by constantly setting higher goals and creating opportunities to achieve them.

### 5.1.3 Assignment of Evaluation weight

Since different evaluation subjects have different understanding towards diverse types of competency elements of the assessed object, the weight ratio of each assessment subject is flexibly set, according to different types of competency dimensions, in order to comprehensively and truly reflects the job competency of the assessed person. The evaluation weight on the direct superior, subordinate and colleague of the evaluated each accounted for 40%, 30% and 30% respectively. While in the competency dimension of upward management, in respect that only the direct superior is the implementation object of the assessed person's upward management, the evaluation weight of the direct superior, subordinate, and colleagues was set at 100%, 0% and 0% respectively. Based on this, the

competency assessment index and weight assignment table of middle-level managers in Manufacturing position in M Company are obtained, as shown in Table 4.

Table 4. 360-degree evaluation index and weight distribution of middle-level managers in M Company

Evaluation Index	Evaluation Subject		
	Direct superiors	Subordinates	Colleagues
Professional Ability	40%	30%	30%
Market Awareness	50%	20%	30%
Communication Skills	30%	30%	40%
Upward Management	100%	—	—
Team Management	30%	70%	—
Problem-solving Ability	40%	30%	30%
Overall Awareness	50%	20%	30%
Innovation Ability	40%	30%	30%
Attention Management	30%	30%	40%
Self-achievement Motivation	60%	40%	—

#### 5.1.4 Implementation of questionnaire survey

According to the general competency assessment scale and evaluation questionnaire prepared in previous steps, questionnaire surveys were conducted for the direct superiors, subordinates, and colleagues towards the 6 middle-level managers of Manufacturing position in M Company, and the respondents were required to answer according to the work performance of the evaluated person as truthfully as they can.

#### 5.1.5 Evaluation results output

After the survey, the questionnaire data was returned. The 6 evaluatees returned a total of 18 questionnaires, 18 of which were valid. For a specific competency dimension, the weighted evaluation score of each evaluatee was calculated by the following formula:

$$X = \sum_{i=1}^3 x_i a_i = x_1 a_1 + x_2 a_2 + x_3 a_3 \quad (1)$$

In the formula, X represents the evaluation result of a certain evaluatee in this competency dimension, x represents the score of the assessment index, while i represents the index serial number, and a represents the corresponding evaluation weight of certain subject.

Under this competency dimension, the comprehensive assessment results of 6 evaluatees are calculated by the following formula:

$$\bar{X}_l = \frac{X_1 + X_2 + X_3 + X_4 + X_5 + X_6}{6} = \frac{\sum_{i=1}^6 X_i}{6} \quad (2)$$

Through the formula above, we calculated the comprehensive evaluation scores of 6 evaluatees in each competency dimension. After rounding up, we output the evaluation level corresponding to each competency dimension by referring to the general competency assessment scale, as shown in Table 5.

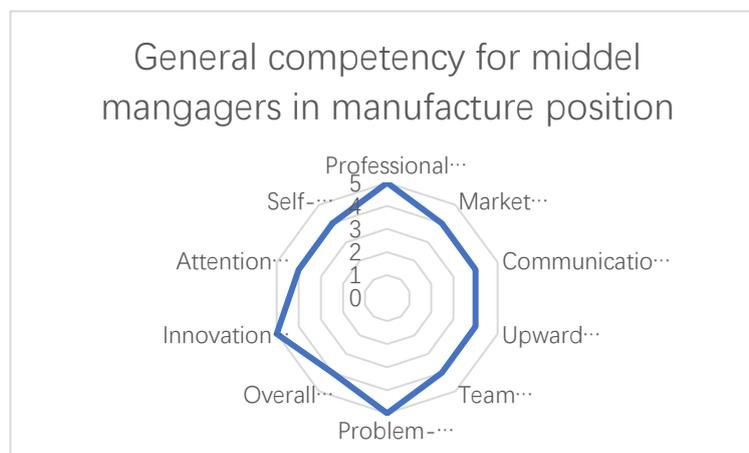
Table 5. The comprehensive evaluation score of each competency dimension for middle-level managers in Manufacturing position of M Company

Competency Dimension	Comprehensive Evaluation Score	Corresponding Evaluation Level
Professional Ability	4.8	C5
Market Awareness	4.1	C4
Communication Skills	4.3	C4
Upward Management	4.2	C4
Team Management	4.3	C4
Problem-solving Ability	4.6	C5
Overall Awareness	4.0	C4
Innovation Ability	4.7	C5
Attention Management	3.7	C4
Self-achievement	4.3	C4
Motivation		

## 5.2 General competence of middle-level managers in Manufacturing position based on competency model

We input the evaluation score of each competency dimension into the computer, using Excel to generate the corresponding competency requirements radar chart. Fitting the competency score of the evaluated person on the radar chart with the competency requirements of Manufacturing position, it intuitively displays the competency requirements under different competency dimensions through the radar chart, as shown in figure 4.

Figure 4: General competence of middle-level managers in Manufacturing position based on competency model



According to the radar chart above, among the ten competency dimensions of middle-level managers in the Manufacturing function, each dimension has its own competency requirements. For middle managers in the Manufacturing function, the radar lines representing profession ability, problem-solving ability and innovation ability are distributed in the outermost periphery of the graph, that is, the competence of these three indicators is of the highest importance.

## CONCLUSION AND DISCUSSIONS

This paper takes a famous Fortune Global 500 company in China as the research object, and builds a competency model for middle-level managers of the enterprise based on categories of basic competency and advanced competency. The basic competency covers 6 dimensions, while the advanced competency covers 4 dimensions. On this basis, 360-degree evaluation has been used to further explore the practical application of the competency model in the Manufacturing function.

The results show that professional ability, problem-solving ability, innovation ability and other competencies are of the highest importance to middle-level Manufacturing managers. Meanwhile, market awareness, communication skills, upward management, team management, overall awareness, attention management, self-achievement motivation are relatively less important to them.

### 6.1 Research innovation and characteristics

On the basis of the general competency model, researches on the competency model of middle-level Manufacturing managers are further enriched and improved according to the characteristics of the Manufacturing function, while the research towards a Fortune Global 500 company born in China has filled the gap in the competency model research of specialized talents in this field. As a matter of fact, in China, managers of different functions have been sharing the same set of training and evaluation system for a long time. There is no strict distinction of employee development plans between the Manufacturing function and other functions. In this paper, with the unique viewpoint, competency model of middle-level Manufacturing managers is discussed deeply and separately, which provides a richer theoretical perspective for the human resource management of enterprises, and a new reference basis for the selection, training and assessment of middle-level managers, especially those of Manufacturing function in manufacturing enterprises.

### 6.2 Research limitations and prospects

The research of this paper is mainly conducted based on the Behavioral Event Interview (BEI), which has certain subjectivities. Firstly, the interviewees have obvious subjective awareness in the interview process. Secondly, in the coding process of interview data, the coders mostly rely on their subjective consciousness to extract key information. Therefore, the competency research and conclusions based on this method are inevitably somewhat subjective. In order to improve the application quality of the evaluation model and increase the fairness and objectivity of the research results, certain research tools and methods with great objective performance could be explored and developed in the future. Also, quantitative analysis model for strict and standardized verification of the research results are recommended, which is also the direction we can focus on to improve in future research.

### Acknowledgment

First of all, I would like to express my gratitude to all the teachers of the doctoral program. It is your strict requirements and careful guidance that have enabled me to have a theoretical basis and ideas for writing. Thanks to my classmates, especially Sam, because of your constant help, I could finish this article in time. I hope we can work together to complete our doctoral thesis smoothly and effectively.

## REFERENCES

- Xu, Y. (2016). Performance evaluation of middle managers in enterprises based on uncertain information. *Statistics and Decision*, 12, 177-179 (in Chinese).
- Gotteland, D., Shock, J., & Sarin, S. (2020). Strategic orientations, marketing proactivity and firm market performance. *Industrial Marketing Management*, 91, 610-620.
- McClelland, D. C. (1973). Testing for competence rather than for "intelligence". *American psychologist*, 28(1), 1.
- Boyatzis, R. E. (1982). *The competent manager: A model for effective performance*. John Wiley & Sons.
- Spencer, L. M., Spencer, S. M., & Wiley. (1993). *Competence at work: models for superior performance*. Wiley.
- Hoffmann, T. (1999). The meanings of competency. *Journal of European Industrial Training*.
- Bartram, D., Robertson, I. T., & Callinan, M. (2002). Introduction: A framework for examining organizational effectiveness. *Organizational effectiveness: The role of psychology*, 1-10.
- Chouhan, V. S., & Srivastava, S. (2014). Understanding competencies and competency modeling—A literature survey. *IOSR Journal of Business and Management*, 16(1), 14-22.
- Prifti, L., Knigge, M., Kienegger, H., & Krcmar, H. (2017). *A Competency Model for "Industrie 4.0" Employees*.
- Müller-Frommeyer, L. C., Aymans, S. C., Bargmann, C., Kauffeld, S., & Herrmann, C. (2017). Introducing competency models as a tool for holistic competency development in learning factories: Challenges, example and future application. *Procedia Manufacturing*, 9, 307-314.
- Dziekoński, K. (2017). Project managers' competencies model for construction industry in Poland. *Procedia Engineering*, 182, 174-181.
- Shum, C., Gatling, A., & Shoemaker, S. (2018). A model of hospitality leadership competency for frontline and director-level managers: Which competencies matter more?. *International Journal of Hospitality Management*, 74, 57-66.
- Ataei, P., Karimi, H., Ghadermarzi, H., & Norouzi, A. (2020). A conceptual model of entrepreneurial competencies and their impacts on rural youth's intention to launch SMEs. *Journal of Rural Studies*, 75, 185-195.
- Sun, C., Shute, V. J., Stewart, A., Yonehiro, J., Duran, N., & D'Mello, S. (2020). Towards a generalized competency model of collaborative problem solving. *Computers & Education*, 143, 103672.
- Marneros, S., Papageorgiou, G., & Efstathiades, A. (2021). Examining the core competencies for success in the hotel industry: The case of Cyprus. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 28, 100303.
- Shi, K., Wang, J., & Li, C. (2002). Assessment on competency model of senior managers. *Acta Psychologica Sinica*, 3, 306-311 (in Chinese).
- Liu, X. (2011). Research on the performance evaluation system of enterprise senior managers based on competency. *Enterprise Economy*, 1, 80-82 (in Chinese).
- Wang, M., Tao, R., & Li, J. (2013). Construction and Application of Corporate Middle-level Manager's Competency Model: Case Study of CMCC Xinjiang Co. Ltd. *Science and Technology Management Research*, 33(02), 102-108 (in Chinese).

- Chen, S. (2015). A Study on the Model of Corporate Middle Managers Competency. *Journal of Guizhou University of Finance and Economics*, 5, 104-109 (in Chinese).
- Li, D. (2015). Research on competency model of higher vocational college principals based on behavioral event interview. *China Higher Education Research*, 7, 96-101 (in Chinese).
- Wang, J., Ke, J., & Xu, D. (2015). An empirical research on the competence of top management teams in the Chinese enterprises. *Journal of Southeast University (philosophy and social science)*, 17(02), 52-63+147 (in Chinese).
- Flanagan, J. C. (1954). The critical incident technique. *Psychological bulletin*, 51(4), 327.
- McClelland, D. C. (1998). Identifying competencies with behavioral-event interviews. *Psychological science*, 9(5), 331-339.
- Raisová, T. (2012). The Comparison Between The Effectiveness of The Competency Based Interview and The Behavioral Event Interview. *Human Resources Management & Ergonomics*, 6(1).
- Hitt, D. H., Woodruff, D., Meyers, C. V., & Zhu, G. (2018). Principal competencies that make a difference: Identifying a model for leaders of school turnaround. *Journal of School Leadership*, 28(1), 56-81.
- Das, M. R., Pathak, P., & Singh, S. (2018). Competency Identification of Salespersons Through Behavioral Event Interviews: Evidence from the Oil Industry. *Prabandhan: Indian Journal of Management*, 11(5), 15-27.
- Ravindranath, S. (2019). Behavioral Event Interview. In *Qualitative Techniques for Workplace Data Analysis* (pp. 73-95). IGI Global.
- Wan, T. H., Hsu, Y. S., Wong, J. Y., & Liu, S. H. (2017). Sustainable international tourist hotels: The role of the executive chef. *International Journal of Contemporary Hospitality Management*.
- Sudirman, I., Siswanto, J., Monang, J., & Aisha, A. N. (2019). Competencies for effective public middle managers. *Journal of Management Development*.
- Kim, D. H., Fitchett, G., Anderson, J. L., & Garman, A. N. (2020). Management and leadership competencies among spiritual care managers. *Journal of Health Care Chaplaincy*, 1-10.
- Cormack, C. L., Jensen, E., Durham, C. O., Smith, G., & Dumas, B. (2018). The 360-degree evaluation model: A method for assessing competency in graduate nursing students. A pilot research study. *Nurse education today*, 64, 132-137.
- Morrison, J. Q., Hutchinson, C. E., & Talapatra, D. (2020). Evaluating the performance of school psychologists: Current status and future directions with a 360-degree evaluation process. *Psychology in the Schools*, 57(5), 699-717.
- Karkoulian, S., Srour, J., & Messarra, L. C. (2019). The moderating role of 360-degree appraisal between engagement and innovative behaviors. *International Journal of Productivity and Performance Management*.
- Jani, H., Narmawala, W., & Ganjawale, J. (2017). Evaluation of competencies related to personal attributes of resident doctors by 360 degree. *Journal of clinical and diagnostic research: JCDR*, 11(6), JC09.
- Brown, A., Inceoglu, I., & Lin, Y. (2017). Preventing rater biases in 360-degree feedback by forcing choice. *Organizational Research Methods*, 20(1), 121-148.

- Hosseini, S. Y., Arman, M., & Mohammadzadeh, Z. (2018). Competency and its relationship with performance. *Management Studies in Development and Evolution*, 27(88), 25-50.
- Shi, K. (2006). Human Resource Development Based on Competency Model. *Advances in Psychological Science*, 4, 586-595 (in Chinese).
- Wang, H., Zhao, X., & Si, X. (2019). Research on the assessment index system for middle-level leading cadres in colleges and universities: Based on the application of Delphi Method and Analytic Hierarchy Process. *Journal of Northeastern University (Social Science)*, 21(02), 195-201 (in Chinese).
- Zhen Peng & Defeng Chen. (2020). Solving the performance appraisal dilemma of functional employees: the application of critical incident proof method. *Enterprise Management*, 05, 86-89 (in Chinese).
- Luo, S., & Meng, X. (2017). A Probe into the competence of teaching and research staff. *Educational Research*, 38(09), 124-131 (in Chinese).
- Zhou, C. (2018). A new probe into the recruitment and selection management of digital publishing editors: from the perspective of competency model theory. *Publishing Research*, 11, 74-78 (in Chinese).
- González-Gil, M. T., Parro-Moreno, A. I., Oter-Quintana, C., González-Blázquez, C., Martínez-Marcos, M., Casillas-Santana, M., ... & Canalejas-Pérez, C. (2020). 360-Degree evaluation: Towards a comprehensive, integrated assessment of performance on clinical placement in nursing degrees: A descriptive observational study. *Nurse Education Today*, 95, 104594.
- Höhne, J. K., Krebs, D., & Kühnel, S. M. (2021). Measurement properties of completely and end labeled unipolar and bipolar scales in Likert-type questions on income (in) equality. *Social Science Research*, 102544.
- Cormack, C. L., Jensen, E., Durham, C. O., Smith, G., & Dumas, B. (2018). The 360-degree evaluation model: A method for assessing competency in graduate nursing students. A pilot research study. *Nurse education today*, 64, 132-137.
- Sadeghi, T., & Loripoor, M. (2016). Usefulness of 360 degree evaluation in evaluating nursing students in Iran. *Korean journal of medical education*, 28(2), 195.

# RESEARCH ON THE PRACTICE OF KNOWLEDGE TALENT MANAGEMENT -- IT ENTERPRISE IN HENGQIN (CHINA)

LIHUI HUANG<sup>1</sup>, SHUZHONG YU<sup>2</sup>

<sup>1,2</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: huanglh2@nfu.edu.cn*

## ABSTRACT

With the introduction of the development plan of the Guangdong-Hong Kong-Macao Greater Bay Area, Hengqin is facing a stage of rapid development. The objective of this research is to find the relevant factors in attracting, motivating and retaining talents of IT enterprises in Hengqin, and to provide suggestions to promote human resource management practices in IT enterprises in Hengqin.

Through the review of relevant literature at home and abroad, this paper analyzes and summarizes the factors that attract, motivate and retain IT talents in the IT industry, and forms the theoretical framework of this research. Data was collected from seven IT enterprises in Hengqin through semi-structured interviews, and the content analysis method was used to analyze it.

According to the results, the main factors to attract IT talents to Hengqin include recruitment channels, job features, and the image of enterprise. The main motivational factors are the personal growth of IT talents, the physical work environment, and the recognition and support from the organization. And the key factors for retaining talent are the specific individual needs, which are usually influenced by marital status, generational differences, and workload. Last, IT firms also need to pay attention to external factors, such as local talent policy, local competitors, and local IT talent supply and demand. The dissertation includes also recommendations for the IT firms and suggestions for future research.

**Keywords:** IT talents, Knowledge talent, Recruitment, Motivation, Retention, Human Resource Management Practices, Hengqin

## INTRODUCTION

### 1. Introduction

#### 1.1 Background and significance of the research

The "Hengqin Overall Development Plan" approved by the State Council in August 2009 clarified the key points and objectives of Hengqin's industrial development (Hengqin Overall Development Plan, 2009). The plan mentioned that Hengqin should be included in the Zhuhai Special Economic Zone, implement a more open industry and information policy, and focus on the development of Hengqin into a national high-tech industrial base (China Hengqin, 2018).

To build a "smart island," policymakers expect Hengqin to attract Hong Kong and Macao enterprises, improve information network infrastructure, integrate financial information industry resources, and focus on information database construction and large-scale industrial operation (China Zhuhai Net, 2018).

In 2018, Zhuhai was home to 1010 enterprises in information transmission, software, and information technology services, which is an increase of 420.6% over 2017 (Zhuhai Bureau of Statistics, 2019), and more than 300 enterprises have registered in Hengqin New District. In particular, the number of Hong Kong and Macao enterprises that have settled in Hengqin reached 2,228, and basically, 40 new enterprises will add every day (Southern Network, 2018).

Supported by this favorable policy and environment, the number of Hengqin IT enterprises is also increasing day by day, accelerating the development of the industry and increasing the demand for relevant talents. However, because of the update-speed of the industry information technology is faster and faster, the increasing number of the Internet and web-based business, and the development of information economy, lead to the global IT talent shortage phenomenon lasted for many years (Ann & Slaughter, 2004). This study will contribute to understanding human resources management practices in Hengqin's IT industry.

## **1.2 Problems statement**

The practice of human resource management mainly focuses on attracting, motivating, and retaining employees. How to attract, motivate, and retain employees effectively is crucial to the human resource management of every enterprise.

Hengqin is facing a period of rapid development with fierce business competition. It has led to demand increasing demand for talents, especially the demand for talents in the information technology industry. However, advanced and experienced IT talents are usually attracted to nearby cities, namely Guangzhou and Shenzhen, which makes it difficult for IT companies in Hengqin to attract IT talents. This issue is even more challenging for overseas enterprises established in Hengqin that come from Hong Kong and Macao due to differences in culture, living habits, and salary levels at home and abroad.

## **1.3 Research purposes and objectives**

As an economic free trade zone that has approved for development in recent years, Hengqin has a unique geographical position and an important role to play in the development of Guangdong, Hong Kong, Macao Bay Area. A large number of foreign-funded enterprises from Hong Kong, Macao, and her countries have attracted, so this research will contribute to understanding how cross-border IT companies cope with human resources challenges.

This research aims to explain the HR management practice of IT firms in Hengqin to attract, motivate, and retain IT talents. According to relevant literature and theories, summarized the factors that influence IT enterprises to attract, motivate and retain talents, through interviews with CEOs or heads of human resources departments of IT companies stationed in Hengqin, we hope to identify the most effective strategies in managing IT talents. We will also compare the human resource management practices of IT firms in Hengqin that are owned by Mainland Chinese and foreign investors, and know what factors affect the HR practices in these firms.

## **1.4 Summary of the methodology**

The research approach used in this paper was qualitative. Firstly, we summarized the relevant factors in attracting, motivating, and retaining IT talents through literature review. Secondly, based on these factors, we prepared an interview outline for a field interview in Hengqin. And then, analyzed the data from the interviews of IT enterprise leaders or HR leaders. At last, based on the findings, put forward related measures on how to attract, motivate, and retain IT talents for Hengqin IT companies. Furthermore, suggestions for future studies will also give.

I invited 7 IT enterprises in Hengqin, for these senior managers of IT enterprise (CEO or the human resources director) but only 15 respondents accepted to participate. I used a semi-structured interview with the interview outline. Due to the impact of the epidemic, travel limited by the local government and field investigation cannot be carried out, mainly through online tools, such as Wechat, to obtain interview data.

## **LITERATURE REVIEW**

### **2. Literature Review**

Information technology (IT) refers to the technology involved in the collection, processing, storage, transmission, and application of information, and also includes the machinery, equipment, and services related to the above information activities (Su, Wang, & Wu, 2000). Rapid growth is the most prominent characteristic of IT enterprises, including fields such as big data, cloud computing, Internet of things, and artificial intelligence (Liu, 2018) . This dissertation focuses on the experts and professionals that work in these activities, and particularly on what IT firms do to attract, motivate, and retain them.

Jiang (2018) mentions that IT talents refer to the highly competent and high-quality workers in the computer, communication, and related technology industries, including network consulting engineers, technical support engineers, software R&D engineers. This definition is adopted in this dissertation. According to Li (2018), the work of IT talents is mainly mental and based on projects. Nowadays, competition among IT enterprises mainly focuses on the competition between core technologies and high-end talents (Wang, 2015). So, the management of talents is an essential part of human resource management.

### **2.1 Recruitment channels**

Wang (2017) suggests that the attraction of talents can consider from three perspectives: the recruitment channels used to attract talent, the description of job characteristics, and the image of the company. Each of these is examining further below.

#### **2.1.1 Recruitment channels**

There are many ways for enterprises to recruit, such as newspapers, magazines, television, websites, social software (Yuan,2016). Different recruitment channels and methods for different groups will bring different recruitment results to the company (Wang, 2018). In addition to some traditional recruitment channels, such as on-site recruitment, online recruitment, and internal recommendation, some new recruitment channels have emerged, such as headhunting service, WeChat, Microblog, Forum, and Post Bar (He, 2018).

In addition to understanding how to attract talent through recruitment channels and methods, we should pay attention to both the candidate and the company.

### 2.1.2 Job rewards

Some scholars also analyze the recruitment from the perspective of candidates, whether the candidates have the quality and ability, namely qualifications. In this aspect, they mainly focus on the Knowledge, Skills, Ability, and Other factors of the candidates (Liu & Jin, 2018). From the perspective of candidates, it is necessary to match the job requirements to the profile of the applicants, who will carefully consider the respective compensations, tangible and intangible (Lin & Li, 2017).

Regarding wages, Horwitz, Chan, and Quazi (2003) indicate that the effective strategy of attracting (recruiting) talents in IT industry is to provide a comprehensive compensation plan. Medcof and Rumpel (2007) argued that high-skilled workers give more importance to the learning and development system, and free working environment, than to monetary compensation and benefits.

### 2.1.3 Company image

From the IT firm perspective, Liu (2018) believes that it is necessary to establish an effective recruitment system, cultivate a high-quality recruitment team, and manage the entry of new employees. Because doing so, can make the job seeker feels the company's professional level, leave a good impression on the job seeker.

Dunn (2019) believes that the image of the employer, modern technology, and tools used by the employer will affect the willingness of passive IT job seekers to change employers. She also mentions that a flexible work environment, career opportunities, and training will have a positive effect in attracting IT staff.

The above contents arranged, as shown in Table 1 below.

*Table 1 Attraction Factors*

<b>Perspective</b>	<b>Factors</b>
The perspective of the recruitment channel	Advertising, Network, Agency, Campus Recruitment.
The perspective of the needs of IT candidate	Competitive benefits, Good work atmosphere, Challenging tasks, Advanced Technical resources.
The perspective of the IT Firms	Employer image, Professional recruitment team, Perfect recruitment process, Modern tools.

*Source: Organized by Lihui Huang*

## 2.2 Motivating IT talents

Motivation is the psychological activity process of making people moving towards the desired goal (Sun, 2007). If employees can give full play to their talent and ability, so we need to mobilize their initiative and creativity to develop their ability and potential (Li, Zhang, Xiong, & Xiang, 2018). According to Li (2018), IT talents are typical brain workers with creative thinking, and the more appropriate motivation theory for them is the achievement needs theory and Herzberg's two-factor theory.

### **2.2.1 Achievement needs theory**

The achievement needs theory proposed by McClelland (1976) points out that, on the premise of meeting physiological needs, people's higher needs can divide into achievement needs, power needs, and attribution needs. Generally, people with high achievement needs have the following characteristics: (1) strong desire for career success, and willing to accept challenges, so they tend to set themselves a severe but not unattainable goal. (2) be willing to take risks and be realistic about risks, accepting only "predictable risks" instead of treating the future with superstition and luck. (3) willing to take personal responsibility for work, hoping to achieve career success through personal efforts (Han, 2007).

In the theory of achievement needs, an individual's gender, age, educational degree, interests, work difficulty, work environment, social expectation, and social environment are all factors that affect individual achievement motivation (Li, 2018). This researcher believes that gender and age are inherently immutable and can do not influence by the massive social environment. However, relevant incentive measures can found to motivate IT talents through the discussion of education level, interest and hobby cultivation, work difficulty, working environment, and social expectation.

### **2.2.2 Herzberg's two-factor theory**

Herzberg's two-factor theory emphasis on meeting employees' physiological and safety needs with hygiene factors, and on meeting employees' social, respect, and self-actualization needs with motivators (Herzberg,1968).

Hygiene factors refer to the factors related to the working environment or conditions. Improper handling of such factors or the lack of satisfaction of such needs will lead to employees' dissatisfaction and even seriously dampen their positivity. On the contrary, proper handling of such factors can prevent employees from being dissatisfied, but cannot make them more motivated (Herzberg,1968). Hygiene factors include company policies and management, supervision, working conditions, interpersonal relationships, salary, status, job security (Yang,2016).

Motivators are the factors associated with the job. The improvement of such factors, or the satisfaction of such needs, can give employees a higher degree of motivation, and produce a sense of satisfaction at work (Bhoola, &Giangreco,2018). Even if it does not have these factors and the condition, it also will not cause the employee too high dissatisfaction. Because the improvement of such factors can make employees obtain satisfaction and produce lasting and robust incentive effects, the so-called " motivation factors" belong to the motivation factors: work achievement, promotion, task quality, the possibility of personal development, duty responsibility (Herzberg,1968).

Dunn (2019) points out that the critical factor in motivating the work performance of IT talents is to cultivate the fit between IT talents and organizational values, rather than purely to improve the salary lever of IT staff. Moreover, providing challenging tasks that enable IT staff to achieve a sense of accomplishment rather than a direct payment bonus, and a free work environment or support from top management is also valid for knowledge workers (Horwitz, Chan & Quazi, 2003). Moreover, trust from the organization and supervisors play an important role in the formation of organization support (Erturk & Vurgun, 2015).

Previous research suggests that support from the superior manager and organization can improve professional self-efficacy (PSE) of IT staff (Bellini, Palvia, Moreno, Jacks &

Graeml, 2018). At the same time, if they can freely express their thoughts and advice for IT staff in the organization is also a way to motivate employees (Harden, Boakye & Ryan, 2018).

The above contents arranged, as shown in Table 2 below.

*Table 2 Motivation Factors*

<b>Perspective</b>	<b>Factors</b>
Personal Growth	education degree, training opportunities, hobbies.
Working environment, style, and content	flexible and free work time challenge task, free to express opinions
Organization recognition and support,	equitable rewards, business achievement trust, bonuses, options

*Source: Organized by Lihui Huang*

## **2.3 Retention of IT talent**

This section starts reviews the factors influencing employees to stay at work on three levels: individual factors, organizational factors, and environmental factors.

### **2.3.1 Individual-level retention factors**

Some of the individual factors that influence a staff to leave are often related directly or indirectly to demographic attributes. For example, certain occupational types are men, such as IT jobs, rather than women, and this may be due to family reasons (Xie, 1999). Married employees are more stable than unmarried, and with higher job satisfaction and lower turnover rate (Li, 2017). Because marriage is not a private affair, it requires responsibility for one's spouse and children. Married employees must consider the impact of their job changes on their families, so marital status and the support level of family members may also influence the decision to quit.

Age, education, and job tenure are also relevant to understand the intention to leave or stay. Age negatively correlates with turnover intention, which is that turnover intention will be higher if employees younger (Cui, 2012). People with higher education also tend to have higher turnover intentions that they more willing to take on challenges rather than lock themselves into a position for a long time (Jin, 2016). Employees who have been in the organization for longer have a stronger sense of commitment to the organization, which will reflect in the low turnover intention (Li & Xu, 2010).

### **2.3.2 Organization-level retention factors**

At the organizational level, employee satisfaction with compensation and benefits directly affects employee turnover, and it highly negatively correlates with each other (Yan, 2014). Often employees will compare their income with other employees. If they think their rate of return is lower than the comparison object, they will feel unfair, which will lead to decreased labor enthusiasm and even resignation (Muehinsky & Marrow, 1980).

Workers also give importance to organizational culture (Zhen, 2011). They are very concerned about whether the management style, development strategy, and corporate culture of the enterprise match with their own.

Occupation related factors include not only job content, such as task, workload, scope, quantity, but also vertical development of job, such as personal career growth, position

promotion (Tang, 2012). The higher the satisfaction of employees with job-related factors, the more stable the personnel, and they can obtain satisfaction through workload, even full of a sense of accomplishment (Altahtoo, 2018). In particular, knowledge workers believe that the ideal job should have attainable challenges, a sense of honor and value, and autonomy commensurate with job responsibilities (Tang, 2012).

Sekhar, Patwardhan, and Vyas (2017) believe that IT organizations with a flexible working environment can better meet the needs of employees (Sekhar, Patwardhan & Vyas, 2017). Moreover, in the IT industry, organizations should build a balanced culture between work and family (Schuth, Brosi & Welp, 2018).

### 2.3.3 Environment-level retention factors

Environmental factors refer to objective factors that enterprises are unable to change, such as political and economic development. For example, political stability and economic prosperity positively correlate with employee turnover. When the government is stable, and the economy is booming, employees have a firm intention to quit because there are more job opportunities (Hu, 2015).

Industry characteristics such as industry growth will also promote the flow of people. The state of the human resources market regarding the shortage of a particular type of workers, namely knowledge workers, also tends to increase mobility and make retention more difficult (Wang, 2016).

The above contents arranged, as shown in Table 3 below.

*Table 3 Retention Factors*

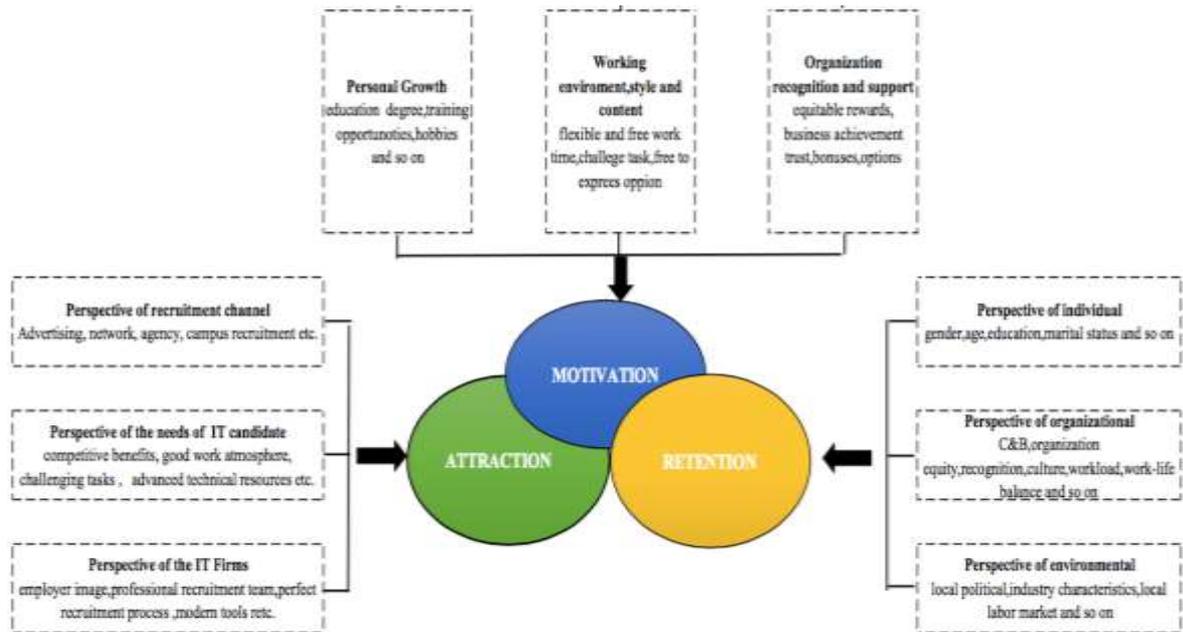
<b>Perspective</b>	<b>Factors</b>
Perspective of individual	gender, age, education, marital status
Perspective of organizational	C&B, organization equity, recognition, culture, workload, work-life balance
Perspective of environmental	local political, industry characteristics, local labor market

*Source: Organized by Lihui Huang*

## 2.4 Summary and Framework

The following figure 1 summarizes the concepts reviewed in this chapter and organizes them as the framework of analysis.

Figure 1. Research framework



Source: Organized by Lihui Huang

## RESEARCH METHODOLOGY

### 3. Research Methodology

#### 3.1 Research design

The purpose of this research was to understand what factors are used by IT firms in Hengqing, located within Zhuhai, to attract, motivate and retain IT talents, and ultimately to propose effective human resource management practices. The research design is exploratory and qualitative. For this purpose, I invited 7 firms but only 5 accepted to participate. After completion of these 15 interviews, I realized that the answers suggest similar ideas which indicates that the results are replicable. According to Yin (1994), the number of cases is determined by replicability of results. Therefore, the five firms are considered sufficient in this study.

#### 3.2 Collection of interview data

Empirical data in this study collected through semi-structured interviews with leaders or heads of HR departments of IT firms in Hengqing. The semi-structured interview was useful because it allows the researcher to change the wording and the order of questions in each interview (Eriksson & Kovalainen 2008). It is particularly crucial because the interviews involve the experiences and thoughts of participants.

Before the interview, we prepared an interview outline to make sure it covered all the vital areas. The interview outline was compiled based on a literature review.

Interviews were conducted online by WeChat because we cannot go outside, a short introduction to the research and its topics was sent to the interviewees before the interview

to familiarize them with the topic and to explain why their opinion and experience was necessary for this research.

Mason (2002) suggested that qualitative interview topics should determine by breaking big research questions into small research questions. The essential research questions were the following(eg):

1. Please, describe how your company usually attracts IT talents.
2. Please, describe how your company usually motivates IT talents.
3. Please, describe how your company usually retains IT talents.

### 3.3 Analysis of interview data

The analysis of data used in the content analysis method. First, the interview data was simplified and then rearranged into the categories and themes previously defined in the research framework (Table 4).

*Table 4 Process of Data Analysis*

<b>Text</b>	<b>Reduced</b>	<b>Category</b>	<b>Theme</b>
We usually search for talents on the website include the Zhuhai Recruitment Nets, Zhuhai-Macau Talent Network, ChinaHR Network. Besides, we will participate in local campus recruitment. However, the high-quality resources of students are not much in Zhuhai university of information technology, mainly through participation in the recruitment to increase the visibility of the company and to attract talents.	Zhuhai Recruitment Nets, Zhuhai-Macau Talent Network, ChinaHR Network, Campus recruitment Attraction	Online recruitment , On-site recruiting	Recruitment channels
Providing challenging tasks can not only motivate employees and enhance their sense of achievement, but also give them opportunities to learn and grow in the process of completing tasks.	Challenging tasks, motivating factors, learning new skills,	Content of work tasks	Self-actualization , Skills development
Our company will adopt a similar retention strategy according to the employee's situation, such as the arrangement of unmarried fellowship, the examination of job-related certificates to increase the salary.	retention strategy, an individual situation of the employees, unmarried fellowship , job-related certificates	Working atmosphere, Team activities Education subsidies	Individual demand , work-life balance welfare
....	....	....	....

## RESULTS AND FINDINGS

### 4. Results and Findings

According to the semi-structured interviews with 15 respondents, the interview contents were obtained and analyzed. The findings are summarized in the table5 below:

Table 5 Summary of Data Analysis

Conceptual categories	Findings
Attracting talents	Recruitment channels Adopting network post recruitment information; Through the off-line job fair; Sign a cooperation agreement with the school; Network with friends to make recommendations.
	Job features The prospects of the position can affect career development plans; Competitive compensation and benefits is the basic condition; Relaxed and lively working atmosphere; Location of the company; Working time of company.
	Company image and reputation Whether have excellent R&D team member; Advanced technology and equipment; Company's size and numbers of employees; Recruiter's image on the job fair.
Motivation of talents	Growth opportunities Offer the opportunity to continue learning can motivate their work performance; Building a set of perfect training system for them; Pay attention to cultivation of IT talents interests and hobbies.
	Physical work environment Offer the quality of the working environment; Create harmonious working atmosphere; Offer flexible attendance and work style; Arrange challenging tasks.
	Recognition and organizational support Performance appraisal mechanism need to be objective; Assessment process need to be open and transparent; Salary and promotion system is fair; Offer extra material and spiritual rewards. Leader behavior what take caring action for their talent will inspire them.
Retention of talents	Individual-level Married and unmarried IT talents have different intention; An imbalance in the ration of gender can affect employee turnover;

	<p>80s IT talents value income, while 90s IT talents value opportunities of development; IT talents with more than three years of service experience are more stable.</p> <p>Organizational-level Workload is too big, working hours is too long to effect their balance of work-life; Working relationships get along with their colleague can do better for their project performance; Competitive compensation and smooth career development space is essential to retain talent.</p>
...(Next page)	...(Next page)

(Continued from previous Table 5)

Conceptual categories	Findings
Retention of talents	<p>Environment-level Attractive talent introduction policies can play a role in retaining talents; The salary and welfare of competitors in the same industry compete with each other, which affects the stability of talents; The talent supply and demand structure in the labor market influences the retention strategy within the company.</p>
Cross-border firms	<p>IT Cross-border HR practices Transportation, shuttle buses to and from Macau and the mainland, border gate services is very inconvenient for cross-border IT talents; The difference of education background and culture and language between two area is difficult to managing IT talents; The difference of average salary and wage is key factor to influence them to manage IT talents.</p>

Source: Organized by Lihui Huang

## CONCLUSION AND DISCUSSIONS

### 5. Conclusion and Discussions

#### 5.1 Attracting IT talents

The study found that attracting IT talents is influenced by three factors: recruitment channels, job features, company image.

##### 5.1.1 Recruitment channels

Usually, firms attract IT talents through the combination of online recruitment and direct recruitment. Online recruitment channels include, for example, Zhaopin.com, Boss.com, 51job.com, and Lagou.com. Besides, IT firms also use social network

platforms like WeChat and Douyin for job advertising. This is consistent with Yuan's (2016) research that websites and social software can be as a way to recruit talents. Besides, direct recruitment includes personal networks, partnerships with colleges and universities, enter the campus for a job fair or by offering scholarships and study visits and sign agreement with school. However, as for the agency channel, IT enterprises in Hengqin are not willing to accept this approach, because they think it is difficult to find the right talent at the right time, and it is expensive. This is a different view from He (2018), which proposed that headhunting service is important measure to attract IT talents.

### **5.1.2 Job features**

We learned that the main concerns of IT talents are remuneration, incentives, and career development opportunities. The tangible elements of the job usually indicate in the job announcements (such as salary, work task, advanced technical resources), but for intangible aspects (such as working atmosphere and necessary conditions of the company). This is just as important as the tangible and intangible factors (Lin & Li 2017) discussed earlier. The recruiters often show attractive features of the job as a way to lure applicants. It is especially important when recruiting at the university campus.

### **5.1.3 Company image**

The company's image is not only a critical factor in promoting the company's products but also plays a crucial role in attracting talents. Because job seekers do not know the actual situation of the enterprise, they often evaluate their legitimacy and reliability with the image of the enterprise in front of the public. We know that from the interview, the corporate image and reputation mainly reflected in excellent R & D team, advanced technology and equipment. This is also consistent with the previous research (Dunn 2019) that indicates the R&D team members and advanced technology will affect the willingness of passive IT job seekers to change organization. Company size and the number of employees is the part of shown on the public image of company, and recruitment team, and recruit process the same is important. As indicated by Liu (2018), it is necessary to establish an effective recruitment system to leave a good impression on the job seeker.

## **5.2 Motivating IT talents**

The interviews suggest that IT talents are motivated by growth opportunities, physical work environment, and recognition, and organizational support.

### **5.2.1 Growth opportunities**

Data from respondents show that growth opportunities, which including that provide opportunities and platforms for continuous learning. Liu (2018) has also pointed out to that IT talents consider knowledge update as important.

### **5.2.2 Physical work environment**

We found that many interviewees think that the physical environment at work can affect a factor that motivates employees' work behavior. It including that create a relaxed and harmonious working environment, such as office decoration, colleagues get along well, a barrier-free communication platform, flexible working style and attendance. This is consistent with the hygiene factors theory (Hertzberg,1968) in which improving employees' satisfaction will impact on job performance.

### **5.2.3 Recognition and support from organizational**

Our interviewees mentioned that recognition and support in a timely and appropriate manner would be very stimulating. Recognition increases sense of self-efficacy and job performance (Bellini, Palvia, Moreno, Jacks & Graeml, 2018) .

Besides material rewards, the intangible impact of recognition is also important. Trust from the organization and supervisors play an important role in the formation of organization support (Erturk & Vurgun,2015). This was emphasized by several interviewees.

### **5.3 Retention of IT talents**

According to our interviewees, retention addressed at three levels: individual, organizational, and external environment.

#### **5.3.1 Individual-level**

From the information in the above interview, we find some factors and strategies that IT talents can retain from individual-level retention, such as marital status, generational differences, educational level, and length of service in the company. With different individual differences, it is sufficient to carry out the corresponding retention strategy.

Married status has an impact on intention to leave. Married talents have higher stability because they need to provide continuous support to their families. This is consistent with Li (2017). The findings suggest that the high ratio male/female will cause more men to leave the organization, allegedly because they expect to find potential partners.

In addition, while education level is often associated with higher turnover intention, age has the opposite effect. Both of these findings are consistent with previous research (Jin, 2016; Li & Xu, 2010).

#### **5.3.2 Organization-level**

Organizational-level retention means there is employee satisfaction, which including workload, working hours, working relationships, salary and benefits, and career development space; According to the data, IT staff in Hengqin will leave the company, mainly because the tasks assigned by the company are too heavy and beyond their acceptable scope. Working time affects the balance between work and life. This situation was also found in previous studies (Sekhar, 2017; Schuth, 2018). the poor handling of work relations with colleagues lead to the inability to effectively complete project tasks and performance, and the lack of attractive salary and promotion space will reduce employee satisfaction and lead to resignation.

#### **5.3.3 External environment**

The environment-level retention, which including policy, competitors, and local talent supply and demand situation.

The preferential policies for local talents can effectively retain talents without losing them to other places. In recent years, under the focus of the central government, Hengqin has approved many preferential policies on talents, such as the subsidy policy for talent introduction, the policy for talent settlement, the policy for the education of talented children, and the policy for medical insurance of talents. These policies have helped enterprises retain talents. Moreover, the understanding of competitors can improve the retention strategy of the company. Meanwhile, the understanding of the supply and

demand for talents in the industry can adequately adjust the company's performance assessment requirements and the arrangement of training or benefits.

#### **5.4 Cross border HR Practices**

IT enterprises established in Hengqin face some additional HR challenges due to differences across the Macau-Hengqin border, namely: the infrastructures available in Hengqin are fewer than in Macau, the difference of average salary level between Macau and Hengqin, and the difference of language and cultural background.

##### **5.4.1 The local infrastructure of Hengqin**

At present, Hengqin's infrastructure is improving day by day but still lags behind Macao. Many staff work in Hengqin during the day but have a home in Macau. The border crossing raises issues, such as car license plates, border opening hours, shuttle bus between the two places. All of these will be the factors for them to attract overseas IT talents to work in the mainland.

##### **5.4.2 The difference in average salary**

For Macao, the average salary is much higher than in the mainland. From the feedback of the interviewees, we know that we can adopt a diversified salary system, such as dividing the salary into two parts, one is the same basic salary in both places, the other is the project commission.

##### **5.4.3 The difference between language and culture**

IT talents from overseas tend to be more active and open-minded regarding interpersonal relationships and problem-solving methods. We learned that IT companies face challenges in integrating cultures and languages.

#### **5.5 Recommendations to firms**

The IT industry of Hengqin is changing every day and faces talent management challenges. The following are suggestions for the human resource management of IT enterprises in Hengqin.

##### **5.5.1 In terms of attracting IT talents**

Hengqin's IT enterprises mostly use online recruitment methods that are relatively common. They can add some professional websites, such as 800hr.com, which is often used by IT talents. This website can improve the content published online, such as editing the published text and pictures into visual media, such as VCR, VR technology. They can also encourage employees to use their networks and give incentives for recommending talents.

Besides, it is necessary to show the right image to the public. For example, the image and temperament of the recruitment team at the job fair should conform to the culture of the IT company and not be too lazy. The content of the exhibition and the leaflet of the recruitment exhibition should reflect the right image of the enterprise. The company can also participate in technical exchange activities. If it can participate in some competition activities, it can be exposed by the media, which is helpful to improve the image of the enterprise and enhance the attraction of talents.

### **5.5.2 In terms of motivating talents**

IT talents are knowledge-type talents, who have a significant demand for knowledge, so they can be adequately motivated by providing opportunities for their growth, which, including that provide opportunities and platforms for continuous learning. IT talents need to update their knowledge continually. Some interviewees mentioned that enterprises could support and encourage their on-the-job learning. However, for most of the respondents, especially small and medium-sized enterprises, they think that this approach is costly and risky as they are afraid that IT staff will leave. However, another way they can be motivated by going out for a short period to study or by inviting outside experts to the company for training also is effective.

The work pressure of IT talents is enormous, and IT is easy to cause a high psychological burden and pressure to affect their physical and mental health. IT firms can pay attention to and support the cultivation of their interests and hobbies. For example, set up an entertainment lounge within the company and regularly hold skill competitions of interest groups, such as cycling, mountaineering, or ball games.

Leaders should interact with employees, learn more about the preferences of young talents, and avoid communication barriers. It will make the whole team relaxed and harmonious and can effectively motivate the team's work performance.

### **5.5.3 In terms of retaining talents**

IT enterprises in Hengqin have a high proportion of single male employees, so they try to balance it by recruiting more women, which they believe can have an impact on retention. Alternatively, by holding networking events, so that single male employees have the opportunity to meet more girls. We also learned that for married staff, the IT enterprises in Hengqin offer flexible working hours to be able to balance work and family. For employees living far away, they avoid asking for overtime work and allow them to take work home.

Besides, The working relationship with employees is also a key concern of IT enterprises. They can set up conflict mediators and set up complaint channels for employees so that conflicts can be resolved on time, so as not to cause the loss of employees. The challenging tasks are assigned according to the employees' bearing capacity and individual situation, to avoid causing the work pressure too big to lead to resignation.

The last, IT enterprises in Hengqin usually pay more attention to the local talent policy, the situation of competitors, and the supply and demand of local IT talents to adjust the internal retention strategy in time.

### **5.5.4 For cross-border IT enterprises**

Learn more about the culture and business process of the mainland, understand the relevant policies, participate in events, and training courses organized by the local government. It allows staff to grasp the local policies and business processes on time and effectively carry out internal human resource management.

Cultural and average salary differences between the Macau and Mainland, in response to these differences, IT enterprises can organize more communication activities between colleagues, open language salons. And a set of perfect salary system should be established to solve this problem.

## 5.6 Future research

First of all, this research is aimed at the Hengqin area, and the research object is relatively targeted. However, for cities in other areas of China, a more in-depth discussion needs to be made according to the specific situation of the city. For example, the external environmental factors of other cities will also have a positive impact on the practice of human resource management.

Secondly, initially, the study aimed at gathering data from a larger sample, but that was not possible due to the mobility restrictions in China due to pandemic. In the future study, more sample data collection and more findings can carry out, and the results will be more convincing.

Finally, some new findings in this study are relatively rare in the previous literature review, such as the way to attract talents through social networks. Further research needs about the role of social tools in attracting talents in the IT industry. We can also examine how to cultivate leaders' behavior and management ability.

## REFERENCES

- Altahtoo, U.A.(2018). The Effect of Job Satisfaction and Workload on IT Project Employee Turnover Intention in the Madinah Government of Saudi Arabia, *International Journal of Business and Social Science*,9(8),107-115.
- Bellini, C.G.P., Palvia, P., Moreno, V., Jacks, T., & Graeml, A.(2018). Should I stay, or should I go? A study of IT professionals during a national crisis. *IT & people*, 7, 02-35.
- Bhoola, V., & Giangreco, A.(2018).HR activities and practices for project success: A multi-method approach from Indian IT firms. *Australasian Journal of Information Systems*,22,1-29.
- China Hengqin (2018). Critical points of industrial development. Retrieved from <http://www.hengqin.gov.cn/ftz/gndw/201901/4d94654392454b2bb5f1b1416dd1018e.shtml>.
- China Zhuhai Net (2018) . Zhuhai City will introduce a new policy to promote the development of a new generation of the information technology industry. Retrieved from [http://www.zhuhai.gov.cn/xw/xwzx\\_44483/zhyw/201810/t20181029\\_48902350.html](http://www.zhuhai.gov.cn/xw/xwzx_44483/zhyw/201810/t20181029_48902350.html).
- Cui,B. (2012).*Analysis of the reasons for demission of key employees and countermeasures*. Doctoral Dissertation, East China University of Science and Technology.
- Dunn, K.(2019). *Hunting for talent Careers and motivational factors of IT professionals*. Master Thesis. JAMK University of Applied Sciences, Degree Program in International Business Management. Accessed April 2019.
- Eriksson, P., & Kovalainen, A. (2008). *Qualitative Methods in Business Research*. London. Sage.
- Erturk,A., & Vurgun,L. (2015).Retention of IT professionals: Examining the influence of empowerment, social exchange, and trust. *Journal of Business Research*,68,34-46.
- Han, D.Y. (2007). *Incentive strategies for knowledge workers*(pp.20-21).Beijing : China Economic Press. [SEP]

- Harden, G., Boakye, K.G., & Ryan, S. (2018). Turnover Intention of Technology Professionals: A Social Exchange Theory Perspective, *Journal of Computer Information Systems*, 58(4), 291-300.
- He, Y. (2018). Analysis on the effectiveness of recruitment channels in human resource management. *Technology and marketing*, 25 ( 11 ) , 198-201.
- Herzberg, F. (1968). One more time: How do you motivate employees? *Harvard Business Review*. Accessed February 10th, 2020. Retrieved from <https://scholar.google.com/>.
- Horwitz, F.M., Chan, T.H., & Quazi, H.A. (2003). Finders, keepers? Attracting, motivating, and retaining knowledge workers. *Human Resource Management Journal*, 13(4), 23-44.
- Hu, D.D. (2015). *Study on the dismissal of knowledge workers in A company*. Master Thesis, Capital University of Economics and Business, Degree Program in Master of Business Administration. Accessed March 2015.
- Jiang, L. (2018). *Study on the Factors and Countermeasures of the Technical Personnel Brain drain of IT Enterprises*. Master Thesis, Northeast Normal University, Degree Program in Master of Business Administration. Accessed November 2018.
- Jin, S.P. (2016). *Analysis on the Factors and Countermeasures of the Loss of Technical Personnel of IT Internet Enterprise*. Master Thesis, Jilin University China, Degree Program in Enterprise Management. Accessed June 2016.
- Li, X.L. (2017). A study on the relationship between motivation factors and turnover intention of knowledge-based employees---A case study of IT employees in Shenzhen. *Economic Outlook the Bohaisea*, (11): 107+191.
- Li, X.H., & Xu, H. (2010). Empirical study on the influencing factors and mechanism of knowledge workers' demission intention. *Research and Development management*, (1): 81-83.
- Li, X.Y. (2018). Analysis and countermeasures of IT talent flow under big data thinking. *Modern Business*, 506(25), 57-60.
- Li, Y.D., Zhang, C.M., Xiong, X.L., & Xiang, Z. (2017). The new changes of human resource management practice in the information age. *Modern Management*, 7(6), 476-480.
- Lin, Y., & Li, C.Y. (2017). Emerging AI recruitment. *Think Tank Era* (16), 9-10.
- Liu, B., & Jin, R.R. (2016). Selection of recruitment channels and effectiveness analysis of recruitment. *China Management Informatization*, (19), 104.
- Liu, X.Y. (2018). *Research on the Recruitment and Selection of IT talents for Internet Enterprises—For Example S Internet Company*. Master Thesis, University of International Business and Economics, Degree Program in Administrative Management. Accessed May 2018.
- Mason, J. (2002). *Qualitative Research*. London. Sage.
- McClelland, D.C. (1976). Power Is a Great Motivation. *Harvard Business Review*, 54(2), 100.
- Medcof, J.W., & Rumpel, S. (2007). High technology workers and total rewards. *Journal of High Technology Management Research*, 18, 59-72.
- Muehinsky, P.M., & Morrow, P.C.A. (1980). A multidimensional model of voluntary employee turnover. *Journal of Vocational Behaviour*, 17, 263-290.
- Schuth, M., Brosi, P., & Welp, I.M. (2018). Recruiting Women in IT: A Conjoint-Analysis Approach. *Proceedings of the 51st Hawaii International Conference on System Sciences*, pp. 5096-5105.

- Sekhar, C., Patwardhan, M., & Vyas, V.(2017).Causal modeling of HR flexibility and firm performance in Indian IT industries. *Journal of Modelling in Management*,12(4),631-651.
- Southcn (2018). Hengqin speed: 40 new enterprises are established every day, and 2,228 enterprises have settled in Hong Kong and Macao. Retrieved from <http://www.hengqin.gov.cn/hengqin/xxgk/201804/4317fb8be2844f118a87dc94db74983e.shtml>.
- Su,T.,Wang,J.Y.,& Wu,X.X. (2000). Problems and management countermeasures of human resources in IT industry in China. *Research and Development Management*,12(6),42-47.
- Sun,Y.Z. (2007). *Management*. Beijing: Tsinghua University Press.
- Tang,X.L. (2012). How to retain knowledge workers. *Human Resource Development of China*, (8),53-55.
- Wang,L. (2018). Effectiveness analysis of recruitment channels in human resource management of pharmaceutical enterprises. *Propagation Force Study* (33), 222-222.
- Wang,Q.Q. (2017). PDCA model is used to analyze the existing problems and process optimization of IT recruitment -- taking G company as an example. *Economic and Trade Practice*,(16),24-25.
- Wang,W.L. (2016). Human resource management strategy for IT enterprises. *Shopping Centre Modernisation*,23, 130-131.
- Xie,J.Y. (1999). Enterprise employee turnover analysis model. *Foreign Economy and Management*, 5,21-24.
- Yan,S.H. (2014).“Get the right people”. *Human Resource Development and Management*, (3),13-14.
- Yang,L. (2016). “ The enlightenment of "two-factor" theory to the incentive measures of knowledge workers. *Market Weekly*, (12), 142-144.
- Yin, R.B. (1994) *Case study research: Design and Methods*. Thousand Oaks, CA: Sage.
- Yuan,L.M. (2016). Analysis of the current situation of socialized recruitment in the Internet era. *Human Resource Management*,118(7),6-7.
- Zhen,X.H. (2011). Analysis and countermeasures of the demission factors of knowledge workers. *Science and Technology Management Research*, (20),145-147.
- Zhuhai Statistics Bureau (2019) . Statistical bulletin on the national economic and social development of Zhuhai city in 2018. Retrieved from <http://www.stats-zh.gov.cn>.

# RESEARCH ON THE INDUSTRY-UNIVERSITY-RESEARCH LINKAGE AND INNOVATIVE TALENT TRAINING MODE FROM THE PERSPECTIVE OF HUMAN CAPITAL

**XIANTING YUAN**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1427631215@qq.com*

## ABSTRACT

Human capital plays an important role in the development of social industry, and high-quality technical application-oriented talents are the basis of industrial innovation. With the development of China's economy and the transformation and upgrading of its industrial structure, high and new technologies are constantly applied in modern enterprises, and enterprises' requirements for high-quality and skilled talents are constantly improved. At present, it is difficult to balance the supply and demand of Chinese human capital in the industrial application, mainly because the human capital cultivated by the education system is difficult to correspond to the needs of enterprises in a short time. Based on the supply side of human capital reform will help solve the problem of kinetic energy under the new normal, establish industry linkage training mechanism and adopt the corresponding modernization path, can cultivate qualified labor for innovative countries, prepare labor for the future technology, realize the transformation of Chinese human capital structure, so as to realize the sustainable development of economy.

**Keywords:** school-enterprise cooperation, innovative talents, the realization of the mechanism, training mode

## INTRODUCTION

In the face of the demographic dividend bottleneck of continuous declining labor population and the new normal of economic growth, the problem of "new drivers" of China's economic development has attracted much attention, and it is crucial to improve human capital. The quality rather than quantity of human capital will increasingly become the cornerstone of China's economy. To implement the innovation-driven development strategy, talents is the foundation and the key. The training of innovative talents in industry-university-research cooperation plays a core role and plays a key role in the process of China's innovation linkage and building an innovation-oriented country. At present, under the three backgrounds, the linkage and cooperation of industry-university-research institutes must be carried out. First, school-enterprise linkage innovation must be conducted under the background of scientific and technological innovation; the second is that the training of innovative talents must carry out school-enterprise linkage innovation; the third is to achieve innovation-driven and talent-driven must require school-enterprise linkage innovation. In this context, this paper first studies the industry-university-research cooperation, respectively analyzes the linkage of the elements of industry-university-

research cooperation and innovative talent training, and constructs the theoretical basis of China's industry-university-research cooperation and innovative talent training. Secondly, through analyzing the typical mode of innovative talent training of foreign industry-university-research cooperation, it reveals the rules and experience of industry-university-research cooperation training, and inspires some suggestions for the talent training mode of industry-university-research linkage cooperation in China. Finally, in view of the above analysis content, suggestions are put forward to promote the training of industry-university-research talents in the training mode of industry-university-research talents.

## LITERATURE REVIEW

### 1. Linkage of industry-university-research cooperation and innovative talent training

Industry-university-research cooperation is usually a process in which enterprises, research institutes and universities carry out innovative resources, integrating innovation resources and efficient technological innovation. Innovative talents are usually people who have pioneering innovation ability, can obtain technological breakthroughs in key fields, and can make outstanding contributions to social development. Therefore, the whole process of industry-university-research training is an important way to discover and develop new talents, and there is a close connection between the two.

#### 1.1 Nature of industry-university-research cooperation

##### 1.1.1 Subject of industry-university-research cooperation

In order to face a new round of industrial and technological innovation, led with the government industry enterprises, universities, research institutes and intermediary agencies, the interaction, coordination and integration between the subjects construct a spiral relationship mode, namely the "four spiral structure". In this structure, government departments are the main subject of policy innovation, industry enterprises are the subject of scientific and technological innovation, universities and research institutes are the subject of knowledge innovation, and intermediaries are the subject of market innovation. As shown in Figure 1:

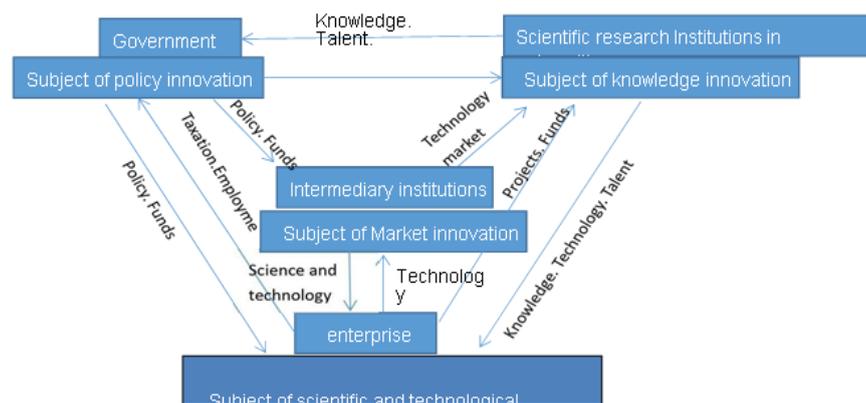


Figure 1 Four-helical cooperative structure

##### 1.1.2 Formation of industry-university-research cooperation

The formation of industry-university-research cooperation is an effective way for colleges and universities to carry out teaching innovation, cultivate innovative talents, and produce corresponding economic and social benefits. Effective teaching innovation of colleges and universities depends on the full cooperation, collaborative education, and in

the process of the linkage, the third party technology intermediary formed the external information network, which will greatly help rapid positioning between the object, field and degree of cooperation, and reduce the information transaction cost, improve the success rate of innovation.

In the formation of collaborative education, the three innovation subjects of "industry, university and research" substantially participate in the coordination process and specific and micro practical activities; social service institutions do not substantially participate, they provide necessary social services as collateral, and conduct market supervision while obtaining legitimate benefits, and the government provides guarantee and support as helpers, and collects relevant taxes in the service process.

### 1.2 Elements of innovative talents

Innovative talents generally have the following characteristics: (1) strong curiosity and curiosity for unfamiliar research fields; (2) enhance their innovative ability through continuous self-learning and professional technology exploration; (3) have a broad knowledge system, and focus on the research of advanced technology in a certain field; (4) compatible with other team members, and (5) healthy body and tough character, challenging spirit. Generally speaking, innovative talents should not only have complete personality characteristics, but also have a high comprehensive quality in intelligence and physical and mental health. Most importantly, in the process of exploring the unknown fields, we can devote ourselves to the endless scientific research cause, create and spread excellent innovation achievements, and contribute to the development of practice.

Summarize the relevant research results, and this study tries to learn from the advantages of previous research, to build a more comprehensive general quality model of innovative talents, as shown in Figure 2

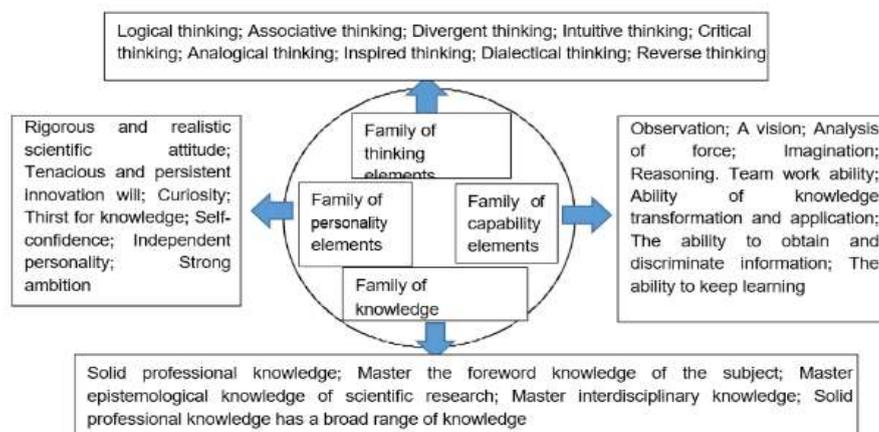


Fig.2 The general quality model of innovative talents

### 1.3 Linkage between industry-university-research cooperation and innovative talent training

Under the guidance of national policies and under the guidance of the major strategy of talent innovation, the collaborative innovation activities of China's talent training with industry-university-research research as the core training mode are in full swing. The linkage between industry-university-research cooperation and innovation talent training appears in the following three aspects:

#### 1.3.1 , and the participant-led

Generally speaking, the participants of industry-university-research cooperation are the government, enterprises, scientific research institutions and universities. It is also divided into the following types according to the different dominance positions:

(1) Government-led. The government plays a leading role in the process of building the whole industry-university-research system, formulating specific training plans, gives the objectives, methods and time stages of training, and guides the government to raise scientific research funds, which is generally funded by the government finance or guided by the government.

(2) Enterprise-leading type. This kind of training mode is mainly guided by the enterprise's own needs of innovative talents. According to the actual needs, the enterprise determines the methods and objectives of the development of talent training, so as to meet the vacancy of the future development of human resources. Through the joint cooperation with universities and relevant scientific research institutions, we will attract universities with talent training strength in this field to participate in the research.

(3) College-leading type. To develop scientific and reasonable joint training paradigm, and build superior disciplines to build application test platform and strong research team to gather relevant enterprises to participate in the whole training model; or leaders from universities and important fields to create the most direct practice base for innovative talents, or to establish university science and technology park to develop scientific and technological innovation to improve innovative thinking and innovation ability.

### **1.3.2 Participant project collaboration**

Industry-university-research cooperation and innovative talent training have achieved good results by undertaking scientific research projects to provide project support for the training of top-notch innovative talents with coordination. Cooperation between scientific research projects or research projects to realize the innovative training, these projects can be dominated by a main participants, undertaken by all participants, enterprises and universities are responsible for convening outstanding students and innovative talents to participate in scientific and technological innovation, its research results have high practical value, general direct effect and enterprise product development and production, and through practical projects, participate in the innovative talents have also been effective training. Its important feature is that such collaborative projects are generally based on the basic research direction, and the degree of collaboration of participants in the project implementation directly affects the transformation of scientific research achievements and the improvement of the quality of innovative talents.

### **1.3.3 Participant dynamic mechanism**

University cooperation and innovative talent training participants can achieve cooperation, the dynamic mechanism refers to the participants in order to pursue potential common interests, maximize the individual benefits (material and non-material), enterprises need to improve technological innovation ability and scientific and technological achievements transformation ability, with the help of colleges and universities, and university talent training needs enterprise training base and scientific research practice platform, both universities or enterprises, have their own interests. Colleges and universities are the main force of industry-university-research cooperation to cultivate innovative talents, while enterprises are the carrier of cooperation to cultivate innovative talents. Although there are conflicts of interests between them, there is also a consistency of interests to some extent.

## **2. Foreign typical model of industry-university-research cooperation and innovative talent training**

Due to the influence of different social environments, policy environments and talent training needs, there are various innovative talent training modes of industry-university-research cooperation, and there are both differences and commonalities between different types of industry-university-research cooperation modes. The following analyzes the mode of innovative talent training of foreign industry-university-research cooperation, and obtains experience and inspiration from the foreign successful development model, so as to promote the further deepening and development of China's industry-university-research cooperation and innovation.

### **2.1 Typical foreign model**

#### **2.1.1 American industry-university-research cooperation model**

The United States is the most successful country in industry-university-research cooperation in the world, and the most representative and widespread influence are the following models: (1) science and technology park model. The US AURP defines science and technology industrial parks as having private or public research or development facilities, high-tech or science and technology-oriented enterprises, and land or buildings created for supportive services. (2) Business incubator model. Business incubator is a model of industry-university-research cooperative organization to provide help with the birth and growth of new products and small businesses. (3) Patent licensing and technology transfer mode. US patent protection covers a wide range, including invention patents, industrial product design patents, and job patents. Patent licensing has a very special role in the American industry-university-research cooperation. Technology transfer is another important channel for the flow of industry-university-research cooperation knowledge. (4) Development mode of high-tech enterprises. High-tech enterprises are often derived from universities and research institutions. Most high-tech companies in the United States are founded by venture capital from the inventors of scientific research. In addition, there are high-tech enterprises developed with industrial and academic cooperation, technology implantation and external force grafting. (5) Industrial / University Cooperative Research Center. Industrial / University cooperative research centers in the United States have three main forms: one university and several enterprise joint centers; several schools and multiple enterprise joint centers; and industrial / university cooperative research centers cooperate extensively with enterprises and universities by signing contracts. (6) Engineering Research Center. The Engineering Research Center is also a model of industry-university-research cooperation in the United States. The main task of the Engineering Research Center is to carry out interdisciplinary research on the needs of industrial production, and to focus on cultivating the engineering and technical personnel needed for industrial production.

#### **2.1.2 Japan's industry-university-research cooperation model**

Japan's industry-university-research cooperation has also achieved great success, Japan's industry-university-research cooperation model mainly has

The following types: (1) study together. Researchers from universities and enterprises carry out cooperative research on common topics and create scientific research results based on the technological innovation capabilities of both sides. Since the implementation of this model, the cooperation projects of all parties have increased year by year. (2) Entrusted research. The university accepts the entrustment and financial support from enterprises and the central government departments to conduct project research and provide scientific research results. In 1995, the Ministry of Culture and Provinces and other relevant government departments launched the "System of Promoting

the Effective Use of special legal persons and other departments to carry out basic research", encouraging national universities to accept commissioned research and create a better environment for academic research.(3) Entrusted researcher.It refers to the technology and researchers of private enterprises going to universities and universities to jointly use institutions to accept research guidance at the graduate level and grasp the latest research trends.(4) The accounting system of educational donation.According to relevant regulations on education donation, recipient national universities can flexibly use donations, carry out research activities and conduct international exchanges.At the same time, national universities and universities using institutions can also use the donated funds to open named lectures and create research centers.(5) The Joint Research Center.In order to promote the cooperation between universities and local industries, some Japanese universities have, since 1987, built "joint research centers". As a window for the connection and cooperation between universities and industries, it is not only a place for joint research, but also a classroom for enterprise technicians to receive advanced technical training.(6) Science and technology industrial park.Japan has also set up a number of science and technology industrial parks, including the famous Tsukuba Science City and Kansai Science City.

### **2.1.3 German industry-university-research cooperation model**

German universities and research institutes attach great importance to the transfer of scientific research achievements, and have built a cooperative creation in the whole country

New network, to form an organizational guarantee.In addition, almost all scientific research projects require small and medium-sized enterprises to participate in it.There are the following models in Germany: (1) large research centers.For example, the center (HGF) Research Center works closely, and universities can use the center's test equipment to participate in interdisciplinary, long-term scientific research projects.The center also provides consultation for the government, is entrusted to host the project, and has set up an undertaking unit in the center to organize universities, research institutes and enterprises to participate in the implementation of the project.(2) Technology transfer Center.The German Technology Transfer Centre is a national organization distributed everywhere, in principle in every state.These centers maintain close contact with universities, taking their services for small and medium-sized enterprises as the focus of their work, carrying out technical consulting and technical intermediary work, consulting domestic and foreign patents for enterprises on the Internet, and carrying out academic reports and technology talks.(3) Science and Technology Park.There are mainly small science parks in Germany, which are subsidiaries of universities or jointly run by enterprises and financial institutions, such as the German Karlsruhe Technology factory.(4) Interdisciplinary education and scientific research institutions.There are various interdisciplinary academic organizations set up by the Technical University of Berlin, the cooperative research center and research group of the German Research Society, and the Interdisciplinary Research Association.(5) Capacity Center.The German Capacity Center is a regional gathering but cross-regional alliance composed of several efficient partners. It has a professional focus. There is close interaction and communication between the alliance members, covering several stages of the value-added chain, different industries and disciplines, and integrating into the policy environment of encouraging innovation in the region.

### **2.1.4 The UK industry-university-research cooperation model**

(1) Contact plan.The contact plan is the main measure of the UK government to promote the cooperation between the business and scientific communities in the pre-

product research stage. The government regulates the R & D behavior of enterprises and research institutions through research and development funds. The project applicant must include at least one enterprise and one scientific research institution, and the prerequisite for obtaining the funding is that the project applicant should sign a cooperation agreement in advance. (2) The Knowledge Transfer Partner Program. Coming from the merger of the Partnership Program for Colleges and Business Community and the Teaching Company Program, it was established by the Ministry of Trade and Industry in 2003. The plan involves three aspects: enterprise, knowledge base unit, and plan contact. The enterprise first makes strategic technical decisions, then communicates and negotiates with the appropriate knowledge base units and signs an agreement, and submits the application to the Planning Office of the Ministry of Trade and Industry for review and approval. The approved project recruits the plan contacts, and transfers the results of the knowledge base unit to the enterprise. (3) Main characteristics. In the early stage of the project research and development, the scientific research results have a clear market demand, which ensures the smooth transformation and application of the research and development results, and ensures the final benefit of all parties involved. The government plays a key role in it, is responsible for formulating specific industry-university-research cooperation plans, and using government R & D funds to regulate the research and development behavior of enterprises and research institutes. In addition, special emphasis is placed on the performance evaluation of industry-university-research cooperation, and promoting the completion of the development and transfer steps simultaneously in the project implementation, so as to promote the improvement of the conversion rate of scientific and technological achievements and the success rate of cooperation

## **2.2 Foreign spiration of successful experience**

According to the analysis of the innovative cooperation and innovative talent training mode of the United States, Japan, Germany and Britain, the following inspiration is obtained from their successful experience:

### **(1) Pay attention to students' practice and experiential education**

Through research, most of the foreign industry-university-research cooperation mode provides an event platform for the training and scientific research transformation of talents in universities and enterprises. In essence, it is experiential education. Through the real situation mode, it lasts for a certain time to provide its participants with innovative training and practical experience, so as to improve their professional quality.

(2) Pay attention to cultivating students' innovation ability and innovative spirit. Industry-university-research cooperation mainly focuses on the ability of the participants to raise, analyze and solve problems. Only on the premise of improving these abilities, can the innovation ability achieve a qualitative flight, and then improve the high fit between the goal of college talent training and the talent needs of enterprises, and then promote social and economic development.

(3) Based on the superior resources of cooperative subjects, jointly cultivate talents. First of all, enterprises should create a talent training base with the help of the industry-university-research cooperation mode, such as a science and technology park, to provide a practical platform for talent training in colleges and universities. Second, with the help of scientific research advantages, universities should cooperate with well-known social enterprises, learn from their capital advantages, realize government-enterprise cooperation, and promote academic exchanges and achievement transformation. The third refers to that universities use their first-class scientific research level and scientific research ability to cooperate with enterprises to provide talent consulting services for the talent training of industry-university-research cooperation.

(4) Pay importance to strengthening the government's support and guiding role

The market is not omnipotent, but has its inherent defects and weaknesses, so it is particularly important for the government to play the regulatory role of the government. The government has the effect of managing, organizing, coordinating and promoting the behavior in the industry, university-research cooperation, and can promote the development of this cooperation mode through perfect, supporting and reasonable policies and measures. Standardize relevant policies, regulations and strategic planning, establish intermediary service agencies, and promote cooperation between international schools and enterprises. The government can also promote the cooperation between industry, university and research institutes through many financial funding measures, such as loans, financing, and provide corresponding tax exemptions and research relief to encourage enterprises to actively participate in the cooperation between industry, university and research. At the same time, the government can formulate policies and regulations to promote the development of industry, university and research, improve the enthusiasm of cooperation between industry, university and research, and promote universities and researchers to more actively contribute to enterprises and society.

### **3. Suggestions for China's industry-university-research linkage and innovative talent training model**

#### **3.1 The core position of the training should be highlighted**

(1) Combined with the practical paradigm of China's school-enterprise joint innovation talents training, the core position of universities, scientific research intermediaries and the government in industry-university-research cooperation is clarified. In the future, they should further improve their core position and key role. Based on the purpose of cultivating innovative talents, universities, enterprises and related scientific research auxiliary institutions can realize the cultivation of innovative talents under a collaborative contract. Therefore, only build suitable for talent development, perfect the innovative talent training environment, perfect enterprise drive, collaborative development innovation training paradigm, gradually form multilateral cooperation, policy guidance, meet the actual needs of enterprise long-term stable cooperation system, by constantly improve and strengthen the assessment of the enterprise, strengthen research strength and information matching, can gradually improve institutions talent training mechanism. The core of the industry- university-research innovation system is the government, the universities and research institutes, the third is enterprises, and the fourth is intermediary agencies. Therefore, it is particularly important to highlight the core position of innovative talent training subjects

#### **3.2 A soft environment for industry-university-research cooperation should be built**

The innovative talent training of industry-university-research cooperation is carried out in a large social and economic environment, which not only includes the strength and experience of talent training subjects, but also the soft environment such as the policy and legal system of talent training also has an influence to a certain extent. Perfect policy and legal system to ensure the sustainability of innovation talent training work, perfect industry-university-research cooperation development plan and policy for innovative talent training plays a good role in incubator, and cooperation strategic network of innovative talent design and set up a perfect operation system. There should be the following two soft environments, namely, a good legal environment for industry-university-research cooperation policies and an innovative cultural environment with local characteristics.

### **3.3 We should promote the training of industry-university-research cooperation and innovation talents to adapt to the market demand**

The training of innovative talents in China should pay full attention to the actual needs of the training objects, change the traditional unified and solidified education methods, pay more attention to teaching students in accordance with their aptitude, and carry out specialized training according to the different characteristics of innovative talents. In addition, the industry-university-research joint training cooperation system is used to build a platform for experiential practical teaching, so that talents can grow in scientific research practice. At the same time, we should give full play to the key role of teachers in the whole training process, change their backward teaching mode, boldly apply the new education mode, give full play to the guiding function, encourage the training objects to conduct independent thinking and innovation, and build a free academic atmosphere without restrictions. Further introduce talents from scientific research enterprises with practical ability, so that they can participate in the exchange and teaching system, and build a "double-teacher" teaching team. Efforts should be made to attract important leading talents in cutting-edge fields, and also to promote the resonance effect of talent gathering and strengthen the synergistic effect of knowledge. In order to achieve these, it is necessary to formulate good talent strategies, for the key areas of scientific research in China, attract professional talents, give priority to the introduction of personnel who master core leading technologies in the professional field, and pay attention to the introduction measures of overseas studying for further study.

### **3.4 Exploration of the innovative talent training mode of industry-university-research linkage in Chinese universities**

International theory and practice show that industry-university-research cooperation not only refers to the cooperation between enterprises, universities and scientific research institutes. The government is also involved in the process of industry-university-research cooperation. With capital and organizational control ability, the government is the maker and executor of technological innovation policies, the creation and guarantor of the national and regional innovation environment, and can bear certain technological innovation risks. The cooperation between universities, enterprises and government is the guarantee of a national and regional innovation. There is a triple spiral between government, industry, and academia. On the basis of the continuous accumulation of experience, China has explored some industry-university-research cooperation models suitable for China's national conditions.

There are mainly the following types:

(1) Industry-university-research consortium. Research institutes and universities cooperate to promote the transformation of scientific and technological achievements, and cooperate with enterprises or local governments.

(2) Scientific research institutes and universities will directly participate in the technological progress process of enterprises. This is a widely used way of cooperation in China's current industry-university-research cooperation. Its main practice is scientific research institutes and universities through technology transfer, consulting, cooperation or commissioned development, use their own technical advantages, participate in the technology upgrading, technology bottleneck, testing production, quickly provide it with reliable technical resources and technical team, help enterprises have advantage in the field of technology, and can know the latest conversion technology and project.

(3) Industrial technology promotion. Is research institutes and universities based on research analysis, choose a or several key technology, after small trial more mature results, use their technical position in the industry and channels, organize targeted promotion

activities, in an industry or a field, can effectively fast concentrated demand side, save more human, material resources, financial resources, make technology can directly docking with demand side, quickly to the real productivity.

(4) Carry out regional cooperation. That is, scientific research institutes and universities, starting from the needs of local economic development, carry out comprehensive cooperation with local governments and industrial departments, according to the industrial distribution of local governments, and selectively match their achievements, professional technology and expert teams. It can help the government to solve the technical problems of enterprises and complete the transformation and upgrading of the whole industry.

(5) The National Center for Engineering Research. This model is also one of the most effective models of American industry-university-research cooperation. Will carry out system integration and engineering research on key technologies and generic technologies in industrial development, form a technical resource database, constantly improve and update, and package the technical resources to enterprises and the market, and carry out commercial operation;

(6) High-tech park. High-tech park is an environment for the "incubation" and survival of high-tech enterprises. It is a high-tech industrial zone relying on the preferential policies of the government, universities and research institutes, and finally formed after a long spontaneous or semi-spontaneous time of cohesion and derivative.

## CONCLUSION

The effective implementation of the innovation-driven development strategy is the foundation and guarantee for innovative talents, and the innovation-driven development is essentially talent-driven. Therefore, the training of innovative talents in industry-university-research cooperation plays a huge role in implementing the innovation-driven strategy and building an innovative country. This paper used the literature reading method and the comparative analysis method, and obtained the following main conclusions:

(1) Through refining and sorting out the relevant theories, based on the industry-university-research cooperation theory and the psychological theory and talent theory and incentive theory, its main role in the research is briefly analyzed, and laid the theoretical foundation of this research. Define the nature of industry-university-research cooperation, the elements of innovative talents are summarized, and the theory of innovative talent training is analyzed. Finally, the factor linkage of industry-university-research cooperation and innovative talent training includes three aspects: participant-led, participant project coordination and participant dynamic mechanism.

(2) In the power source of industry-university-research cooperation training innovative talents, relatively speaking, universities and their own contribution to industry-university-research cooperation training talents is not significant, and the government has an outstanding position in industry-university-research cooperation training innovative talents, enterprises and research institutions capital investment is an important guarantee for the smooth development of cooperation training innovative talents. The government plays a key role in promoting the training of innovative talents in industry-university-research cooperation and education through guidance promoting and coordination. Meanwhile, as the user of innovative talents and the main body of technological innovation, the enterprise undertakes the use and development of talents, invention technology into practical products and industrial development in the whole process, and technology talents and knowledge, thus improving the level of cooperation.

(3) Build a good joint training system environment, standardize relevant policies, regulations and order, improve relevant development plans and policies, and strengthen the cultivation of an innovative cultural environment with local characteristics. Only by optimizing and improving the innovation mechanism, cultivating innovative ideas and consciousness, and strive to cultivate a new understanding of innovative talents, and expanding the multi-mechanism industry- university-research cooperation paradigm, can we ensure that the joint training of talents can adapt to the market demand.

Due to the industry cooperation linkage innovative talent training in the national innovation driven development of special status, influence factors, complex, and dynamic, this paper is a research, about specific industry cooperation innovative talent training model and practice, due to data tools, time, ability and cost constraints, need to be further completed.

## REFERENCES

- Sohn, Y.G. Joo and H.K. Han. Structural equation model for the evaluation of national funding on R & D project of SMEs in consideration with MBNQA criteria [J]. *Evaluation and Program Planning*, 2007, 30(1) : 10 - 20.
- FM Hsu, CC Hsueh . Measuring relative efficiency of government sponsored R&D projects: A three - stage approach [J] .*Evaluation and program planning*, 2009, 32(2): 178-186.
- Bekkers, R.N.A., Bodas de Araujo Freitas, I.M. Performance of university - industry collaborations, qualitative and quantitative evidence from the Netherlands [C]. *Proceedings of the 7th Biennial International Conference of University, Industry & Government Linkages (Triple Helix VII )*, 2009, Glasgow, Scotland.
- Becker W, Peters J. Technological opportunities, absorptive capacities and innovation [R]. *Volks wirt schaftliche Diskussion srei heder University Augsburg No.195*, 2000
- Schmiedeberg C. Complementarities of innovation activities: An empirical analysis of the German manufacturing sector [J]. *Research Policy*, 2008, 37(9): 1492-1503
- [6] Jirjah U, Kraft K. Do spillovers stimulate incremental or drastic product innovations? Hypotheses and evidences of scope from Germa establishment data [R]. *ZEW Discussion Paper No.06-023*, 2006
- Yun M. China ' s innovation system reform and growing industry and science linkages [J]. *Research Policy*, 2007, 36(8): 1251-1260
- Donald S S, Waldman A D, Atwater E L, et al. Commercial knowledge transfers from universities to firms: Improving the effectiveness of university-industry collaboration [J]. *Journal of High Technology Management Research*, 2003, 15(1): 111-133.
- Chen, S.H., Huang, M.H., & Chen, D.Z. Driving factors of external funding and funding effects on academic innovation performance in university-industry-government linkages. *Scientometrics*, 2013, 94(3), 1077-1098.
- Sharabati-Shahin M H N, Thiruchelvam K. The role of Diaspora in university- industry relationships in globalised knowledge economy: the case of Palestine [J]. *Higher Education*, 2013, 65(5): 613-629.
- Veugelers R., Cassiman B. R&D cooperation between firms and universities. Some empirical evidence from Belgian manufacturing [J]. *International Journal of Industrial Organization*, 2005, 23(5-6): 355-379.

- Nishaal G., Aoife H. A tale of two literatures: Transaction costs and property rights in innovation outsourcing[J]. *Research Policy*, 2007, 36(10): 1483-1495. [13] Pierre V. Identifying collaborative innovation capabilities within knowledge-intensive environments: insights from the ARPANET project [J]. *European Journal of Innovation Management*, 2012(1): 152 -155.
- Bacila M F, Gica O A. Strategic alliances between companies and universities: causes, factors and advantages [EB/OL]. [2015-07-03]. <http://www.univie.ac.at/EMNET/download/BacilaGica.doc>.
- Cheng Qiang. Research on the influence of industry-university-research partner heterogeneity on the innovation performance of enterprise cooperation [D]. South China University of Technology, 2015.
- Wang Xiao. Research on the Training Mechanism of Top Innovative Talents in University-university-Research Collaborative Innovation [D]. Changjiang University, 2014.
- Liu Junwei, Ma Yong. Relying on improving the quality of talent training by the industrial technology innovation alliance [J]. *Chinese University Technology*, 2017, (Z1): 63-65.
- Liu Maoyuan, Gao Fenglan. — — takes the training of Russian talents as an example [J]. *Chinese University Technology*, 2017, (Z1): 79-80.
- Zheng Lixia, Zhai Lei. Intermediation role of industry-university-research cooperation project model and — R & D investment [J]. *Science and Technology Management Research*, 2017, (02): 104-110.
- Deming, Yin Yijin, Deselle. Innovation theory: 1912-2012 — marks the 100th anniversary of the first edition of Schumpeter's *Economic Development Theory* [J]. *Economic Dynamics*, 2012, (04): 143-150.
- (Chesbrough, H.) *By Golden Horse, Open Innovation: The New Rules for Making Technological Innovation and Making Profit therefrom*, Tsinghua University Press, 2005
- [Switzerland] Alexander Osterward et al. *The New Generation of the Business Model* [M]. Machinery Industry Press, 2011
- Peter Tillacke Masters. *From 0 to 1: The Secret of Opening Business and the Future*, Citic Press, 2015
- Martin Hemmert, Ludwig Bstieler, Hiroyuki Okamoto. Bridging the cultural divide: Trust formation in university – industry research collaborations in the US, Japan, and South Korea [J]. *Technovation*, 2014, 34(10): 605-616.
- Armand, Shepard: *Innovation Management-Situation, Strategy, Systems, and Process / 1e*, Long et al., Peking University Press, 2014.
- Tid, Bezant: *Innovation Management-The Integration of Technology Change, Market Change and Organizational Change / 4e*, Chen Jinyi, Renmin University Press of China, 2012
- Dell, Grigson, and Christensen: *The Genes of the Innovator*, once translated by Jianing, Citic Publishing House, 2013
- Christensen: *The Innovator's Quandary*, translated by Hu Jianqiao, Citic Publishing House, 2014
- Chen Jin and Zheng Gang: *Innovation Management (Precision Edition)*. Peking University Press, 2021

# ORGANIZATIONAL OPPORTUNITIES BROUGHT ABOUT BY BUSINESS MODEL INNOVATION

**XIAOYANG LI**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 331315293@qq.com*

## ABSTRACT

Companies commercialize new ideas and technologies through their business models. While companies may have significant investments and processes to explore new ideas and technologies, they often have little ability to innovate the business models that those inputs will pass through. This is important – bringing the same idea or technology to market through two different business models will produce two different economic outcomes. Therefore, the ability of enterprises to develop innovative business models has good business significance.

This study explores barriers to business model innovation, which previous academic studies have identified including conflicts with existing assets and business models, as well as understanding the perception of these barriers. To overcome these obstacles, a process of experimentation and implementation must be carried out, as well as successful leadership of organizational change. This paper provides some examples of business model innovation to underscore its importance in the hope of inspiring managers and academia to meet these challenges.

**Keywords :** business model innovation, commercialization of new technologies, intellectual property rights

## INTRODUCTION

A business model is a method by which an organization generates revenue at a reasonable cost, and it contains assumptions about how to create and capture value. Teece identifies the business model as reflecting "management's assumptions about what customers want, what they want, and how the business can best meet those needs and get paid for it." Whenever a business model generates profits, it is because the company carries out activities and accumulates resources by making it more efficient than its competitors (and thus reducing the total cost) and / Or more effectively than competitors to raise revenue through higher prices or larger quantities, thus forming a wedge between operating costs and revenue. A company's asset or resource base and activity profile are closely linked to its business model, and its success in generating profits between costs and revenues depends on the accumulation of strategically important resources within the organization. In today's economy, these are increasingly based on intangible assets such as scientific knowledge and intellectual property. The essence of an enterprise strategy is its business systems (or set of activities) that control these resources and adjust them over time to ensure their continued relevance to both the enterprise's customers (i.e., revenue-generating components) and suppliers (i.e., cost-generating components)

In this conceptualization process, business model innovation occurs when a company adopts a new approach to commercializing its underlying assets. One area where many companies with significant knowledge assets are currently innovating is the emerging "technology market" Here, companies sell the rights to their intellectual property rights rather than commercialize products and services directly on their own based on their intellectual capital. While the technology market has grown in recent years, companies that choose to license their technology face a number of thorny issues, such as how to persuade potential licensees to buy technology that the supplier doesn't use themselves; and how to enforce their patents or otherwise obtain adequate compensation from licensees. Technology markets are rapidly evolving through an intensive pilot phase to address these issues: their solutions and their potential to further develop into neighboring markets and industries are at the heart of a range of major entrepreneurial and industrial opportunities. And technology itself doesn't have a single target value. The economic value of technology is always potential until it is commercialized in some way through a business model. The same technology commercialized in two different ways will yield two different returns. In some cases, innovation can successfully adopt a business model that the company is already familiar with, while in other cases, the company's business model can use the technology through licensing. In other cases, the underlying new technology may not have an obvious business model, in which case technology managers must expand their perspective and find the right business model to be able to extract value from that technology. Unless a suitable model can be found, these technologies will be worth less to the company than other technologies, and if others outside the company find a business model that is more suitable for a particular technology, they may get a lot more value from it than the company that originally discovered the technology.

## LITERATURE REVIEW

### **Business model innovation and technology licensing**

Historically, licensed technologies have often crossed borders, reflecting the geographic constraints of licensing companies' market scope. Companies issue licences abroad because they have no specific a priori intent to enter directly, and find it more profitable to obtain rent from licensees with local downstream advantages than direct access to such (often geographically remote) markets. But the wave of technology licensing in the 1980s and 1990s presented itself with this "specification." With different characteristics, businesses sell the property rights of their ideas to other companies operating in the same geographical markets and industries. This new licensing approach is particularly prominent in the United States, where many of these new licenses are provided by small technology specialist suppliers (such as biotechnology, semiconductors, nanotechnology, and some other high-tech industries) to large operating companies that control downstream assets needed for mass production and commercialization. For example, many small application startups develop specialized programs in the hope that they will become "killer" applications, but in the end, instead of commercializing them directly, they license their programs to established companies with more experience in interface design, retail distribution, after-sales service, reputation capital, and marketing. Once a precedent for such licensing markets has been established, many other software companies have entered the business with a clear intention to sell "semi-finished" applications in the intermediate development phase, rather than going directly into the application software industry as fully integrated entities.

A common consequence of the growth of these intermediate technology markets

is increased competition in the downstream product market: for example, competition among application software companies is fiercer than ever. This phenomenon is Dierickx Hotels and CoolA special case of the mechanism described, i.e. the existence of the IP asset market itself, reduces the competitive advantage of enterprises that rely on IP assets. Downstream enterprise software companies that rely heavily on independent software vendors to provide promising application modules no longer base their advantages on their own direct R&D efforts—Instead, their competitive advantage now comes from their ability to commercialize, market, install, and sell integrated applications. When a factor market exists, and technology is bought and sold not without friction, but at a lower cost than developing in a home, then the purchasing company can no longer rely on having unique technology to overcome competition. The market offers more companies such technology, and even if only one company is licensed, the competition to obtain a license first spreads knowledge about the technology. (It also raises prices to reflect it.) Value to winning companies, thus ensuring that innovators receive higher returns.) Downstream competitors must then seek other sources of competitive advantage or, more generally, devise ways in which they can uniquely create value. The mechanisms they design must take into account the diffusion of technology through the market among other companies, either because upstream innovators make the technology widely available, or because the licensing process disseminates technical information. As a result, the IP market now involves a wider range of innovative enterprises, whether they are direct licensees or not. As a result, developments in the technology market, such as the licensing of application software modules or code blocks by independent software vendors, may facilitate additional business model innovations that complement the market. The history of several industries is marked by upstream specialist companies that have focused on developing narrow technologies for well-defined applications. A classic example is a small biotechnology company that conducts research on specific drug compounds. In the 1980s, the typical biotech entrepreneur's ultimate goal was to become a full-fledged drug manufacturer, but for many companies, that ambition was hampered by several sets of problems. Becoming a fully integrated pharmaceutical enterprise requires the science of commercialization as well as considerable downstream development capabilities: many small biotech companies lack the skills, resources and financial capacity to obtain the required complementary assets and, therefore, accept the revised goal of selling their pharmaceutical compounds to larger pharmaceutical companies or, in some cases, arranging profit-sharing alliances with larger pharmaceutical companies.

However, even this revised approach has a major flaw. Since almost all biotech molecules are dedicated to specific applications, each molecule can only be sold to a limited number of downstream companies with common specialized assets, which limits the profitability of biotech innovators in two ways. First, the rentals of innovative companies are constrained by the success of downstream manufacturers as competitors in their own therapeutic categories. Second, these biotech entrepreneurs are generally small, inexperienced, and do not have enough bargaining power in negotiations with downstream manufacturers. The combined effect of these two factors often puts these technical experts at a disadvantage in negotiations.

The goal of this business model innovation is to avoid the problem of licensing experts only by developing applications that may be commercially viable in a range of markets. For innovative biotech entrepreneurs, the leverage distortion in negotiations comes from applications that are able to deliver applications that meet the needs of numerous end customers. When innovators deliver generic technologies to multiple downstream markets, they are no longer as vulnerable in one-on-one negotiations with

potential downstream manufacturers as they are in narrow market segments, and the bargaining power of licensed parties may continue to squeeze the profits of innovators in each application, and innovative companies can increase their overall profits by expanding the number of their technology applications. The ubiquity of its technology may also mean that innovators are less limited to a single, commonly specialized licensee as a potential downstream partner and therefore less dependent on the success of any particular partner. At the same time, downstream licensees must develop their own business purposes by adapting generic technologies into applications that are particularly relevant to their customer base, thereby incurring development costs that generic innovators may incur. Thus, in this model, downstream partners are forced to invest to create value, which also tends to invest them in partnerships, and these factors may eventually lead to a better alignment of investment with profit opportunities.

### **What makes companies miss out on new opportunities: the exclusion effect of existing business models on new business models**

Enterprises can test new business models and obtain experimental data through business experiments. The question is why don't businesses do more organizations that conduct experiments like this, exploring potential new business models before external innovations make traditional business models redundant? The most likely answer is that companies face huge hurdles in experimenting with business models, and previous academic research has helped identify this. They chose the business model as the unit of analysis, identifying novelty, lock-in complementarity and efficiency as key aspects of business model innovation. However, these can often conflict with the more traditional allocation of company assets, which managers may resist experiments that could threaten the company's continued value. For example, the vice president of a field sales organization might strongly oppose online sales experiments for the same product, regardless of whether they are successful or not. The researchers identified the root cause of the disruptive innovation tension as a conflict between the business models that have been established by existing technologies and the business models that may be required to take advantage of emerging technologies, disruptive technologies. Typically, the gross margin of emerging technologies is initially much lower than that of mature technologies. The end customer may be different, and the necessary distribution channels may also be different. When companies allocate their capital to the most profitable uses, existing technologies will be disproportionately favored, while disruptive technologies will lack resources. Christensen cites former Intel CEO Andy Grove, "Disruptive technology is misnomered." What it is, is trivial technology that screws up your business model.

The success of established business models greatly influences the information that subsequently enters or filters out the company's decision-making process. This method is built on Prahalad and Bettis' Early ones "Dominant logic" On top of the concept, that is, how the enterprise creates value and then acquires value. In the cacophony of everyday business life, this logic helps companies evaluate what information is important, and it will look for information that fits this logic and avoids information that conflicts with it. This stance helps organizations operate in a chaotic environment, which is typical in the early stages of R&D, where both the technical potential and the market potential are highly uncertain. But when it comes to business model experimentation, the same dominant logic can play a double-edged role, and following this logic too blindly can lead to companies losing the potential value use of technology without clearly conforming to the current business model.

---

## Enterprise performance scale

---

### Business performance

---

#### Short-term financial performance

- D1. Compared with major competitors, the company's operating net profit is higher
  - D2. Compared with the main competitors, the sales profit of the enterprise is higher
  - D3. The company has a higher operating cash flow than its main competitors
  - D4. Compared with major competitors, the return on investment of enterprises is higher
  - D5. Compared with major competitors, the operating costs of enterprises are lower
- 

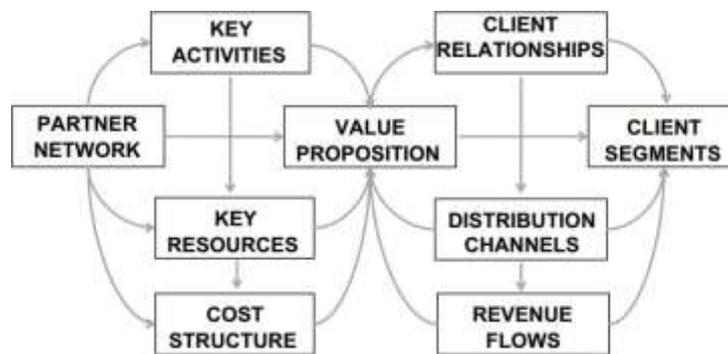
#### Long-term market performance

- D6. Compared with major competitors, the sales growth rate of enterprises is higher
  - D7. Relative to the main competitors, the company maintains a high long-term market share
  - D8. Compared with the main competitors, the company's new product development is more successful
  - D9. Compared with the main competitors, the market expansion effect of enterprises is better
  - D10. Compared with the main competitors, the company's employees have a better career development
  - D11. The politics and public relations of enterprises are better than those of their main competitors
- 

It's easy for managers to recognize the right business model, but its development is resisted because it conflicts with the mainstream business model, or in stark contrast to the allocation of fundamental assets that support the mainstream model, which seems to indicate that, in fact, they don't even know what the right business model should be. In either case, whether the obstacle is chaotic or obstructive, the way forward is through the verification of experiments. Actively testing to explore emerging markets with new potential configurations of business model elements allows companies to learn ahead of the rest of the market and begin to generate new data that can drive their change process.

### **Landing of new business models: experiments with business models**

If managers want to work hard to overcome these hurdles and try other business models, how do they build these experiments? A promising approach is to build business simulation diagrams of business models to clarify the processes behind them, making them an experimental source that considers alternating combinations of processes. An example of this business simulation approach is Alex Osterwalder, who consulted and spoke extensively on business models and business model innovations after his paper was published in Lausanne. His empirical focus makes use of 9-point decomposition, which is characteristic of a business model, as shown in the figure.



Another approach to business simulation comes from the concept of component business modeling. IBM, an early leader in this field, has published a white paper on the method and is even patenting the method. The following diagram shows a visual description of the IBM component business pattern view.

	<i>Business Administration</i>	<i>New Business Development</i>	<i>Relationship Management</i>	<i>Servicing and Sales</i>	<i>Product Fulfillment</i>	<i>Financial Control and Accounting</i>
Direct	Business Planning	Sector Planning	Account Planning	Sales Planning	Fulfillment Planning	Portfolio Planning
Control	Business Unit Tracking	Sector Management	Relationship Management	Sales Management	Fulfillment Planning	Compliance Reconciliation
	Staff Appraisals	Product Management	Credit Assessment			
Execute	Staff Administration	Product Delivery	Credit Administration	Sales	Product Fulfillment	Customer Accounts
	Product Administration	Marketing Campaigns		Customer Dialogue	Document Management	General Ledger
				Contact Routing		

This modeling approach provides a proactive way to actually experiment with alternative business models, enabling companies to simulate possibilities before actually investing in a specific investment. It also has the great advantage of explicitly visualizing the underlying processes of the business model. Therefore, the theoretical considerations for configuring business model elements here can become more concrete.

### Business Model Innovation Scale

---

#### Business model innovation

---

##### Efficiency-based business model innovation

- A1. The Company actively takes measures to reduce the price of products or services
- A2. The company attaches importance to providing convenient and efficient services for customers
- A3. The Company actively takes measures to reduce the search and communication costs of partners
- A4. The Company actively takes measures to reduce the search and communication costs of customers
- A5. The Company actively takes measures to reduce the asymmetry of information

A6. The Company actively takes measures to speed up transactions

A7. How to reduce the cost of products or services is the primary issue considered by the company

---

Tools such as business simulations help explain business models, but they do not by themselves facilitate experimentation and innovation in these models. To do this, managers need to have organized processes and enough authority to conduct experiments, and then need to have the ability to act on the results of those tests.

### **Cases of business model innovation: Xerox Corporation**

By working with Xerox Corporation, especially their (now retired) CTO Mark Miles (Mark Myers) in a collaborative research project, I came to understand the importance of business models. The study examines in detail around five of Xerox's research laboratories around the world<sup>35</sup> History of activities carried out by technical projects. By design, I chose projects that were deemed unworthy to pursue within Xerox, either pushed out of the company or after Xerox's internal support was terminated, and if the researchers wanted to continue with the project, I was allowed to leave. Then, after these projects left Xerox, I tracked their subsequent experiences. Ultimately it became clear that many of the research projects in Xerox's R&D system (and proved to be quite valuable economically) differed in one important way from the projects that left Xerox: the former fit well into Xerox's business model, while those "Get out there" this is not the case. Therefore, to understand the success or failure of Xerox's technological innovation, it is necessary to fit Xerox's business model.

In the 1980s, Xerox was known as the "Copier Company" and it produced industry-leading copiers and printers. While these products are profitable in themselves, the real big money lies in the consumables they require (especially toner and paper): therefore, the higher the amount of copy or print of each machine, the higher the return on Xerox. As a result, Xerox's business model is broadly looking for technologies that enable more copies and faster. Xerox's Business The pattern allowed them to develop faster machines capable of handling very high copy volumes and with maximum machine uptime and availability. This has led to a strong cognitive bias within Xerox, whose business model has hindered the development of low-speed personal copiers. As Xerox's then-CEO later observed: ". Our profits come from how many copies were copied from those machines. If the copier is slow to copy, that's the money out of our pockets.

At the same time, however, Xerox is funding important industrial research activities – most notably those carried out at its Palo Alto Research Centre (PARC). In human-machine interfaces and other areas that will be key components of the personal computer industry. Some of these jobs, such as semiconductor diode lasers, and technology that helps users identify the source of a copier's failure, allowing users to repair the copier without having to call an external service technician, has really helped the copier and printer business. But much of the work developed at the time later came a point-and-click user interface as well as Ethernet, Postscript, and many other technologies, lacking any obvious way to increase the quantity or quality of Xerox copier copies.

In fact, Xerox simply did not know how to take advantage of these technologies, which became "orphaned" within the company. While the study was reliable and well publicized, Xerox's sales and marketing executives did not see a clear way to profit from it. 35 of these projects were either sent to the door, or the scientists working on them were fed up with internal delays and took the projects to the outside world themselves. While

my research has found that most of them end up unsuccessful except for Xerox, some of them later become very valuable. It's worth noting that none of the worthwhile projects have adopted a business model similar to Xerox copiers or printers — their journey to success involves identifying very different business models for each project.

Based on this research, I think a company gets at least the same value from developing innovative new business models as it gets from developing innovative new technologies. However, as with Xerox, companies have more processes and a stronger common sense of how to innovate technology than they do about how to innovate business models. That's the point of this article: companies need to develop the ability to innovate business models, innovative ideas, and technologies.

### **Commercial Landing of New Technologies: Property Rights Market and Technology Licensing**

All in all, the story of technology licensing development represents a larger phenomenon, namely business model innovation based on intellectual capital. Incentives associated with the sale of IP through market mechanisms prompt innovators to switch to common technologies and enable implementers to acquire specific expertise in the process of specialization. In the distant past, the problem-solving nature of technological development meant that many products and services were developed to meet pre-specified customer needs. Under such a system, the accidental successful spillover of technological applicability is mainly unplanned. In contrast, today's products and services are often driven by scientific and technological breakthroughs that are inspired by design- or simulation-based visions of possible applications, rather than customer-defined problems.

Market-oriented scale

---

<b>Market-oriented</b>
<b>Reactive market orientation</b>
B1. Our goal is to make customers satisfied
B2. We have been concerned about whether the promise of satisfying our customers has been fulfilled
B3. Different functional departments of the company often exchange successful and failed customer service experiences with each other
B4. We develop our strategy based on an understanding of customer needs
B5. The company market evaluates customer satisfaction with the products or services provided by the company
<b>First-mover market orientation</b>
B6. We are constantly innovating, even at the expense of giving up the products we already have
B7. We pay more attention to those untapped markets
B8. We constantly strive to find additional needs that customers are not yet aware of

---

Ideas depend on more basic scientific and technical knowledge that makes the underlying technology more universal and abstract in terms of concrete applications. As a result, safety software and new simulations generate drug compounds that are based more on suitability theories than on customer-defined questions, so the underlying technology

is not only inherently more general, as the initial spark of technical insight is theoretical, but also less clearly associated with a particular personal application. This provides innovators with a broader market of potential opportunities for customization (and thus a wider range of opportunities to capture value).

## CONCLUSION

At the heart of our argument is that business model innovations from technology trends occur simultaneously in a sector's market, its upstream and downstream industries, and ultimately the overall architecture. This process is especially important when business model innovation involves trading knowledge assets. The current technology market, which focuses primarily on the licensing of patent titles, is an early example of a process that will continue to unfold in the future. Companies that innovate business models to take advantage of new markets have the potential to lead in developing new knowledge exchange industries, while also enjoying unprecedented opportunities to develop basic resources based on knowledge capital as the basis for long-term sustainable competitive advantage. Shaping future business model innovations will require the same corporate insight, entrepreneurial dynamism, and indomitable commitment to implementation as breakthrough business models of the past. However, several other major elements of business model innovation are likely to emerge in the next five to ten years.

In short, business model innovation is critical, but it is difficult to achieve. The barriers to changing business models are real, and tools like pattern analysis are helpful, but not enough. Organizational processes must also change (these tools are not mapped). Companies must adopt an effective approach to business model experimentation. Some experiments will fail, but as long as failures provide new approaches and understanding within the constraints of the bearable loss. With discovery-driven planning, companies can model uncertainty and update financial forecasts as experiments create new data. Implement an experiment-based initial results creation action that generates new data that may point to previous potential opportunities.

Organizations need to identify internal leaders for business model change in order to manage the results of these processes and provide the company with a new and better business model. If local goals are to be subordinated to the goals of the organization as a whole, the judgments and judgments of middle managers must be based on empirical data. At the same time, organizational culture must find ways to embrace the new model while maintaining the effectiveness of the current business model until the new model is fully taken over. Only in this way can business model innovation help companies get out of the "traps" of early business models and resume growth and profits.

## REFERENCE

- Li Wenlian, Xia Jianming Business model innovation based on "big data"[J]. China Industrial Economics, 2013(5):13
- Zeng Tao . Enterprise business model innovation: a more important core competitiveness [J]. Economic System Reform, 2006(2):4
- Tian Zhilong, Pan Yuanhua, Gao Haitao Discussion on business model innovation pathways[J]. Economics and Management(01):42-45
- Li Zhiqiang, Zhao Weijun Collaborative research on enterprise technology innovation and business model innovation[J]. Chinese Soft Science, 2012(10):8

- Li Man . A brief discussion on business model innovation and the construction of evaluation index system[J]. Modern Finance and Economics : Journal of Tianjin University of Finance and Economics, 2007
- Ren Xiang . Business Model Innovation of Digital Publishing in the Era of Mobile Internet[J]. Published Wide Angle, 2012(2):4
- Digitization On the Innovation of Digital Publishing Business Model of Local Education Publishing House . 2010.
- Du Lanying, Qian Ling Research on Business Model Innovation Based on Value Co-creation [C]// Academic Forum on the 30th Anniversary of The Founding of Scientific and Technological Progress and Institutional Reform and Scientific and Technological Progress and Countermeasures . CNKI, 2014:20-22.
- Shen Tuo Different Platform: Business Model Innovation in the Mobile Internet Era [M]. People's Post and Telecommunications Publishing House, 2012
- Xia Yunfeng . Business model innovation and strategic transformation [M].Xinhua Publishing House, 2011
- Hu Shiliang Innovation and reform of mobile Internet business model [M].People's Post and Telecommunications Publishing House, 2013
- Jiang Shangrong, Qiao Han, Zhang Si, et al Frontiers of Value Co-creation Research: Ecosystem and Business Model Innovation[J]. 2021(2020-2):3-17.
- Liu Jianguang, Ma Deqing, Chen Changjie, et al Research on the Innovation Path of "Internet +" Business Model Based on Rooted Theory—— A Case Study of Didi Chuxing[J]. 2021(2016-7):30-34.
- Zhu Yixia, Zhou Fei, Sha Zhenquan The Relationship between Cross-border Search and Business Model Innovation: The Perspective of Absorption Capacity[J]. 2021(2016-11):92-104.
- Luo Min, Zeng Tao, Zhou Siwei Enterprise Business Model Innovation: An Explanation Based on Rent Theory[J]. China Industrial Economics, 2005(7):9
- WEI Wei . Business model innovation[J]. Marketing Case Study, 2010(2):2
- ZENG Tao Enterprise business model innovation: a more important core competitiveness [J]. Economic System Reform, 2006(2):4
- SUN Yongbo .Business model innovation and competitive advantage[J].Management World, 2011(7):2
- KONG Lei . Research on Enterprise Business Model Innovation[J]. Farm Science and Technology: Mid-10, 2017(10):1
- Zeng Ping, Chen Shuwei, Sun Kuili Corporate Social Capital and Business Model Innovation: Mechanism and Path Research[J]. Journal of Finance and Economics, 2017(2):10

# REFLECTIONS AND SUGGESTIONS ON CHINESE SUMMER CAMP TEACHING MODE

**MA LIYA**

*DaLi University , Dali City, Yunnan Province, China*

*Email: 417617442@qq.com*

## ABSTRACT

Summer camp is a comprehensive form of Chinese language and culture education in a short period of time. It can be said that summer camp is an important part of the international promotion of Chinese language, but there is still very little effort, discussion and research in this area. In fact, summer camp is a common, flexible and creative format. It is of great practical significance to study the summer camp Chinese teaching, the design of courses and activities, and the compilation of textbooks.

**Key words:** Chinese, summer camp, teaching, thinking, suggestions

## INTRODUCTION

"Summer camp" in the teaching course designed to improve language ability is given priority to, summer camp students' Chinese level is uneven, difference is very big, because the time is short, no longer period and adjustment period, should through the design of the comprehensive and systematic curriculum and activities, and effectively promote the Chinese learning, makes every effort to achieve the best effect. Comprehensive and systematic courses and activities mean that the teaching and activities of summer camp are designed as a comprehensive and interrelated whole. The teaching principle of summer camp is determined by the nature and characteristics of short-term Chinese teaching, so it is required that the teaching should follow the five principles of strong Chinese cultural characteristics, short-term, targeted, comprehensive and flexible.

## LITERATURE REVIEW

### **2. Body of paper**

#### **2.1 Organize instruction according to the characteristics of the camp and the needs of the students.**

2.1.1 Schedule study time flexibly. Compared with the long-term classes, summer camps have obvious time limits, which can be two weeks, three weeks, one month. The time can be flexibly changed as conditions, funds, and demands are not approved. In general, three week and one month classes have the most.

2.1.2 Different classes are arranged according to students' Chinese level and small class teaching is implemented as far as possible. Summer camp is subject to time, number of people, funds and other conditions, it is difficult to organize classes according to the specific degree of students. At the same time, the summer camp almost always has to face

the differences between students' countries, cultural backgrounds, majors, Chinese proficiency and incomplete textbooks. Therefore, Chinese proficiency test should be conducted for the college level of the summer camp before the class starts, and small class teaching should be conducted according to the results (generally, no more than 15 students in one class).

2.1.3 Design a variety of forms, rich content of the total teaching mode. In fact, "summer camp teaching mode" does not only refer to short-term Chinese teaching, but is a kind of total teaching and activity form with Chinese teaching as the main focus, mainly including Chinese learning, cultural learning, new professional courses learning, tourism and visiting activities. This is the most distinctive feature of summer camp teaching which is different from the general sense of teaching Chinese as a foreign language.

2.1.4 Highlight the position of "Chinese culture" in the summer camp. Summer camp teaching is different from ordinary Short-term Chinese classes in that summer camp bears a more distinct Chinese culture teaching task, which is determined by the characteristics of teaching Chinese as a foreign language. Just come to China for a student, to correct their one-sided understanding of Chinese culture and eliminate their rejection of culture in the heart, only in the language teaching is obviously not enough, so in language teaching at the same time, consciously, targeted to give students broad understanding of Chinese culture background conditions, enhance students' understanding of Chinese culture and identity.

## **2.2 Chinese teaching and activities should be considered when designing summer camp courses.**

2.2.1 Comprehensive principles of course and activity arrangement should be reflected. The study and activities of summer camp should reflect a high degree of comprehensiveness, which is mainly reflected in Chinese lessons, cultural lessons, tourism and the activities of the second class and the third part. There are two types of Chinese courses: Chinese and conversation. Chinese focuses on the practice of basic grammar and common sentence patterns, while conversation focuses on pronunciation training and improving the practical ability of language. Cultural courses mainly focus on calligraphy, Traditional Chinese painting, martial arts, music, dance and cooking. The arrangement of travel and activities should not only take into account the sightseeing of scenic spots and historic sites, but also pay attention to the combination of leisure travel and language practice. This comprehensive principle of the arrangement of courses and activities can first meet the diverse requirements of summer camp students' learning objectives and interests, so as to achieve the purpose of obtaining what each needs and everyone gains.

2.2.2 The systematic principles of course and activity arrangement should be reflected. The so-called systematicness is to design various courses and activities as a whole, and attach importance to and explore the connection between them: Chinese class, tourism activity and cultural class are an interactive whole, which cannot be separated. The study of Chinese course cannot be separated from the study of cultural content, and at the same time, it promotes the study of cultural courses, which can learn things that cannot be learned in language and cultural courses. Cultural courses also provide knowledge for understanding and grasping the deep cultural connotation in tourism activities.

2.2.3 Should embody the principle that language learning is central. In the design of "Summer Camp Chinese teaching" courses and activities, we should also keep in mind that language learning is the center, and use language learning to connect various relationships to promote language learning. The principle of taking language learning as the center should pay attention to the following aspects: (1) In the arrangement of the

overall content, Chinese lessons should take a relatively large proportion and occupy a relatively favorable time;(2) The setting and content of other cultural courses should correspond with Chinese courses as much as possible. For example, "Calligraphy course" should be considered to cooperate with Chinese course;(3) In the arrangement of teaching staff, Chinese teachers should be considered as the main part, and the participation of Chinese teachers in other activities should be increased.

2.2.4 Principles and methods to be followed in Summer Camp Chinese teaching. Flexible and vivid forms should be adopted in Chinese summer camp teaching. In the teaching of Chinese summer camp, it is easy to regard summer camp simply as a crash course, which is often not considered from the rich and systematic teaching content. There are often too much and too complete teaching content, teaching methods "fill", "fill" and "fill", and many flexible and lively forms of summer camp. It should be said that summer camp is a type of short-term classes, but summer camp is not equal to short-term classes.

**2.3 Students' Chinese learning time should be strengthened to eliminate the obstacles to learning Chinese.**

**2.4 Teaching should be organized in a targeted way.**

**2.5 Comparative teaching method should be adopted more in teaching.**

In summer camp Chinese teaching, since it mainly focuses on a certain point or fragment, it is often necessary to use appropriate medium language or compare with students' mother tongue in order to speak deeply and thoroughly. For the Summer camp for Thai students, our teachers are required to have a certain foundation of Thai language and a certain conversational ability, which will play a great supporting role in our Chinese teaching in the summer camp and shorten the distance with students quickly.

## CONCLUSION

Students of Chinese summer camp often attend the summer camp not only for learning, but also for traveling in China. Therefore, it is a key to deal with the relationship between traveling and teaching, and to use the traveling time for language practice. How do you combine the two rather than separate them? We believe that Chinese summer camp should combine tourism with education. Teachers should participate in students' tourism activities, so it is one of the conditions of "combination of tourism and teaching" to let teachers participate in tourism activities. When setting up and arranging tourist spots, we should pay attention to the content of classroom teaching as much as possible and establish a mutually reinforcing relationship between the two. In the process of sightseeing, teachers should raise more topics, guide students to express their own meaning, practice and study closely combined.

## REFERENCES

- Li Jinchao. On "short-term cultural teaching" [J]. Journal of huaqiao university (philosophy), 2002,2
- Jin Min. Short-term Exploration of Chinese as a foreign language [J]. Peking University Business Network
- Wu Yinghui, Yang Chunji. Study on the rapid propagation mode of Chinese teaching in Thailand [J], world Chinese teaching 2008,4
- Guo xi. Some problems on localization of Chinese teaching [J]. World Chinese teaching 2008,2

- Wu Yingcheng. Teaching Chinese as a Second Language in a multilingual Environment: Empirical teaching and Model in Singapore [J]. Journal of Yunnan Normal University (Teaching and Research of Chinese as a Foreign Language) 2009  
3
- Zhang Yanping. Research on short-term Intensive Training mode of Chinese Teaching in Southeast Asia [J]. Journal of Yunnan Normal University (Teaching Chinese as a Foreign Language and Research Edition) 2009, (1)

# DISCUSSION ON THE BASIC GOVERNMENT SERVICES MODE UNDER DIGITAL GOVERNMENT

WEI SUN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: JAM\_SUN@126.COM*

## ABSTRACT

The realization of government services under the digital government is a key step for China's government to transform its functions, improve its governance capacity and build a service-oriented government that people are satisfied with. Digital government service construction situation in our country are described in this paper, from the economic development, the government, the traditional means of governance mode, thoughts, technology, level analysis of practical problems existing in the digital government services, especially for the construction of the grass-roots level of government service, and to solve above problems puts forward some countermeasures for the feasibility of perfecting the government affairs service under digital government.

**Keywords:** digital government service, government governance, service equalization

## INTRODUCTION

### 1. Instruction of current situation of digital Government in China

From the end of the 20th century to the beginning of the 21st century, western countries and China began to promote the process of digital government governance. From low level to high level, digital government governance can be divided into four stages: initial stage, interactive stage, transaction processing stage and network stage. At present, western countries are in the process of transaction processing or the transition from transaction processing to network stage, most developing countries are in the process of interaction or the transition from interaction to transaction processing stage, and most underdeveloped countries are in the initial stage. China's current digital government governance is generally in the process of transition from the interactive stage to the transaction stage: the economically developed areas in the eastern provinces and the central and western provinces are in the interactive stage or transaction stage, while the economically underdeveloped areas in the central and western provinces are in the initial stage or interactive stage. This is the result of the joint development of the material level and the organizational task level of digital government governance network.

"Building a digital government is an inevitable result of the deep integration of technological development and modern governance. It is also the common choice of major countries in the world to improve the business environment and enhance national soft power." At present, more than 20 provinces, autonomous regions and municipalities in China have successively issued relevant plans for the construction of digital

government, injecting new vitality into the development of national e-government [1].

a. Current situation of digital government network construction in China

a) 1 Physical network construction

After more than ten years of efforts, the physical network system of China's digital government has been basically constructed. From the perspective of government and society, the system can be divided into government internal network and government external network, and from the perspective of administrative level, it can be divided into national e-government transmission backbone network and local e-government transmission network. From the perspective of professional fields, it can be divided into the business network of the Party Committee, the people's Congress, the government, the CPPCC, the court, the Procuratorate and so on.

1.1.2 E-government network can also be called a professional digital governance network, by the party committee, National People's Congress, the government, the Chinese people's political consultative conference, court, procuratorate of government business network, its main functions are: to government departments at all levels of internal office, management, supervision, decision-making and coordination between the departments or provide a platform, and deputy special administrative departments at or above the provincial level office needs to provide a platform. Since the beginning of the new century, the construction of government Intranet in China has been further accelerated, and the Party committees, people's congresses, governments, CPPCC, courts and procuratorates at all levels have built relatively complete business networks under the leadership of the central government. The main function of government extranet is to provide a platform for government departments at all levels to carry out social management and public services. At present, China's e-government extranet has connected 53 central government departments, 31 provinces, autonomous regions, municipalities directly under the Central Government and Xinjiang Production and Construction Corps. With the further development of digital government governance network construction in China, this network will cover more local government departments and governments at all levels, and continue to maintain the leading position in the development of digital government governance in China.

1.1.3 Transmission networks governed by digital government. The transmission network consists of the national transmission network, local transmission network and professional service network (the service network of party committees, people's congresses, governments, CPPCC, courts and procuratorates). These three components interweave with each other, presenting a network form, and to a certain extent to achieve a better integration of information resources in some fields.

1.1.4 Organization of task-level network construction

Governments at all levels can provide many public government services through government Intranet and government extranet. The following takes the construction of local government public service networks as an example to show the current situation in this field.

1.1.5 The deepening of understanding and steady progress in the construction process. In recent years, some developed provinces and cities, such as Beijing, Shanghai, Zhejiang, Jiangsu, Shandong and Guangdong, have continued to increase investment in building public service networks. These provinces and cities have adopted a series of measures to speed up the construction of public service networks based on digital government governance network at the material level and to provide public services needed timely and effectively. In general, these provinces and cities are ahead of the less developed provinces in the central and western regions in the construction of public

service network on the basis of deepening the understanding of the construction of public service network, relying on sufficient human, material and financial resources. Meanwhile, western provinces such as Yunnan, Shaanxi and Xinjiang have also stepped up efforts to build public service networks. Compared with the economic developed provinces in eastern, western provinces in the process of construction of public service network face real difficulties such as vast and sparsely populated, and do not have enough manpower and material resources and financial resources as the support, but has a certain "advantage of backwardness", can draw lessons from the eastern province of experience of the construction of public service network, avoid walking the detours. In addition, China's western provinces have a large number of natural resources and tourism resources, which can be used to obtain the funds needed to build public service network. After obtaining the funds, human resources and technology needed for the construction of public service network should be created through introduction or self-cultivation in order to narrow the gap with the economically developed provinces and cities in the east in the process of the construction of public service network.

1.1.6 The network management mechanism of digital government governance is gradually improved. In general, the network management mechanism of the economically developed eastern provinces and cities is more complete than that of the economically underdeveloped western provinces, but the local governments of the western provinces have made great progress in this aspect, such as: Chengdu focus on building participating in the process of digital governance, diverse work system of modern management, public sector and private sector governance body after participating in the governance system, the government departments can with the aid of network manage ZhengPing timely, accurate understanding of the social public opinion, timely and effective response to social concern, significantly improved the level of digital governance [2]. With the rapid development of digital government governance in western Provinces of China, the gap between the management mechanisms of digital government governance in eastern and western provinces will gradually narrow, which promotes the improvement of China's management mechanism in this aspect.

1.1.7 Governance capacity is growing and costs are falling. After entering the 21st century, with the acceleration of China's digital government governance process, the government's governance ability has been greatly improved, and the cost of governance has gradually decreased. Take Chongqing as an example, in January 2002, Chongqing announced that paper official documents would be abolished in the process of municipal government office, and official documents would be reported and issued through digital government governance network. This move is ahead of other provincial governments and significantly cuts the cost of providing public services to the public.

## **1.2 Problems and causes of promoting digital government governance in China**

### **1.2.1 Problems faced by China in promoting digital government governance**

1.2.2 The integration of digital government governance network is difficult. The large difference in population density leads to the obvious difference in the difficulty of digital government governance. Most of China's population lives in the east and southeast of the line from Heihe to Tengchong. The population density in the west and northwest of this line is very low, and there are even some depopulated areas in Qinghai, Tibet and Xinjiang provinces and regions. In this case, it is difficult to promote national governance with the help of digital government governance process. For example, the population density of central and eastern provinces is very high, and it takes a lot of manpower, material and financial resources to provide public services for so many people through

digital government governance network. The population density of western provinces is small, and it is difficult for the public services provided by the digital government governance network to cover all the public in these regions. If the coverage is forced, more infrastructure for the construction of digital government governance network should be built. Differences in population quality also caused a lot of difficulties for the advancement of digital governance, such as: economic backward areas of the public generally by the education level is low, illiterate or semiliterate are difficult to enjoy the digital governance network to provide public services to the public, in these areas of digital government governance is difficult to effectively improve.

There is a big gap between the economic development level of the eastern, central and western provinces in China, as well as between different regions within each province. The unified deployment of digital governance promote the framework of the central government, but the difference is obvious in different parts of the economy development in our country, the regional governments to mobilize the manpower and material resources and financial resources is not balanced, causes in the construction of digital government governance network resources is not balanced, the construction of digital governance network schedule also differ. The level of digital government governance in economically developed areas is obviously higher than that in less developed areas, resulting in an obvious information gap in China. Before the integration of the national digital government governance network, it is necessary to realize the integration of the digital government governance network within the provinces, and then gradually realize the integration of the whole country. This process faces many difficulties, and it will take a long time to achieve the goal of national integration [3].

1.2.3 The theoretical basis of digital government governance needs to be strengthened. After beginning the process of digital governance in our country, academic circles to respond quickly, many scholars of our country to promote digital governance has advantages, difficulties and should adopt the way of study, put forward different views, a series of debate, but it has not yet formed a unified understanding in some ways. Academic circles shows "schools of thought contend" state, with the advancement of led digital governance without the compliance in seeking theoretical support, it is difficult to judge which view is correct and effective, and the local governments in promoting the process of digital governance in their thought was right, the highly effective theory as the basis. Finally, digital government governance presents a situation with local characteristics.

There is no unified standard to follow and complete management system to promote the process of digital government governance. The process of digital government governance in China is no longer in its infancy, but the specific unified norms that should be followed in this regard have not been formulated, and most of the existing relevant documents fail to provide details. This situation is one of the reasons for the significant differences in the process of digital government governance. In the absence of norms, some problems in the management system of digital government governance block the progress of this process. At present, under the relatively general management system established by the central government, local governments have greater authority to construct a more specific management system according to the local actual situation. As a result, economically developed areas can mobilize sufficient resources to support this process, and their management system can be better constructed in accordance with the system of the central government. On the contrary, it is difficult to mobilize sufficient resources in economically underdeveloped areas, which limits the construction of their management system.

The measures to promote the process of digital government governance are not perfect, and the capability of national software enterprises is weak. Since China started to promote the process of digital government governance, digital government governance has made great progress, but the government's promotion and supervision of this process is still insufficient, which leads to some problems that block the process of digital government governance. At the same time, China's national software enterprises are weak, mainly manifested as: low technical level, imperfect function, difficult to receive the due effect in the process of use; Poor software sustainability; Software maturity needs to be improved; Low software usability; The openness of software is poor. These problems make it difficult to gain strong support for the advancement of digital government governance [4].

1.2.4 The talent training mechanism of digital government governance is not mature, and the talents of digital government governance in central and western provinces are scarce. At present, some problems caused by the immature talent cultivation mechanism of digital government governance have been increasingly concerned by the academic circle, but these problems in reality have not been effectively solved, and many local governments lack relevant talents in the process of promoting digital government governance. Due to the lack of digital government management talents, it is difficult for some western local governments to obtain strong professional technical support in the process of governance, and some governments are reluctant to hire non-government technical personnel in the process of digital government governance for fear of divulging state secrets, which makes it difficult for the governance process of these regions to advance quickly. On the other hand, although Chinese governments at all levels have built a digital government governance network, paper documents are still mainly used in the daily uploading and transferring of government affairs, and few government departments completely collect, receive and summarize official documents through the digital government governance network. This dual operation greatly increased financial expenditure and resulted in higher administrative costs. An important reason for this phenomenon is that the skill level of civil servants cannot meet the requirements of e-government work, "especially the information skills and knowledge of civil servants in grassroots government departments are poor" [4]. As the concrete promoter of digital government governance, the level of information knowledge of these civil servants directly affects the level of digital government governance to a certain extent. In the process of digital government governance, some civil servants do not have a strong sense of responsibility and service consciousness, and do not have a firm belief in safeguarding public interests. They fail to regard safeguarding public interests as their own responsibility and fail to regard serving the public as the primary goal in the process of digital government governance. The existence of these situations has blocked the advancement of digital government governance process.

"Digitalization is the orientation and target of the people's government, the integrated form and development direction of the modernization of government governance, the leading and dominant component of digital China and digital ecology, and the core element of the new path of digital development" [5].

## **LITERATURE REVIEW**

### **Discuss on the current situation of grass-roots government services**

In China under the background of the development of the society, the innovation of social management mode is the inevitable choice of social development, the CPC

Central Committee and the State Council comprehensive arrangement deployment deepening public to strengthen e-government service, throughout the country fully combined with the actual, all show ingenuity, rapid construction of government affairs service system, standardize the public resources trading markets, has made a great contribution for the local economic and social development. For grassroots government service, mainly including off-line (traditional face-to-face service) and on-line service (digital government service) presents the following characteristics.

### **1. Status of off-line government services:**

Establish a focus at all levels of government affairs service center is currently off-line the principal means of government services, construction of government affairs service center is a complicated system engineering, it involves the reform of the administrative system, administrative benefit adjustment change update, administrative way, administrative concept and working mechanism of innovation, is a revolution of their own government, is a strong measure for the government's own construction, the effective carrier. The construction and development of government service centers is related to the reform of the administrative examination and approval system, reflects the innovation of social management in the new era, and interprets the CPC's governing philosophy of putting people first, scientific development and keeping pace with The Times. At present, the grassroots government affairs service system basic establishment in China, each district (county) established the government affairs service (the names of the different provinces may be different, if some named XX government data administration, some named XX bureau of administrative examination and approval, etc., but the basic function is the same), lay a foundation for promoting the construction of a service-oriented government, provides the guarantee. At present, China has basically formed a two-level government service system at district (county) and township (town and street office) levels. In some areas, village-level convenience service stations are being built to carry out free agent services for villagers' groups, forming a three-level government service network at district (county), township (town and street office) and village (community) levels.

### **2. Difficulties and problems in offline government services**

Although the construction of centralized government service middle school has achieved good results, it has greatly improved the convenience of handling affairs and the sense of satisfaction and gain of the people. However, many difficulties and problems have been found in the process of advancing the work. The main performance is as follows:

2.1 The relevant government departments are not fully aware of, authorized, cleaned up and stationed. Leaders of some units and departments do not fully understand the importance and necessity of the work of the government affairs service center, the service matters of the department are not fully cleared, the authorization of the dispatched personnel is not sufficient, and the requirements of "two centralized and two in place" and "one must advance and one must authorize" are not fully met. To some extent, it affects the service function of the center and the effective promotion of the reform of the administrative examination and approval system.

2.2 There is a contradiction between the existing infrastructure and the development needs of transforming government functions, building a service-oriented government and providing multi-directional services for the common people. Administrative service offices and facilities at all levels of county and village cannot handle the matters to be handled in the center as required.

2.3 The government Affairs Service Bureau undertakes too many

administrative functions, which to some extent affects the development of government affairs service disclosure, government affairs service management and other major functions, and is not conducive to the deep and thorough, detailed and practical, refined and strong service business.

2.4 The management system, operation mechanism, service mode and other aspects need to be further expanded and standardized in the process of extending to the service institutions at the two levels (town and street offices) and village (community);

2.5 We need to strengthen the government service workforce. With the continuous development of economic society, social division of labor is becoming more and more fine, professional requirements are becoming higher and higher, district (county), township (town, street office) the existing grassroots establishment is particularly scarce. Especially township (town, street office) convenient service center service team construction difficulties [6].

2.6 The people's increasingly strong demand for cross-domain general office cannot be met.

### **3. Countermeasures and suggestions**

3.1 Strengthen top-level design and clarify functional positioning. With the construction of digital government, relevant functional agencies, specialized agencies and working teams have been set up from central to local levels. The functions and institutional nature of government service centers will be further clarified and scientifically defined, and the construction and development of government service centers will be gradually legalized, standardized and scientific.

3.2 Improve the government service system. The district (county) level government service system is an interconnected and complementary service network for the convenience of the people based on the district (county) government service center as the "core", the township (town, street office) service center for the people as the support, and the village (community) service station for the people. Only by establishing a perfect government service system and giving full play to its role, can we meet the service requirements of grassroots people. We will develop and improve the government service system, and make the government service system one of the public service infrastructure projects, with scientific planning and step-by-step implementation. Layer upon layer to implement responsibility, strengthen inspection supervision, excellent assessment rewards and punishments. To improve district (county) government affairs service centers in accordance with the requirements of first-class facilities, efficient and convenient, standard service and public satisfaction; Attention should be paid to solving the problems of facilities and equipment, standardized operation, network approval and convenience for the masses of township convenience service centers; Pay attention to solve the village (community) convenience service station responsibility implementation, funding security, free agent, sincere service for the people.

3.3 Expand service functions. District (county) level government service centers must expand their functions if they are to truly become comprehensive platforms for providing high-quality and efficient government services to enterprises, legal persons and the masses. All kinds of assessment, capital verification, notarization, legal aid, facsimile, printing, printing and binding of intermediary institutions and their supporting services related to the preconditions of administrative examination and approval should be brought into the government service hall to set up service Windows; On the basis of meeting the needs of service venues and facilities, public services, medical insurance, social insurance, tax collection and management as well as the payment of water and

electricity fees, viewing fees and communication fees, which are closely related to the people, should be brought into the Windows of government service centers as far as possible to solve the problem of people having to handle affairs in multiple places.

3.4 Strengthen the construction of service team. The government service center is the window of government affairs, the bridge between the government and the people, and the place where millions of people care about. Due to the particularity of the work of the government service center and the difference of the stationed personnel, it is easy to lead to the violation of rules and regulations of the staff, so supervision and management must be strengthened. The system and mechanism of window staff management should be further discussed to maximize management benefits. In the construction and management of government service team, the main responsibility of stationed departments is fully reflected, and the center focuses on daily management. The key point of daily management is system construction and system implementation. We should form a regular and standardized management pattern in which people are managed by system and people are handled by system. Carry out humanized management, persist in educating people with activities, agglomerating people with feelings and guiding people with public opinions; We will resolutely investigate and prosecute acts that are out of order, administrative inaction, disorderly conduct, and violations of the provisions on honesty and self-discipline. In strict management at the same time, from the political, life, work to give window staff more care, more support, seriously solve the window workers care about life welfare, political treatment problems, fully mobilize the enthusiasm of the window workers.

3.5. Strengthen the construction of digital government services and innovate service models, such as the Xiaowu government service system in Dongying city, Shandong Province, to truly form cross-domain universal operation, so that data can run more and ordinary people can run less. Focus on "on-line do" innovative services, copy the physical window service "panoramic experience" using the "Internet +" thinking, digital empowerment launched 5G "government xiao House". At present, all the counties, districts and remote towns of the city have set up 20 "government affairs dawn houses", which can consult and handle 2,074 high-frequency government services of administrative examination and approval, human resources and social security, medical insurance, taxation and other departments and units, realizing the universal handling of municipal government services. At the same time, through "Xiao House " and 20 cities in 8 provinces to achieve "inter-provincial operation [7].

#### **4. Status of digital (on-line) Government Services:**

In 2017, the Chinese government proposed to promote the integration and sharing of government information systems in accordance with the requirements of the 19th National Congress of the CPC to build a modern economic system and a service-oriented government that the people are satisfied with, so as to enhance the people's sense of gain through efficient and convenient government services. Providing government service is the most basic function of service-oriented government, and the level of government service is related to the quality of public participation in political life. Under the background of internet-based digital era, digital government service provides a new idea for innovative service-oriented government governance mode. However, the government's government service should not only make use of digital technology advantages such as "Internet plus", but also use Internet thinking to innovate the mode of government government service from the overall and fundamentally, and improve the level of government service and social governance ability.

#### 4.1 Policies related to digital government services

Since July 2015, The State Council has begun to combine digital with government services, and has made a number of important decisions. The policy points out the general direction of the development of government services, and also puts forward a new service model of digital government services (mainly using Internet and other digital technologies). Relevant policies and measures are progressing year by year, and layers of in-depth, so that government services under the development of digital has a good policy environment. While the government service under digital government enjoys full policy support, its practice has also achieved preliminary results. The CPC Central Committee and The State Council have made comprehensive plans to further deepen the Internet plus government services initiative and advance the reform of delegating power, improving regulation and providing services. The Implementation Plan for Further Deepening the "Internet + Government Service" and Promoting the reform of "One Network, One Door and One Time" of Government Service [8] and the Guiding Opinions of The State Council on Accelerating the Construction of the National Integrated On-line Government Service Platform [9] were issued successively. The document "Implementation Plan for Further Deepening the" Internet + Government Services "and Promoting the reform of" One Internet, One Gate and One Time "of government Services clearly stated that by the end of 2018, initial results had been achieved in the reform of" one Internet, one Gate and one Time "and the successful experience of advanced regions had been effectively promoted across the country. By the end of 2019, In key areas and high-frequency issues, "one network, one door, one time" is basically implemented. "State council on accelerating the integration of on-line government service platform construction guidance" file clearly put forward the "on-line government service platform to speed up the construction of national integration, departments in each region, the government affairs service platform construction of standardization, standardization, intensification and connectivity, formed the national government affairs' a net service".

#### 4.2 Construction status of government services under digital government

"Push" Internet + government service "to carry out information huimin pilot implementation scheme of lists, including Beijing, Shanghai, guangzhou, foshan, 80 cities for the pilot cities," Internet + e-government service "after three years of construction has achieved certain success, emerge a batch of innovation is typical of government services. Among them, the government services provided by guangzhou's "National Integrated Xiaowu Government Service System" have realized "one-window universal operation, cross-domain universal operation and equalization of services". Foshan city has created an innovative government service model of "one door through all", "one network through all", "one end through all" and "one end through all"

#### 4.3 Significance of digital government service

4.3.1 Promoting government services under "Internet plus" is conducive to accelerating the transformation of government functions. Political democracy and people-oriented are the basic requirements for building a service-oriented government. Through digital technology and other information technology, government information is more open, making government work more transparent, protecting the people's right to know, improving the enthusiasm of the people to participate in political life, at the same time, it can enable the people to obtain the government information resources they need, and promote the realization of people-oriented government service principle. The orderly promotion of government services is the embodiment of the concept of "delegating power and providing services" by governments at all levels, and is a crucial

step to realize the transformation of China's government into a service-oriented government.

4.3.2. Digital government services can effectively improve the government's social governance capacity. Big data has become a new way to improve government governance capacity, according to the Outline of Action for Promoting Big Data development issued by The State Council. Digital service is on-line e-government service platform, on the basis of the integrated use of big data technologies, with the data set and sharing as the way, connect the government and the citizens to provide systematic and efficient public service, optimize the work flow, building intelligent, facilitation, transparent governance and operating mode, To provide the society with the management and government service products under the new mode and new governance structure, so as to realize the sharing of government information by the whole people. Digital government services are a powerful driving force for the modernization of the government's social governance capacity, and are conducive to building a social governance pattern featuring joint contribution, participation, and shared benefits.

II.4.3.3. Digital government services can provide people with better and more convenient services

At present, the principal contradiction facing Chinese society has evolved into one between unbalanced and inadequate development and the people's ever-growing needs for a better life. The public's demand for government services has increased greatly, and its quality requirements have also gradually improved. Digital government services make full use of networked, intelligent and digital technologies to promote data sharing among departments and achieve the sharing of government information. "One station", "one network" and "integrated" services are used to effectively solve the problems that people find it difficult to get things done, difficult to get certificates, and complicated procedures, so that people can run errands less, get things done more easily, and provide people with more high-quality and convenient government services [11].

4.4 Practical problems existing in digital government services and analysis of their causes. It is difficult to achieve "smooth sailing" on the road of reform and innovation, and a series of problems will be encountered in the realization of the new governance mode of digital government service.

First of all, reflected in the ideological understanding, market subjects for digital government services there is a cognitive bias; Secondly, in the existing technology, it is difficult to achieve data unification of all levels of government and departments, and it is difficult to ensure information security; Finally, in terms of the simplification of means, digital government service lacks the support of social forces.

#### 4.4.1. There is a cognitive bias in digital government services

First of all, many people will focus on digital government affairs service "Internet +", namely the government affairs information data processing technology, and ignored in the process of e-government services using the Internet in the "customer first" thinking, is still in "government as the center" of the traditional governance mode of thought, mechanically to e-government services as a simple task, They do not pay attention to the needs of the public and lack the awareness of providing services according to the needs of the public.

Secondly, digital technology is only a technical means to achieve government services. In digital government services, we can not only think that to improve government services only need to improve information data processing technology, but ignore the quality level of government services.

#### 4.4.2. Existing technology is difficult to realize the unification of government

information data and ensure information security

On the one hand, due to the differences in work functions between governments at all levels and departments, they have specific objectives when collecting data. Taking different departments as an example, the social security department focuses on understanding residents' work status and social security status, while the civil affairs department focuses on understanding residents' marital status. The inconsistency of information collection goals of governments and departments at all levels leads to the disunity of information data standards, which makes it difficult to integrate government information data, while the technology of current data exchange platform is difficult to achieve the unification of government information data.

On the other hand, the information recorded in government information is closely related to the lives of citizens. With the popularity of the Internet and the surge of network users, the crisis of government information security is getting worse and worse. The openness of government service websites provides convenient conditions for hackers to invade. Once interfered by technology, it will lead to the disclosure of citizens' letters, with unimaginable consequences [12].

#### 4.4.3. Single means of construction, lack of social support

At present, digital government services are mainly constructed and operated by relevant departments of governments at all levels. Although relevant technical construction guidelines have been issued, specific operations still need to be controlled by personnel within government departments. This means of simplification, that is, only relying on the government to provide government services, does not make full use of the advantages of social resources. It not only makes the government work burden heavier and work efficiency cannot be improved, but also may lead to the actual effect of government services is not satisfactory.

4.4.4 There are about 60,000-70,000 government portals in China, so it is difficult for the public to find the services they need in the face of such a huge government system; There are also great regional differences in service matters. Many governments have published power lists, but there is no unified standard for each government to publish power lists. Our guidelines are inaccurate and irregular. Heavy release, light handling, portal services a lot of items, but can do things down is not much.

The degree of public participation and perception is relatively low. Now the government does digital government affairs service to do more fire, but the public does not participate too much. The National Academy of Governance has conducted interviews with ordinary people, asking them whether they are willing to use government services on-line. Most of them said they are not willing to use government services on-line or do not trust them. According to a statistics made by The National Academy of Governance from the provincial government, most regions leading in the development of e-government or digital government services are mainly concentrated in some developed provinces along the eastern coast, and the regional distribution of the development of digital government services is also uneven [13].

#### 4.5 Countermeasures to improve government services under digital government

How to grasp the connotation of digital government service accurately. First, this government service is by no means a single public service. It also includes regulatory services and governance. Of course, management is also a service, the biggest service. The core of digital government service is intelligent management and intelligent service, which means intelligent management and intelligent service. Its main development logic mainly highlights "three one" one application, an acceptance, a network to do. The three ones are solid, not planar. And "three one" behind the logic is

the number one application, it must have a strong amount of data support. Only the number one application, a single acceptance, database and shared platform support, can support the one-stop operation. So the core meaning of this "three ones" is single number, small window, big network. Its basic logic is to use digital technology to provide government services, realize resource sharing and collaborative government operation, build a new government service system and create a new government service model [14].

In order to further improve the government service on the basis of digital technology, it is the key to solve the practical problems it faces, and at the same time, it is necessary to look into its future development, so as to realize the sustainable development of digital government service in the long run.

#### 4.5.1. A correct understanding of digital government services

First of all, we should have a correct understanding of digital government services. While using Internet and other digital information technologies, we should pay attention to the embodiment of the concept of "user first" in government services. The purpose of digital government services is to provide more convenient and high-quality government services to the people, solve the problems that people find it difficult to get things done, get certificates, and have complicated procedures, and make it easier for them to run errands less.

Secondly, change the traditional governance concept of "government as the center" and establish a new concept of "people-oriented" service-oriented government. The government needs to fully understand the needs of the public in government services and provide targeted services according to the needs of different people [15].

Finally, deepen the "sharing" thinking, break the ideological shackles between regions and departments, better use digital technology to realize the openness and sharing of government service information resources, and provide more convenient services for the people.

#### 4.5.2. Integrate government information resources to realize data communication and business communication

Government service application systems of various functional departments of the government cannot be interconnected, and it is difficult to realize the sharing of government information. Only by integrating government information, can we break the state of "separate government rules and regulations, smokestacks, and information islands".

First of all, the government should issue comprehensive normative documents on unified government affairs information collection standards and data processing standards, so as to promote the standardization of government affairs service information data sharing.

Secondly, in accordance with the "centralized and unified, integration and sharing, joint coordination, safe and efficient," the general requirements and extend the function of the data exchange platform, configuration is optimized, built including resource catalog system, data exchange center, the lead management system management, data transmission of five parts of the national unified data exchange platform [16].

#### 4.5.3. Use legal and technical means to ensure the security of government information.

Only under the premise of ensuring the security of government information can digital government service be effectively realized.

First of all, to improve the laws and regulations of government information security, China has not yet a separate national information security law. In the process of sharing government information, data need to be temporarily stored on the Internet. At this time, the security of important information closely related to citizens' life will be

threatened by uncertain factors. Moreover, in this era of "big data", the amount of information is surging, so there is an urgent need for a law to ensure the security of citizens' information.

Secondly, it is necessary to improve the security technology of the on-line government information sharing platform, not only to establish a strict security protection wall on the website, to prevent the illegal invasion of foreign technical personnel to steal information data, but also to carry out real-time monitoring of the website background, to prevent the "inside thief" black box operation.

4.5.4. Introduce social forces to realize the diversification of government service means. The government gives full play to the role of professional social forces by purchasing services from the market. Bring social forces into digital government services.

First, in the construction of the on-line government platform, we can use the network construction technology of advanced enterprises in the society to design the on-line government platform and a series of supporting data information database that meet the requirements of the government. The second is to introduce advanced information security protection technology in the society in terms of information security. For example, alipay, wechat Pay and other protection systems. Making full use of social power can not only effectively reduce the burden of the government, but also improve the administrative efficiency and improve the quality of government services.

### **3. Discussion on the development trend of grassroots services:**

At present, there are six representative innovative service models in China. The first is represented by Yinchuan, Jiangsu, xuyi of the administrative examination and approval bureau model, the country is now a total of six places in the mode of administrative examination and approval Bureau. The second is the government service model represented by guangdong and Zhejiang provincial on-line hall. The third is the one-door service model represented by Shanghai, Foshan, Guangdong and Jiangmen (focusing on streets, towns and grassroots). This model does not change the system, but takes technology as a springboard, integrates big data into it, and provides support for decision-making departments through data implementation. The fourth is the service model represented by the national integration of government affairs in Panyu district, Guangzhou city, Panyu provides "face to face, no contact" service through the national integrated Xiaowu platform, realizing full face to face service and eliminating window service. Fifth, the social security and employment service model of Weihai city in Shandong province has been applied deeply. Weihai residents can pay social security and medical insurance reimbursement through on-line payment, service hall, service turnover and mobile App. The sixth is the village service model represented by Badong, Hubei. By delegating on-line authority to towns and villages, this mode enables information to run more and the masses to run less [17].



*The above picture showing panyu grass rooted services mode [18]*

## CONCLUSION

The government service under the digital government is not only an indispensable part of the government's innovation of social governance, but also the basic interest demand of the public to enjoy convenient and high-quality government service. With the rapid development of Internet digital technology, the combination of government services and "Internet plus" and other digital technologies is in line with the trend of The Times. Only by correctly understanding the digital government service and accurately grasping its restrictive factors, can we effectively promote the further improvement of government service, realize the goal of transforming government functions, innovating social governance modes and building a service-oriented government that people are satisfied with. Digital government services under the digital government, especially digital government services at the grassroots level, have a long way to go. We need to seize development opportunities, have the courage to meet challenges, and constantly improve the level of government services and improve people's satisfaction.

## REFERENCES

- Zhan Wang, 2021 China E-Government Forum and the First Digital Government Construction Summit Words.
- Li Na. Chengdu: From "Internet Political Inquiry" to "Internet Political Management" [N]. Workers, Paper, 2017-03-27 (1).
- Jin Jiangjun, et. Theory and Method of E-government [M]. Beijing: People's University of China Academic Press, 2009:265.
- Zhou Ziling. "Internet +" and the educational function of public cultural service [J]. Chongqing Journal of China Three Gorges University, 2016 (6): 92-93.
- Dai Wei. On the Improvement of Government Public Service Capability under the Background of mobile Government affairs [J]. Electrical and Software Engineering, 2013 (2): 58.
- Zhang Xiaojin, Keynote Speech on Government Digital Transformation and Governance Modernization, 2021, Digital Government Development Conference
- Ren Changhong, "Service to the Door" Keynote speech, 2021 Digital Government Development Conference

Briefing on The Transformation of Government Functions and the Reform of "Delegating Power, Delegating Power and Providing Services" of The State Council, "The Last Mile of Extending Government Services to the Grassroots through Multiple Channels", 152 :12

National Development Of China [2018] 45

National Development Of China (2018) 27

Zhang Yuxiong. "Internet + Government Service" Development Status and Service Model Analysis[J].Modern Telecommunication Technology, 2016,46 (4): 56.

Xu Yudong,Long Dong. An approach to government information disclosure from the perspective of service-oriented government Study on the relationship between the two parameters [J].Literature Education (II), 2017 (9) : 155.

Li Rui. The Dilemma and Prospect of "Internet +Government Service" [J].labor Security World, 2017 (36):49-50.

Kan Xuan. Research on the Status, Problems and Countermeasures of Internet + Government Service [J].Science and Technology Innovation and Productivity, 2017 (9):9-10.

Chen Yuanyuan.Internet + government service: current situation, challenges and development ideas [J] journal of shijiazhuang tiedao university (social science edition), 2017,1 1 (3):88-89.

Liu Jianxuan. "Internet + Government" Report (2016) Current Situation and Development Trend of mobile government: 3

Wang Yukai. Intelligent governance and intelligent service: to build a new mode of government service Informatization Construction, 01 (2017) : 34

The picture from the Guangdong TV report 2021.11.26

# TO DEVELOP AN INNOVATION MANAGEMENT STRATEGY FOR TRADITIONAL BOOKSTORES

YU NIE

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1622990569@qq.com*

## ABSTRACT

Basically, the main purpose of this report is to develop innovation management strategy for Sisyphus Bookstore in order to help it become the best bookstore in China. During this report, there are several contents included, such as an introduction (explain what types of organization Sisyphus Bookstore is, why chosen this bookstore to do research and what existing and potential problems need to improve), the definitions of key research question, aim and objectives (which help to have a clear direction to do research), research methodology (what kinds of methods have been used in this process and what contributions they did), principal findings (what knowledge and experience gained by through using methodology), analysis and discussion (to analysis data gathered and to determine what aspects help to develop strategy ), recommendations and conclusion (to deliver the final results of design-led branding strategy developed and to evaluate it).

By through the all processes, numbers of data have been gathered after analysis, there are plenty of professional knowledge and precious experience gained which help to do extend research in the future study.

**Keywords:** Develop, Innovation Management, Strategy, Traditional Bookstores

## INTRODUCTION

### Executive Summary

To develop an innovation management strategy for Sisyphus Bookstore is my dissertation topic. To begin with, Sisyphus Bookstore is a private chain of bookstore which was founded in 1993 in Zunyi, China, with the effect development, it owns 39 bookstores in 14 cities around China. However, by following with the development, more and more problems in the Sisyphus Bookstore haven been realized, such as lack of a good brand identity (three different logotypes make people confused), many weaknesses of their store atmosphere, and service without attractive, etc. That is a huge limitation in their development as an successful chain bookstore, therefore, if these problems can be solved, it will not only improve the customer experience but it will attract more new customers to this bookstore in the future, and these problems can be solved by developing a suitable strategy for Sisyphus Bookstore. These are my motivations for choosing this topic as my dissertation topic.

After the deeper research, in order to have a clear guidance, there are three aspects have been defined:

(1) Key research question: How can design be used to help Sisyphus Bookstore deliver a better brand experience and enhance customer satisfaction?

(2) Aim: To develop an innovation management strategy for Sisyphe Bookstore in China in order to make it become the best bookstore retailer in China.

(3) Objectives: There are 7 objectives in this subject: To carry out a innovation management audit for Sisyphe Bookstore current situation; To determine best practices in terms of innovation management strategies of other bookstores in China; To ascertain customers real needs(both physical and emotional) and satisfaction means in related to brand strategy; To identify key trends and how they can be applied to enhance the current brand experience; To understand what kind of innovation management strategies leading bookstores around the world currently offer their customers; To analyze data gathered from literature review and observation, according to that develop questions for questionnaire and experts interview in the next stage. Then, to develop a design- led brand strategy for Sisyphe Bookstore; To develop questions for questionnaire and expert interviews which are based on data gathered from literature review and observation, in order to collect more information which can help to develop an innovation management strategy at the end.

After that, the research methodology has been developed which included three stages-- general research (Define key research question, aim and objectives, and literature reviews), specific research (case studies, observation, questionnaire surveys and expert interviews) and development.

As for principal findings, which included five areas-- findings from literature review, case studies, observation, questionnaire surveys and expert interviews. There is an innovation management strategy will be developed at the end by using 'WeChat'.

### 1.1 Background

Sisyphe Bookstore is a private chain of bookstore which was founded in 1993 by Ye Xue in Zunyi(a second tier city in Guizhou province, in the Southwest of China which has experienced the dramatic impact of modernization and the far reaching effects of globalization) and the bookstore is about 20 square meters (baike.baidu.com). The founders of this bookstore name it "Sisyphe Bookstore" which comes from a Greek mythology about Sisyphus, who roll the stone up the hill day by day, never tired, never give up. They would like to create a bookstore which has same spirit as this story.



*Figure 1: This picture delivers the original Sisyphe Bookstore in Guizhou, Zunyi. It is clear that this bookstore was traditional looking and use handwriting as their bookstore's logo design.  
(Source: www. winshang.com)*

In 2007, this is a critical year for Sisyphe Bookstore. Weizhu Jin joined Sisyphe Bookstore( now he is the chairman and CEO of Sisyphe Culture Communication

Company), under the auspices of him, Sisyphus Bookstore transition from traditional bookstore changing into new one, which means Sisyphus Bookstore aim to setup a "culture+ commercial" bookstore (gznews, 2016). For example, every Sisyphus Bookstores have a same pattern of how to arrange books, cafe and creative products, which means the proportion of books accounted 80% in bookstore, cafe shop accounted 15% and creative products accounted 5% in total.

Weizhu Jin aimed that, "Consumers cannot use the 'diversification' to summarize the mode of Sisyphus Bookstore, yet it is undeniable that "Booart Life" products and cafes offered an alternative reading experience for readers." (gznews, 2016). There are over 700 staff in Sisyphus Bookstore and 5 million VIP members. Sisyphus Bookstores are not only just selling books but also have their own coffee brand named "up-coffee" and creative products called "Booart Life". They are 345 bookstores in 70 cities (Chongqing, Guizhou, Chengdu, Luzhou, Shenzhen, Xiamen, Fuzhou, Nanning, Zhaozhou, Changsha, Wuhan, Hangzhou, Shanghai and Shenyang).

Until now, Sisyphus Bookstores have more than 300 bookstores and 300 of which contain coffee shops and all are profitable in China (wap.ce.cn). As a private chain bookstore, it developed rapidly during 28years (from 1993 to 2021) even some new competitors includes online bookstores and traditional bookstores, such as Dangdang online bookstore (the biggest online bookstore in China), Waterstones (a British book retailer), Foyles (in the UK), Utrecht (the most famous bookstore in Tokyo) and Hatchards (in the UK).

### 1.2 Sisyphus Bookstore's Weaknesses and Problems

Sisyphus Bookstore developing 345 bookstores around South of China during 28 years, which developed dramatically in this technology era. The biggest reason is that they use the pattern of 'culture+ commercial' so well and which should be kept (or adjust lightly) in the future's development. However, there are many problems existing could be improved. According to the feedback which from Sisyphus customers, the atmosphere of Sisyphus Bookstores have some issues they not satisfied with, such as the signs of book cataloguing are unclearly, it is unsuitable for those kind of readers who want to do find books they need immediately, because it may take much time than they imagine (chinaqk.org). What is more, Leo Burnett, a famous advertising guru once said, "Before you can have share of market, you must have share of mind." Which means branding facilitates memory recall, thus contributing to preferred selection and improving customer loyalty (Doyle, 2011). For instance, Sisyphus Bookstore lacks of brand identification to accommodate more customers which will lead to many of consumers cannot remember this bookstore or visit this bookstore, like Neumeier said "Brand is a person's gut feeling about a product, service, or company" (Neumeier, 2003). According to Armstrong, brand is more than just name and symbols. A strong brand could use its power to capture consumer preference and loyalty (Armstrong, 2004).

There is another vital problem need to change that this bookstore lacks of brand promotion which embodied the main ways of their promotion quite narrow, because they mainly use two methods to promote bookstore-- they update the bookstore information on a website named 'douban' (www.douban.com), and they hold reader-meetings by inviting celebrity to Sisyphus Bookstore (doc.qkzz.net). On the other hand, the bookstore lacks of effective social medias or social platform to promote Sisyphus. For instance, one of research showed that in 2012, Chinese writer Moyan which is the first Chinese who won the Nobel Prize in literature. At that moment, most of customers desire to read his works immediately, however, for some reason, they cannot find Moyan's books in Sisyphus bookstore but they can find that in online bookshops. This kind of phenomenon may not

only have an adverse effect on book selling but also the customer loyalty. What is more, they do not even have technology supply (such as their own website, application, or any digital service) which is inconvenient for customers. "Design services must continually adapt and adjust according to client needs." (Hands, 2008). For example, nowadays, many people prefer to do reading by downloading electronic books in their kindle. Therefore, Waterstones offer readers many books of electronic vision (such as eBooks, Mp3 audio, Audio CDs) and customers can choose what kind of vision or media they want ([www.waterstones.com](http://www.waterstones.com)).

### 1.3 Motivation

There are three main reasons that why I want to develop a design-led brand strategy for Sisyphus Bookstore. First of all, book as a vital part since people start reading should be protect and carry on, even electronic books account big proportion in their daily lives nowadays.

However, paper book, as a part of culture in traditional reading which cannot be instead of by electronic books, even the digital wiles of e-books are looking increasingly attractive to citizens. Secondly, there are many issues of innovation management strategy in Sisyphus Bookstore should be improved (for example lack of innovative management), that is not only in order to make traditional bookstores have a better development in the future, but also make it inspired other retailers when they suffering with similar problems.

Thirdly, by according to Robert Jerrard and David Hands, innovation is an important part in several business cultures that can make some positive strategic benefits for organizations (Hands, 2008). Take service design of Foyles bookshop as an example, there is a sense of privilege in being able to offer their readers have one-on-one interactive services, and this kind of service cannot be experienced online ([www.foyles.co.uk](http://www.foyles.co.uk)).

## 2. Key Research Question, Aim & Objectives

### 2.1 Key Research Question:

How can innovation management be used to help Sisyphus Bookstore deliver a better experience and enhance customer satisfaction?

### 2.2 Aim:

To develop an innovation management strategy for Sisyphus Bookstore in China in order to help it become the best bookstore retailer in China.

### 2.3 Objectives:

Objective 1: To carry out an innovation management audit for Sisyphus Bookstore current situation.

Objective 2: To determine best practices in terms of innovation management strategies of other bookstores in China.

Objective 3: To ascertain customers real needs (both physical and emotional) and satisfaction means in related to brand strategy.

Objective 4: To identify key trends and how they can be applied to enhance the current brand experience.

Objective 5: To understand what kind of innovation management strategies leading bookstores around the world currently offer their customers.

## RESEARCH METHODOLOGY



Figure 1.1: This table shows information that the holistic process during this subject, which includes three stages (general research, specific research and development), in order to gain some general knowledge and some details of methodology which used in this subject.

This figure gives information about an overall plan of the subject during the beginning to the end. The scale of introduction and conducting research is the stage of general research which included to define key research question, aim and objectives and some literature reviews, in order to gain general knowledge on the background and narrow down the research area.

In the second stage-- specific research and practical research, there are many methods have been used to gather data, in order to answer the key research question most effectively and to evaluate the findings (Onwuegbuzie and Leech, 2005). This stage will include 6 case studies analysis, 100 questionnaires and expert interviews of 6 experts from different fields, and observation in four bookstores, in order to do deeper data gathering. By through analyzing innovation management audits to determine that which frameworks and theories suitable for Sisyph Bookstore, then to develop a design- led brand strategy to it.

The last stage is development, by evaluating data gathered and summarize of principal findings to have a deeper and better understanding in the whole process of this subject, which can help to create a suitable and effective design-led branding strategy for Sisyph Bookstore at the end.

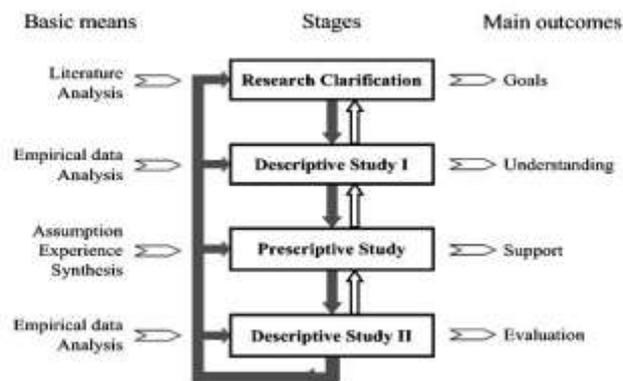


Figure 2.1: This framework is for design research management and is used as an integrate part of my design research which can help the basic analysis of Sisyph Bookstore have a structure to follow with. (Source: Blessing, L.T.M, 2009)

**SWOT Analysis: 4 Stages**  
*Brainstorming → Grouping → Analysing & Prioritising → Synthesising*

External & Future Internal & Current	Factors	<b>Strengths</b> <ul style="list-style-type: none"> <li>• Existing customer base</li> <li>• Robust distribution channels</li> <li>• Strong brand reputation</li> <li>• Good sales team</li> <li>• Effective marketing</li> </ul>	<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Low profit margins</li> <li>• Heavy debt burden</li> <li>• Dated manufacturing equipment</li> <li>• Slow product development</li> </ul>
	Issues	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Good market development prospects</li> <li>• Product line extensions</li> <li>• Product line monopoly in some outlets</li> <li>• Preferred supplier status</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Failure to deliver new products</li> <li>• Product reliability problems</li> <li>• Financial constraints</li> <li>• Staff get demoralised</li> </ul> <p style="text-align: right;">(Baxter, 1995)</p>

Figure 2.2: SWOT analysis is an useful tool when analyzing Sisyphé Bookstore, because in this way, its advantages, disadvantages, opportunities and potential problems will become apparent, which is good for next stage analysis.

## LITERATURE REVIEW

According to figure 2.1 (Blessing, 2009), the main focus of the research is literature review. Based on the aim, key research question and objectives of this subject, there are some books and articles (about design, brand and bookstore) which would be easier to understand the data and to provide theoretical basis, make this project more professional and reliable. These books included plenty of theories of innovation management which are really helpful in methods justifying and extension theories developing:

- (1) Managing Strategic Design Holland, R & Lam, B (2014)
- (2) Design Thinking Lockwood, T (2010)
- (3) The Design Agenda Cooper, R and Press, M (1995)
- (4) Design Management Exploring Fieldwork and Applications Jerrard, R and Hands, D (2008)
- (5) Change by Design: how design thinking transforms organizations and inspires innovation Brown, T and Katz, B (2009)
- (6) DRM (design research management), a design research methodology Blessing, L. T. M and Charkrabart, A (2009)
- (7) Brand New Olins, W (2014)
- (8) Brand Risk Abrahams, D (2008)
- (9) How Brand Grows Sharp, B (2010)
- (10) Brands and Branding Clifton, R (2009)
- (11) Building strong brands Aaker, D. A (2010)
- (12) Creating a Brand Identity Slade, (2016)

### 3.2 Case Studies

According to Hands, case studies have explained how individual products families and indeed services have significantly benefited from consideration of design issues (Hands, D, 2008). In this stage, three different successful book retailers have been chosen, there are Waterstones, Foyles, Hatchards, Ulterch, Burberry and dangdang Online Bookshop. As for case study, by though the researching of these organizations, it is clear to see what aspects have been used design-led brand strategy, whether effects success,

how they use design-led brand strategy effectively and is it suitable for Sisyphé Bookstore's current situation.

### 3.3 Observation

It is good to visit bookstores as a customer, because it is easier to see the existing problem when people thinking like a "customer" and know what customer need exactly. The real feeling could be show out directly, such as the how they feel about atmosphere, service, the guide signs and books they looking for. There are several bookshops will be observed, such as Sisyphé Bookstore, Waterstones, Foyles, Hatchards. By though this way,

### 3.4 Innovation management Audits

- \* Customer journey
- \* SWOT analysis( figure 2.2)
- \* Competitor analysis( figure 2.5)
- \* Brand audit frameworks( figure 2.3, figure 2.4)

### Brand Audit elements simplified

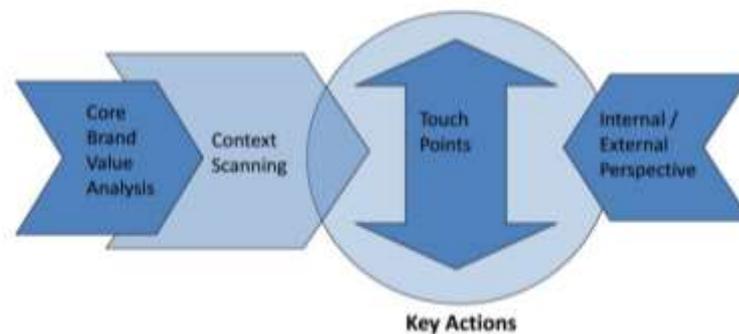


Figure 2.3: There are some key elements should be focus on when analyze a brand which could help to evaluate a brand effectively which can improve Sisyphé Bookstore current brand position analysis. (Source: John Boulton, 2015)



Figure 2.4: This framework could help Sisyphé Bookstore to analyze how brand audits could provide special view into the visual and commercial status to brand.

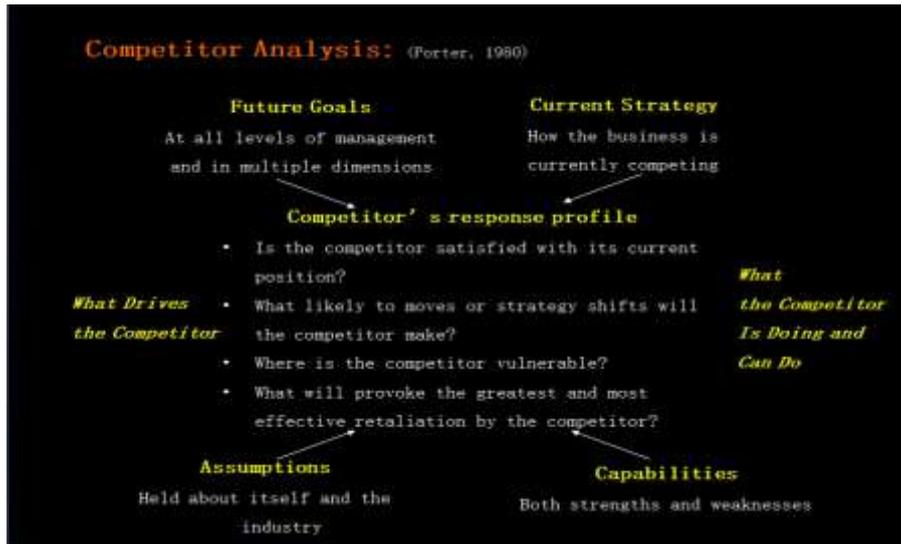


Figure 2.5: It is clear that through the competitor analysis, the result could be use to compare with the Sisyphé Bookstore which easily to see what kind of strengths and weaknesses its competitor has and Sisyphé Bookstore can be carry on or avoid based on that. (Source: Chris Holt, 2015)



Figure 2.6: This is the brand equity framework which can help Sisyphé Bookstore to evaluate its brand identity and to improve their brand position by through analyzing these aspects. (Source: Slade. B, 2016)

## FINDINGS

Though those methods used, it is very clear that many theories and authors' views could show a better understanding after deeper research, also, the subject will be improved if it could combine well with theories. For example, the problems of subject could be improve and fix which based on corresponding theories analyzing and make it suitable for them.

### 4.1 Findings from Literature Review

#### Design Management:

\*In increasingly competitive marketplaces the ultimate aim of the company is to offer its customers products and services that they want to buy and value in preference to what is on offer from competitors(). Therefore, using design effectively will enable the

company to increase the perceived value of its product offerings and maintain the competitive advantage. It is widely accepted that the successful organization will no longer focus on lowest cost but will strive to provide added-value products and services that distinctive and appealing. Based on that, when develop design strategy for Sisyphé Bookstore in the future cannot only focus on how to create some unique points their competitor did not have, the added-value products and services cannot be neglected as well.

\*Design can be powerful tool for managing and coordinating how the business looks and communicates to its customers. Design is also a useful instrument that could be harnessed to help the organization realize and evaluate potential future business opportunities, in both the service and manufacturing sectors. At a strategic level, design can help maximize the company's potential to deliver desirable products and services to new markets whilst also defending existing markets against overseas competitors. According to that, Sisyphé Bookstore need to consider about how to use design building a good communication with their customers which can help Sisyphé Bookstore to evaluate the potential business opportunities, after that, to discover its personalization which could help Sisyphé Bookstore against competitors and good for Sisyphé Bookstore's development in the long-term.

\* Armstrong said that 'Brand is more than just name and symbols.' Brand represents everything that feelings about a product and its performance. As Kotler suggests, 'Ultimately, brands reside in the minds of consumers.' Therefore, the real value of a strong brand is its power to capture consumer preference and loyalty (Armstrong, 2004). As Kotler (2003) suggests, 'Ultimately, brands reside in the minds of consumers.'. Gobe(2001) has said that 'Brand is brought to life for consumers first and foremost by the personality of the company behind it and company's commitment to reaching people on a n emotional level.' It is clear that if the brand identity of Sisyphé Bookstore need to improved, the first thing need to do is determining the real value of brand and to evaluate what kinds of factors can impact brand value.

\* Taking into consideration four dimensions of investigation: the wider environment context in which the organization operates; physical manifestations of design, focusing upon visual identity and communication material; the internal corporate culture and understanding of design; and, lastly, design management procedures and processes. These four important dimensions could help Sisyphé Bookstore has a better understanding about several elements which can influence the investigation of company, especially the evaluate stage.

### **Design Thinking:**

\* Managing design quality in the service sector is the art of matching people's expectations with an experience that is consistent across all the touch points that make up the service. What makes this complicated is that a services is "manufactured" at the point of consumption and is often created by a mix of digital information , products, and people-including staff and customers. When users are made part of the design team, the focus shifts from the perfection of each touch point to the journeys of use people go though when they interact with the service. Therefore, we work with potential users from the definition of the brief through to launch in order to validate the quality of our design work. In the end, our customers-centric measure of success is how much people love the service and are happy to make it part of their lives. It is clear that service sector is a vital part in design management, a successful service design should include an experience which is matched people's expectations. According to that, Sisyphé Bookstore need to improve their service design including more touch points for customers and a positive interaction between

customers and staff. In this way, they would develop a better journey for customers and build a strong relationship with them by through service design.

\* Customers become loyal because of the experiences they have as a result of these types of initiatives. A resonant brand creates an emotional connection for the customer. Successful customer service delivers an experience that makes the customers feel important. Marketing initiatives reach out to customers even as they help the organization better identify its customers. Quality-control processes minimize the risk that the customer will experience product failure. Customer relationship management systems ensure a consistent experience across all the customer's interactions with the business. In this case, Sisyphus Bookstore can learn that try to identify their customers and to analyze the interaction between customers and organization before developing customer service.

\*Positive experiences create the emotional bond that leads to customer loyalty. The product itself is your most valuable customer touch point, and creating a positive experience here is essential to building customer loyalty.

To talk meaningfully about the elements of user experience, we must incorporate this duality into the five planes (surface, skeleton, structure, scope, and strategy). Dividing the planes down the center allows us to fill in specific terms for the various elements, and it enable us to see how the elements work together to create positive emotional experiences that lead to customer loyalty. Therefore, it delivers a vital signal for Sisyphus Bookstore--the key to building customer loyalty is creating a positive experience first. According to Lockwood, T (2010), the product itself is the most valuable customer touch point. However, because of the products (books) from Sisyphus Bookstore have high similarity around the same area, they need to consider about other ways to building customer loyalty, and this theory addressed that to create positive emotional experiences could lead to customer loyalty, that could be a good way for Sisyphus Bookstore which will enhance their strategy in the future.

### **Managing Strategic Design:**

\* Big-D strategic design thinking can help a company come up with a unique and compelling promise. Most importantly that promise can be delivered consistently and confidently and all features of the experience designed to deliver a holistic compelling experience. A strategy for the design of a branded physical environment can encourage employees to behave in a desirable way. People are good at picking up clues from their surroundings and deciding how best to behave.

Since the cost of attracting new customers is generally higher than maintaining existing ones, it is in a brand's best interest to build strong relationship with customers. As peer-to-peer comments become increasingly important in the current market, it is vital to turn customers into loyal brand ambassadors. Therefore, in the further development of Sisyphus Bookstore can use big-D strategic thinking to maintain the relationship with employees, to develop stronger relationship with their customers and to use peer-to-peer comments turning customers into loyalty brand ambassadors.

\* The aim is to achieve bonding, rational and emotional attachments to the brand to the exclusion of most other brands. Customers with this high degree of bonding are likely to be advocates of the brand and are thus immensely valuable in spreading the brand reputation. On the route to reaching the "bonding" level, brands establish presence, relevance, performance and advantage. Presence is related to familiarity based on past trial, saliency or knowledge of the brand promise; thus awareness builds presence. Relevance means it meets the customers' needs, in terms of price and or other criteria set. Performance involves getting the product on to the customer's shortlist. Finally, before the

ultimate level of bonding, the brand seeks an emotional, rational or saliency- based advantage.

By following that steps, Sisyphé Bookstore need to analyze customer behavior and what are customers real needs before set goals, because they cannot achieve that without a clear direction about what kind of factors customer "need, want and must have". In this way, they could develop a brand strategy which suitable for customers and they are willing to accept.

#### 4.2 Findings of Design Management

First of all, according to Jerrard. B and Hands. D, innovation play an important role in organizations, a well- works innovation not only can add value for organizations, maintain the competitive around the same field, but also it likes a bridge which between company and customers to help each other communicate effectively(Hands. D, 2008). Take Foyles bookshop as an example, they offer their customers plenty of books which are from several fields and try to give the best they possibly to make people feel like they can find every kind of books they need. At the same time, Foyles creates a comforting atmosphere for customers by designing a wonderful inter space. However, Sisyphé Bookstore is lack of arranged by a good innovation strategy, it will lead Sisyphé to loss customers and profits for the long- term. And then, it is very important that to create many services which could make customers feel satisfy with. Lockwood( 2010) said that," Managing design quality in the service sector is the art of matching people's expectations with an experience that is consistent across all the touch points that make up the service."

To compare with online bookstores, high quality services become an advantage and an irreplaceable part in the traditional bookshops, which also could help maintain the relationship between organizations and customers. And the results of their measure is that people prefer to let services become a part of their lives more depend on how much they like or the services could bring them satisfaction. Foyles bookshop is a good example about customer service, on the basis of their concept-- they offered one-on-one personal interactive services and it is highly recommended around customers. As for Sisyphé, to relate with this theory, they could improve customer loyalty by designing better services for them.

#### 4.3 Findings of Brand Strategy

Brand experience includes the products, packaging, print communications, and digital interface, they are all collaborate to deliver a total brand experience. Somehow, positive experiences creates the emotional bond that leads to customer loyalty (Lockwood, 2010). Waterstones have a good practice in brand experience which achieved through the balance of variety and unity. For instance, there are plenty of different products in Waterstones, like books, coffee shop, stationery, and other creative products, yet it still maintain the unity of the brand.

Lockwood aimed that a completed brand audit should address three factors, which are: communication, performance and differentiation.' Communication' is about the frequency and consistency of brand presence and how it influences customers' perceptions. 'Performance' is about how brand deliver its promises and always satisfy or exceed expectation. 'Differentiation' delivered that brand should have its unique brand strategy and offerings(like products, services or experience) and that could makes it special and has advantage than others. Meanwhile, brand loyalty account a huge part of a successful organization and it is a key consideration when placing a value on a brand (Aaker, 2010).

#### 4.4 Findings of Case Studies

After the stage of case studies, numbers of data gathered from different areas which aims to define what aspects Sisyphé lacked and how to find solutions by gaining

knowledge and experience from other great examples such as these organizations which covered in case studies. During the whole process of case studies, six organizations from different areas have been collected in case studies with different specific aspects which are both relevant to the weakness parts of Sisyphé Bookstore or the parts of Sisyphé Bookstore which can be improved.

First of all, Waterstones is one of bookstores in the case studies, there are many reasons I chosen this bookshop. Basically, Waterstones has a long history (it founded in 1982) which means it own plenty of precious experience as for bookstore's development, also Sisyphé can take lessons of some problems which Waterstones suffered already and try to avoid the same mistakes happen. Waterstones had a tough time during 2012 to 2013, because they loss of 60 million pounds in these two years, and there is a main problem leads to this situation-- with the ubiquitous and fiercer competition circumstances, keep drudgery atmosphere without any change and the strategy of Waterstones has been extended until 2013 of every Waterstones bookshops that is far from enough. However, according to Sisyphé Bookstore manager Ya Liu, the development of Sisyphé Bookstore seems like existed similar situation with Waterstones, because it faces lackluster growth in recent years, which poses a dilemma for Sisyphé Bookstore. Then Waterstones made some decisions and reverse the decline, that inspired Sisyphé Bookstore to action. James Daunt, the CEO of Waterstones, he decided to develop a huge scale of transformation for all Waterstones bookshops which mainly includes three aspects:

(1) Atmosphere transformation, such as add more reading tables, reading lights, offer free wifi... all transformation they did are trying to create a comfortable and convenience place to their customers. Obviously, environment is a big advantage for a bookstore when comparing with electronic book retailers, therefore, a better atmosphere become a touch point for most customers who prefer to visit bookstores. Just like James said, "A good bookshop environment can make people enjoy their time here and linger longer in the bookshop, this is what Amazon cannot achieve." This is a wise way to retain customers in a long-term which can be used in Sisyphé Bookstore in the future;

(2) Enhance staff passion: James Daunt also decide that passing control power to managers of each bookshops, which means bookstore managers can design the window display and decide which area put what category books, because he want to see every Waterstones bookshops have their own traits. In this way, bookshop staff will feel like they are the participants and did some contributions to Waterstones in the transformation process, also they will have a strong feeling of morale to bookshop;

(3) Local characteristic construction: they have extremely different arrangement, design, touch point of Waterstones bookshops in different areas which based on the research of locations where bookshops from. Depends on different situation of each location, then set up effective and positive measures to enhance different bookshops' development.

With no doubt, the series of transformation are accomplished, Waterstones saved their losses and the sales of Waterstones increased by 5% to 10% (douban.com). Therefore, environment is a vital part in bookshops', because it is an advantage which online book retailers lacked, meanwhile, a good environment not only can improve customers' satisfaction but also it will contribute to enhance Sisyphé Bookstore's development in the future. Sisyphé Bookstore also need to consider these effective ways of transformation, different measures should be taken to improve their development of bookstores from different areas.

Secondly, there are two main actions of Foyles bookshop which deserves attention greatly:

(1) Interaction (by using digital supporting): they offer three audio-visual author pods, which customers can choose the book they like, then they will hear the author read it, they can watch the scenario of book at the screen at the same time. This is a wise way to attract people's attention immediately, makes them feel convenient and desire to discover more. Especially for children, after adding the audio-visual system in children's area they can enjoy their time here. However, Sisyphus Bookstore neglected this aspect obviously, because they do not offer any digital supply to their customers, it puts Sisyphus a great disadvantage (interaction and service failure decreases customer satisfaction) for their development.

(2) Cooperation: Foyles also cooperate with other corporations such as government, NHS, businesses and so on. During cooperate with other corporations, Foyles be responsible at books supply, which is not only extends their business but also solidifies the bookshops' position around different fields. This

Thirdly, Hatchards as a bookstore with a long history, they have numbers of merits deserve Sisyphus Bookstore to learn from. For example, (1) Brand identity / Brand position: Hatchards are unique bookshop in British, not only because they have extremely different logotype with other bookstores, but also they are the only supplier of books which reserved for British royalty. It is the unique selling point of Hatchards that helps customers define the difference between Hatchards and its competitors effectively, and when they think about Hatchards they may connect the high quality of books in Hatchards with the authority of royalty. When comparing with Hatchards, the problems of brand identity in Sisyphus Bookstore which cannot be ignore, such as lack of a clear brand identity-- three different logotypes in every Sisyphus Bookstores which makes customers feel confused, and Sisyphus also lacks of a touch point since their selling proposition "culture + commercial" have been used in other bookstores, they can learn from the example of Hatchards and enhance their touch point in the future's development.

(2) Service: the services of Hatchards are very caring and thoughtful, for example, Hatchards offers their customer worldwide delivery which ensure their customer (no matter from where) can enjoy buy books from Hatchards, and they offer free signature gift-wrapping service for customer, that is a thoughtful service for them who want to buy books for other as their gifts. Also they promise that every British books in print available to order, that is an exciting news for the customers who want to buy some British books which can be more of a hassle. In another side, Sisyphus Bookstore just have two benefits services for their customer-- the one is every Wednesday they offer 10% discount of every products in the bookstore for loyalty members and another one is some specific lectures free for customers. According to the feedback of customer, these two benefits of Sisyphus Bookstore are lacked of attractive for them because there are better services of other bookshops offered. Therefore, Sisyphus need improve their service for customer or it will become a potential threat in the future.

Dangdang online bookshop as Sisyphus Bookstore's biggest competitor which is one of case study in this project. There are three main advantages of dangdang online bookshop:

(1) Lower price: the books of dangdang are cheaper than books in most of bookstores.

(2) Category complete: dangdang is not only selling books, but also it selling make-up products, electronic products, foods and something like that which includes everyday necessities in people's daily life. This is what aspect Sisyphus hard to achieve even they set up "culture + commercial" system, yet they cannot cover as many as categories like dangdang did.

### (3) Fast and safe delivery

The team of dangdang promised their customers, the parcels will ship to them within 2 days delivery (without any accident), also the shipping fees are free for their loyalty customers, but even general customers, the shipping fees are very reasonable (with 2 pounds for anywhere).

Utrecht is the most famous bookstore in Tokyo that has a strong personality as a bookstore which is mainly selling art and design books. The two aspects followed are Utrecht's main differentiations:

(1) Art and design books collected from all over the world: the owner of Utrecht bookstore want to collect art and design books from different countries, then their customers can chose what they like in Utrecht without been anywhere. And he want to promote Japanese culture to customers as well, therefore, Utrecht also selling books which have good quality of contents but printed in small publishers that people easy to neglect.

(2) Gallery: the atmosphere of this bookstore is quite like gallery, because there are plenty of consummate paintings hang on the wall and they often hold some attractive exhibition in their bookstore. This kind of atmosphere is Sisyphé cannot achieve yet.

The last but not least, Burberry is the only one fashion industry of all case studies.

The reason I chosen Burberry is that the experience about amalgamates sub-brands.

As we all know, Burberry once have three sub-brands which are: Burberry London, Burberry Brit and Burberry Prorsum. Before they amalgamate these three brands, the sales of Burberry declined rapidly and customers hold the believe that these three sub-brands are not in the same level and not the high quality with the main brand Burberry. Therefore, the team of Burberry have action which is amalgamate these three sub-brands and only use the main brand Burberry. This action is successful, because after that, their brand cohesion force increased a lot which reflect in the sales of Burberry which increased dramatically after they amalgamate these brands. There is a similar situation Sisyphé faced, they have three brands in the bookstore, yet these three brands have logotypes which often make customers feel confused, therefore, Sisyphé can treat Burberry as an example to improve their brand cohesion force by through this way.

The all precious knowledge and experience which gathered from case studies will inspire Sisyphé to improve Sisyphé Bookstore itself and to develop a suitable strategy during develop process.

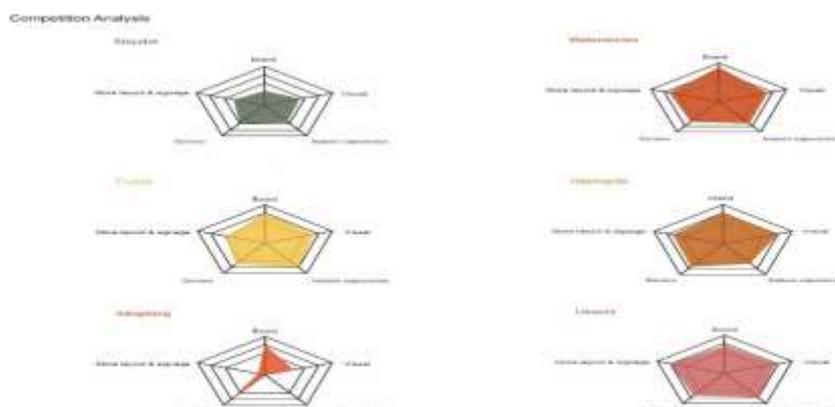


Figure 5.3: This is the competition analysis between five bookshops with Sisyphé Bookstore, during this process, there are five factors have been selected which include: brand, store layout, visual, indoor experience and service. By analyzing 6 bookshops, it is more clear to define advantages and disadvantages of each bookshop.

Competitor analysis (figure 5.3) is an vital part which can define advantages and disadvantages in five aspects (brand, visual, store layout, indoor experience and service) of these bookshops, as for brand aspect, Waterstones' brand position is the highest one, Foyles and Hatchards followed after, there is a similar points around these three bookshops that they have a long history and customer base.

As for store layout, that makes a little difference with Waterstones, Hatchards and Utrecht yet one of them which the most outstanding is that Utrecht, when comparing with other bookstores, Utrecht have their own personality, because they arranged the special indoor space and make their bookstore looks like a gallery as an unique selling point (utrecht.jp). There are four bookstores (Waterstones, Foyles, Hatchards and Utrecht) developed well which being fairly well balanced between all the facet even if Foyles need improve their store layout and Hatchards need to enhance their indoor experience, yet other aspects are quite well.

Dangdang onilne bookshop, as a special example around all bookstores in this analysis, because they did not have a "store", so they lack of indoor experience aspect and store layout aspect, however, they do offer good service for their customers, if they can enhance their visual elements then it will improve their development in the future. when Sisyphé Bookstore compare with other five bookshops, it is clear that Sisyphé's main point at next stage is to improve their brand identity and store layout, by through this way, it will impacts the indoor experience and visual of Sisyphé effectively.

After that, a SWOT analysis diagram (figure 5.3) of Sisyphé Bookstore has been developed, which lists many elements in four aspects (strategy, weakness, opportunity and threat) by through data gathered. This type of analysis useful because it can not only identify a brand's unique selling point but also any existing threats to the brand. For example, "culture + commercial" is a characteristic of Sisyphé Bookstore that give it an advantage over others, that aspect can be kept. Meanwhile, there are some elements in the retail environment that could exploit to its advantage, like competitor weakness and brand identity.

However, there are many disadvantages in weakness part, such as they lack of suitable strategy and sales channels, that will leads them loss customers if they do not make any measures to improve. Also, as for threat aspect, their competitor increased rapidly and some new technology they neglected both become challenges in their development.

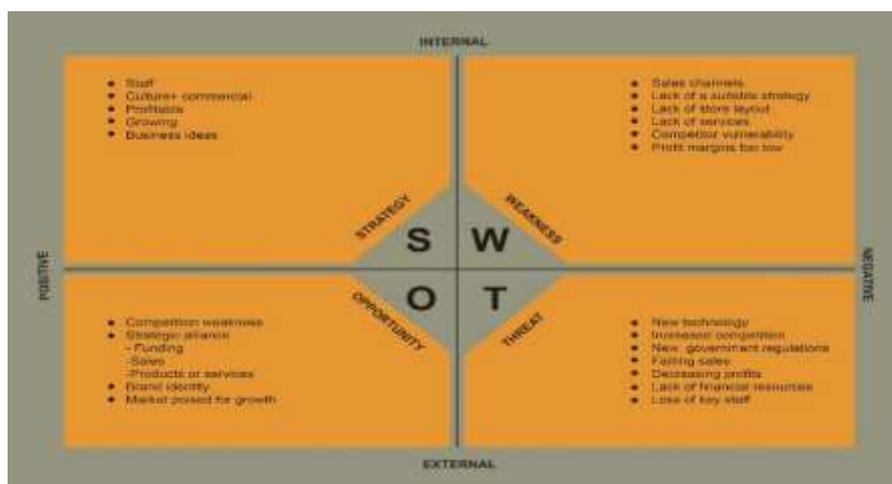


Figure 5.4: This is the SWOT analysis diagram of Sisyphé Bookstore, used to highlight strategic unique selling points in Sisyphé Bookstore, as well as to identify any strengths and weakness, and any possible threats.

## DISCUSSION

After scoping research, plenty of relative and useful finding have been collected. Based on those kinds of finding gathered, there are several aspects should be analyzed and contacted with the current situation of Sisyphé Bookstore. During the process of literature review, many views delivered from theories which can be using in the subject and evaluate whether methods suitable for Sisyphé Bookstore, the results from that could promote to develop strategy as well. Meanwhile, some new points inspired from those theories which could be used in further research.

Take the theoretical of design management as an example, according to Hands. D (2008), there are four dimensions of investigation should considered which are: wider environment context; physical manifestations of design, focusing upon visual identity and communication material; the internal corporate culture and understanding of design; design management procedures and processes. This theory could be combine with analysis of Sisyphé Bookstore. For example, as for visual identity, according to the results of research, Sisyphé Bookstore lack of a strong visual identity which means its design has many similar points with other bookstores, if it lacks of identification around customers, in the long- term may lead to reduce its brand position in the book markets. Because of that, in the further study of this subject will consider about how to use design building a strong identity for Sisyphé Bookstore and add some interaction between customers and organization. The internal corporate culture and understanding design are also important when evaluate whether an organization successful, in next stage will relate to subject and try to do some lightly adjust (if it necessary) to make it suitable for Sisyphé Bookstore.

To consider about customer experience aspects, customers loyal because of the experience they have as a result of these types of initiatives. So a resonant brand creates an emotional connection for the customers, and successful customer service delivers an experience that makes the customers feel important. Creating a positive experience here is essential to building customer loyalty. According to that, Sisyphé Bookstore need to create a positive customer experience in the future which could help to maintain a good relationship and interaction between customers and organization.

It is clear that competitor analysis is a method for evaluating and comparing a brand's main competitors, and it is a useful tool which cloud easily understand what is the current strategy competitor used. What is the different when compare with Sisyphé Bookstore current strategy and future goals (Slade. B, 2016). It is very vital that determine the strengths and weaknesses of competitor, because in this way, Sisyphé Bookstore have a good chance to learn from it-- what kinds of aspects should they improve in the future and what existing problems competitors have could be fix or avoid in its holistic process. Competitor research a brand positioning strategy can be developed that will guide the design team and inform the creative process, enabling them to understand the market into which the new brand will enter (Slade. B, 2016). Based on that, Sisyphé Bookstore need to determine the visual aspects of the competition which means exploring how a competitor brand communicates to its consumers involves looking into all the design aspects of that brand's identity (including online, advertising, packaging and promotion).

Meanwhile, observation is another helpful way during this design research project. In order to gather some bookstores' atmosphere data by observing four bookstores, such as Waterstones, Foyles, Hatchards and dangdang online bookshop. There are many differences with three bookstores, such as the Foyles bookshop which offered one- by- one service to their customers, and its atmosphere not only has the most clear signs of book categories but also they have a strong brand identity (its long history and fantastic

visual identity are two reasons of that) which should Sisyphé Bookstore to learn from. In Waterstones, things are little different. The guidance of Waterstones are quite different with Foyles, the way they arranged books category have some changes, for instance, in Foyles bookshop, design books arranged in ground floor, yet in Waterstones they put all design books in third floor (figure 3.5 and figure 3.7). This kind of changes would deliver a lot (like in different bookstore, the popular book types may different). Sisyphé Bookstore should also consider about that kind of elements when they develop the floor direction. Also, Sisyphé Bookstore could develop several services which can make customers feel more conveniently and trust in this organization. According to Salde. B (2016), successful visual identity could not only help people identify several categories and saving time to find what they need but make people connect it with the brand.

Also, by through case studies, there are numbers of data gathered which from general knowledge and precious experience, such as a series of successful transformations (which included atmosphere, service, facility, window display and so on) in Waterstones. On the other hand, Utrecht, the most famous bookstore in Tokyo, Japan, they have elegant atmosphere, sometimes hold exhibitions (very popular around customers) and most vital thing is they selling art and design books which collected from all over the world. These are all the unique touch points of this bookstore which should Sisyphé Bookstore learn from.

Questionnaire surveys helps to define what aspects are people's real needs, what are they looking for in a bookstore, what is the main purpose of people visit bookstore and what factors attract them most. Based on better understand of customers' needs, the answers gathered from questionnaires are very helpful which can support in the strategy development as strong evidences.

Expert interviews also contribute a lot in the whole process. By interviewing experts from different fields (bookstore, innovation management), it is clear that, plenty of professional knowledge have been collected. Meanwhile, many creative thinking inspire to build a clear structure of the strategy development.

## CONCLUSION

In conclusion, this essay aims to deliver many research and analysis for Sisyphé Bookstore in China in order to develop a design- led strategy for this chain bookstore. Based on the data gathered and analysis of Sisyphé Bookstore's current situation, determining key research question, aim and objectives of subject. After that, it describes an overall plan about what kinds of methods could be used in specific stages and by following the plan to do secondary research (such as literature review, observation , analysis of innovation management audits, etc). In this stage, plenty of theoretical been gathered and followed with several findings after analyzing. Finding analysis help to understand theories deeper, by through analyzing would ascertain the corresponding information which related to the subject and what elements would impact the strategy next step.

According on the innovation management audits determined before, like customer journey, SWOT analysis, competitor analysis, brand equity and audits like that, then to combine with subject and to evaluate with the data collected. It will easier to develop an available strategy which supported by professional evidence and backed up with strong frameworks in this way (Slade. B, 2016).

Especially brand equity analysis, this part will be pay more attention on the next stage. Based on data gathered, the brand identity of Sisyphé Bookstore is not strong enough in the current situation which are quite similar with other traditional bookstores. This issues cannot be neglected through evaluate the brand equity of Sisyphé Bookstore by using the brand equity framework (figure 2.6). According to Slade. B, a bad reputation will result in negative brand equity, and once a brand has made a poor association in the minds of consumers it can be very difficult to shift. Michael Kaiser from Kaiser Associates addressed that: a useful starting point for organizations in determining their strategy to Brand Equity management may start with a thoughtful examinations (and a properly aggregated quantitative measure) of several questions which could determine the brand equity point immediately.

During to whole process of this subject, innovation plays a vital role in it. For example, the 4Ds tool as a strategic tool which helps to determine the current situation with emphasis on the role of design in the performance of the brand; at the same time, it impacts a lot when define what the brand stands for and why it is unique by developing what brand promise and how added value is to be delivered; then it decide objectively and rigorously whether it is working, and what problems existing may be designed to repair, and enhance the experience (Lam, 2014).

To sum up, when combine the aim of subject with knowledge and data from specific areas (design management, brand identity, innovation management strategy and many audits), it is clear that this subject exists many limitations, such as the research for design management are not enough, the election which chosen in scope quite narrow. Therefore, in the future study, more design management research should be considered, also, to extend the selections in the scope, then to develop more creative recommendations for Sisyphé Bookstore in the future.

## REFERENCES

- Aaker, D.A. 2010, Building strong brands, Pocket Books, London.
- Abrahams, D. 2008, Brand risk: adding risk literacy to brand management, Gower, Burlington, VT;Aldershot, England;.
- Armstrong, A. 2004. Instructional design in the real world. Hershey, PA: Information Science Pub.
- Baike.baidu.com. 2016. 百度百科\_全球最大中文百科全书. [online] Available at: <http://baike.baidu.com> [Accessed 19 May 2016].
- Blessing, L.T.M. & Chakrabarti, A. 2009, DRM, a design research methodology, Springer, Dordrecht;London;
- Brown, T. & Katz, B. 2009,Change by design: how design thinking transforms organizations and inspires innovation, 1st edn, Harper Business, New York.
- Budelmann, K., Kim, Y. & Wozniak, C. 2010, Brand identity essentials: 100 principles for designing logos and building brands, Rockport Publishers, Beverly, Mass.
- Caihong Wei 民营书店西西弗的SWOT分析及战略研究 online available at: <http://chinaqk.org/lunwenzhuanlan/qikanlunwenbaike/333.html> 05.Nov 2013
- Clifton, R. 2009, Brands and branding, 2nd edn, Economist, London.
- Dangdang.com Dangdang Online Bookshop online available at: <http://www.dangdang.com/>

- Davies-Cooper, R. & Press, M. 1995, *The design agenda: a guide to successful design management*, Wiley, Chichester.
- Doyle, D. 2011. Intensive Care. *JAMA*, 306(2).
- Foyles.co.uk. 2016 Foyles Bookshop online available at: <http://www.foyles.co.uk>
- Gobé, M. 2001. *Emotional branding*. New York: Allworth Press.
- Holland, Ray (Professor of design management) & Lam, B. 2014, *Managing strategic design*, Palgrave, London.
- Jerrard, B. & Hands, D. 2008, *Design management: exploring fieldwork and applications*, Routledge, London ; New York, NY.
- Kotler, P. 2003. *Marketing insights from A to Z*. Hoboken, N.J.: John Wiley & Sons.
- Laing, P. 2013. Importance of communication. *Veterinary Record*, 172(22), pp.585-586.
- Lanlan 2016 Guizhoudushibao online available at: <http://www.gzrenwen.com/Article/WS/201602/6958.htm> Feb 2016
- Lockwood, T. 2010, *Design thinking: integrating innovation, customer experience and brand value*, Allworth Press, New York, NY.
- McQuarrie, E., Stewart, D. and Shamdasani, P. (1991). Focus Groups: Theory and Practice. *Journal of Marketing Research*, 28(3), p.377.
- Neumeier, M. 2003. *The brand gap*. Indianapolis, Ind.: New Riders Pub.
- Olins, W. 2014, *Brand new: the shape of brands to come*, Thames & Hudson, London.
- Onwuegbuzie, A. and Leech, N. 2005. On Becoming a Pragmatic Researcher: The Importance of Combining Quantitative and Qualitative Research Methodologies. *International Journal of Social Research Methodology*, 8(5), pp.375-387.
- Sharp, B. 2010, *How brands grow: what marketers don't know*, Oxford University Press, South Melbourne, Vic; Oxford;
- Slade, C. 2016. *Creating a brand identity*. London
- Stewart, D. and Shamdasani, P. 1990. *Focus groups*. Newbury Park, Calif.: Sage Publications.
- Waterstones.com Waterstones online available at: <https://www.waterstones.com/May> 2016
- Wheeler, A. 2013, *Designing brand identity: an essential guide for the whole branding team*, Fourth edn, John Wiley & Sons, Inc, Hoboken, New Jersey.

# INNOVATIVE MANAGEMENT OF HEALTH CARE INDUSTRY

**MENGJIE GUO**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: gmj\_39@126.com*

## ABSTRACT

With the decline of birth rate and the extension of life expectancy, the characteristics of Chinese elderly population, such as large scale, rapid growth and aging, have become increasingly prominent. According to the data of the seventh census, the number and proportion of the elderly population in China continue to rise in 2020.

The number of elderly people aged 65 and over has reached 191 million, accounting for 13.5% of the total population, and is about to enter a deeply aging society. From the perspective of the internal structure of the elderly population, the proportion of the elderly population (80 years old and above) increased from 13.61% in 2000 to 17.65% in 2015. With the birth population of the third birth peak entering the old age one after another, the aging phenomenon of the elderly population will become more prominent in the future. It is predicted that Chinese aging population will enter a period of rapid growth. In 2025, the number of elderly people aged 65 and above will exceed 210 million, and by 2050, the number of elderly people aged 65 and above is expected to reach 380 million, accounting for nearly 27.9%, that is, there will be about one elderly person in every three people. The huge elderly group makes us to pay attention to the elderly group and the huge pension industry brought by.

The old-age care industry is a collection of production activities for providing various old-age care and related products (goods and services) for the public, including activities for providing products for the elderly or the elderly, and activities for manufacturing old-age care products and related products suitable for the elderly, aiming at ensuring and improving the life, health and safety of the elderly and participating in social development. In the face of the increasing number of elderly people, a series of problems such as housing, medical treatment and health care of the elderly are presented to us, which need the common concern and great attention of the society.

Based on the multi-data dimensions such as national ministries and commissions, National Bureau of Statistics, Tianyancha and online public data, this paper discusses and analyzes the related development background, market development overview, risk warning and future trend of the big health and old-age care industry, aiming at describing the ins and outs of related industries and clarifying the opportunities and challenges of the industry through data, which can not only provide the industry direction for institutions, but also provide reference for the future life of ordinary people. By through the all processes, numbers of data have been gathered after analysis, there are plenty of professional knowledge and precious experience gained which help to do extend research in the future study.

**Keywords:** Innovative Management, Health Care Industry

## INTRODUCTION

The current problems in the health care industry faced with a series of problems such as the increasing number of elderly people, their housing problems, medical treatment problems, health and wellness problems, etc. At present, the elderly are sick and need help, and the government does not have perfect institutions and service groups to respond at the first time, which all need to be solved one by one with the arrival of the elderly population.

1. The purpose of this paper is to quote the contents of the White Paper on China's All-round Well-off Society, so as to realize the security of the elderly and society, thus realizing the goals of providing a sense of happiness and security for the elderly. This paper discusses and analyzes the related development background, market development overview, risk early warning, future trend and other contents of the big health and old-age care industry, aiming at describing the ins and outs of related industries through data and clarifying the opportunities and challenges of industries, which can not only provide the industry direction for institutions, but also provide reference for the future life of ordinary people. Through this research: Accelerate the establishment of "one quarter of an hour" home-based aged care services in most urban communities, which mainly include meals, medical care and cleaning. More and more rural communities have set up village-level happiness homes, day care centers and other old-age service facilities. Inclusive old-age service and mutual-aid old-age service in urban and rural areas have been further developed. The majority of elderly people can enjoy professional old-age service without leaving their homes or villages, and the goals of providing them with a sense of happiness and security have been continuously realized. -White Paper on China's All-round Well-off Society My suggestion to the healthy old-age care industry: We should actively respond to the aging of the population, and upgrade the healthy old-age care industry to an old-age care service system with national strategy, coordination of home community institutions and combination of medical care and health care.

### 2. Suggestion

Set up a special service management organization for the elderly, directly managed by the government, to truly serve the elderly, what they think and what they need, and if they can't, implement the accountability system.

### 3. Introduction:

To actively respond to the aging of the population and create a friendly living atmosphere for the elderly can not be separated from solving a series of necessary problems of the elderly's food, clothing, housing, transportation and spiritual life. Let's take a look at the current situation of the pension industry from some data.

#### 3.1 Data of old-age population Figure



1: The change trend of the scale and proportion of the aged population aged 65 and over in previous censuses Source: China census data. 1. According to the classification standard determined by the United Nations in 1956, when the proportion of the elderly population over 65 years old in a country or region exceeds 7% of the total population, it means that the population of this country or region is in an aging society, and more than 14% is a deeply aging society.

2. Time required for the proportion of people aged 65 and over to rise from 7% to 14%

## 2.2 Preliminary study on the future development trend of China's medical and health industry

As an emerging industry closest to people's livelihood, health care industry has been highly valued by countries all over the world, and countries have taken effective measures to actively promote the development of their health care industry. Especially in the post-epidemic era, people pay more attention to the health industry. In order to better study the development trend of China's medical and health industry, we conducted benchmarking studies on the medical industry development process and medical groups in the United States, Germany, Japan and Taiwan Province, China. Through the research, we found that the global medical and health development process and trend, whether developed countries in Europe and America such as the United States, Germany or neighboring countries in Asia Japan, under the conditions of rapid growth of national medical demand, medical insurance reform and financial control. Although the time, route and method are different, they all experienced the development process of public hospitals, the introduction of social capital to run medical services and medical collectivization, which effectively promoted the supply of medical services and improved the industrial structure and service efficiency.

Medical industry's growth trend has the same meaning after experimenting hospitals' grow.



*Chinese medical has been in a quick growing times with great support of country*

## 2.3 Statistics on the current living conditions of the elderly

Around the needs of living, it is necessary to build soft and hard supporting construction covering three levels: housing, outdoor environment and community supporting. First, build comfortable and safe living space for the elderly around "incremental development and stock transformation"; Second, improve the facilities and build a friendly community life circle for the elderly; Third, demand-oriented, improve the community support, health services and other soft facilities.

图：居住环境适老化改造，老年人最迫切需要解决的问题



Figure 3: Statistics of living and facilities for the elderly

#### 2.4 New pattern of aged care service

No matter from the analysis of public demand or the government's policy orientation, the healthy old-age care industry is gradually rising and attracting much attention. Send an important signal: the old-age care industry meets the new future under the background of great health era. At present, the accelerated aging, the imbalance of aging structure and the imbalance of regional aging are becoming the main problems facing China's old-age security. By vigorously developing socialized aged care services, actively building a multi-level aged care service system, and through diversified aged care modes such as home-based aged care and community-based aged care, we can make up for the shortcomings and shortcomings of simple family aged care, and maximize the advantages of aged care policies and services.

#### 2.5 New opportunities in the great health era

With the rise of emerging technologies such as the Internet and big data, mobile medicine, telemedicine and medical informatization have sprung up everywhere. The application of big data in the field of health will provide health management such as prevention, treatment and rehabilitation for human beings and effectively monitor the whole health process. When the pharmaceutical industry and big data are gradually "married", it has both the huge thrust of "breaking the tradition" and "smart future" to realize the intelligence of human health management. The big health industry is becoming a "golden industry" leading economic development and social progress. The core content of great health includes medicine, nutrition, health and management. Among them, focusing on "nurturing", Xionghui Group focuses on the health and wellness industry of human body maintenance, focusing on the development of health and wellness formats such as spring leisure wellness, summer wellness, autumn tonic wellness and winter hot spring wellness, which is the most distinctive, dynamic and marketable development focus in the big health industry system. The times will surely bring about a great health industry, and the old-age care industry will also usher in new opportunities for rapid development. New characteristics of industrial development for the aged. Nowadays, many people choose their own ingredients carefully and exercise step by step every day. People's new demands provide a broad development space for health service industry and fitness and leisure sports industry. Health check-up, physique monitoring, fitness consultation, green health food, leisure sports, outdoor sports, internet plus fitness and other new formats and modes are shaping and changing people's lifestyles, and also providing a new exploration

direction for mass entrepreneurship and innovation. The health-care industry will be a platinum industry full of vitality, green and vitality. Facing opportunities and challenges, it needs the government to further increase support, make overall plans, implement preferential policies and promote the healthy and sustainable development of the pension industry. China vigorously promotes the technology of traditional Chinese medicine, gives full play to the advantages of Chinese herbal medicines and natural scenery, promotes the integration of health and wellness with pension, tourism, Internet, fitness and leisure, and food, and promotes new health and wellness industries. China has always been a country with "family support for the aged" as the main theme. The concept of "raising children to prevent old age, having more children and more happiness" has been followed to this day. However, with the continuous improvement of China's economic aggregate and level, the traditional old-age care model of family has become a thing of the past, and the new-type old-age care service model can achieve the social goal of providing a sense of security and medical care for the elderly by effectively integrating various old-age resources. With the continuous development and progress of the economy and society, the average life expectancy of the elderly population in China is prolonged, and the number is gradually increasing. The situation of population aging is becoming increasingly severe. At the plenary meeting of the National Working Committee on Ageing held on January 13th, 2015, Wang Yong, State Councilor and director of the National Working Committee on Ageing, pointed out that by the end of 2014, the number of elderly people over 60 years old in China had reached 212 million, accounting for 15.5% of the total population. At present and in the future, the development of China's population aging will show the following five characteristics: the elderly population is growing rapidly and on a large scale; The elderly and disabled people are growing rapidly, and the social burden is heavy; The problem of rural aging is prominent; The empty nest and solitude of the elderly families are accelerating; The contradiction between getting rich before getting old is prominent. Promote the combination of medical care and health care to achieve  $1+1>2$ . According to the survey, since the implementation of the combination of medical care and health care, some achievements have been made, but difficulties and problems still exist. Without refinement of policies, it is difficult to land. For example, the current medical insurance policy can't solve the problem of old-age care service expenses for the elderly. Problems such as insufficient medical resources and lack of professional nursing talents are also prominent. "Combination of medical care and nursing care" involves multi-sectoral responsibilities, but at present, the communication and linkage mechanism is still incomplete, and various medical resources and pension resources lack effective integration. The two-way intercommunication between doctors and nurses is insufficient, and the service boundary is unclear, which makes it difficult to form the two-way intercommunication from nurses to nurses and from nurses to nurses. "The combination of medical care and nursing care must be truly integrated to achieve  $1+1>2$ ". At this stage, the demand of the elderly for aged care services is getting higher and higher. Accelerate supply-side reform, provide diversified and multi-dimensional aged care services, and meet the increasing aged care needs of the elderly. The elderly's demand for a healthy life also includes many aspects, such as doing daily health care, participating in social activities, exerting waste heat and so on. It is suggested that a "think tank" should be established to carry out special research from the perspectives of social medicine, traditional culture and demands for the aged. On this basis, the supply-side reform of the combination of medical care and the aged should be strengthened, the supply should be expanded, and the service level for the aged should be improved. The core content and basic service model of the aged care service, medical care is the foundation of the aged

care, which is the combination of medical care and nursing. Under the strategy of healthy China, the combination of medical care and nursing will be the greatest opportunity for the development of aged care service industry. The combination of medical care and old-age care model is the trend of the times, which is in line with the current demand for old-age care. Private old-age care institutions should rely on their own advantages, be one step ahead of others, and constantly provide diversified old-age care services for the elderly with the help of professional medical care and old-age care management system as soon as possible, so as to reverse the shortcomings of services, realize the continuous profitability of old-age care institutions and help the country alleviate the increasing pressure of old-age care.

In sharp contrast to the huge market advantages, the high-quality internet plus health care and old-age care service model is scarce and there is a lack of potential brands, and there are only a handful of enterprises that have really found mature profit models. We deeply understand the development trend of big health industry and health care industry under the current Internet, subvert the original development model of big health enterprises, create a brand-new domestic industrial chain model of big health care and old-age care in internet plus, combine the mature Internet, big data, cloud computing, Internet of Things with new big health care and old-age care industry, and take Chinese medicine in 5000 as the foundation and health as the center. The new medical reform advocates prevention first, and state administration of traditional chinese medicine clearly puts forward the medical guiding principle of "preventing diseases". With "Healthy China" rising to the national development strategy, the big health industry will usher in an investment boom. The future investment value in the field of health care and old-age care will continue to be highlighted. As mentioned earlier, China is entering an aging society. In 2025, the number of elderly people in China will reach 400 million, and this number will be maintained after that. Under the threat of aging, providing for the aged will become a social responsibility. However, at present, the four links of China's pension industry, namely services, real estate, finance and supplies, need to be improved urgently. Driven by the great health strategy, the market of aged care services, aged care real estate, aged care finance and aged care products will all develop rapidly. The big health industry has become a new industry with great market potential, with a market scale of nearly 20 trillion yuan in the next few years, with broad prospects.



Figure 4: Transformation of pension industry chain

Big health industry is different from traditional medical industry development model, and it is an integrated model from single treatment model to "prevention-treatment-care". Internet plus's big health care and old-age care model is also different from the original big health industry model, which is completely changed to take health care, disease prevention and prevention as the main body, and the original beverage market

positioning is changed from children and young people as the main body to middle-aged and elderly people as the main body, and the therapeutic medicine model is changed to preventive medicine model, which integrates nutrition, health care, medical treatment and beverage to achieve the effects of nutrition, health care, medical treatment and beverage. Multi-functional Chinese herbal medicine series "Shizhunzi" and "Health products" are the core, creating a brand-new industrial chain of health care and old-age care in internet plus, which integrates twelve industries including medical treatment, medicine, nutrition, health care, health care, old-age care, real estate, beverage, insurance, logistics, website and service, so that people can "have a good life, live a long life, be free from illness, get sick less, get sick late and improve the quality of life"

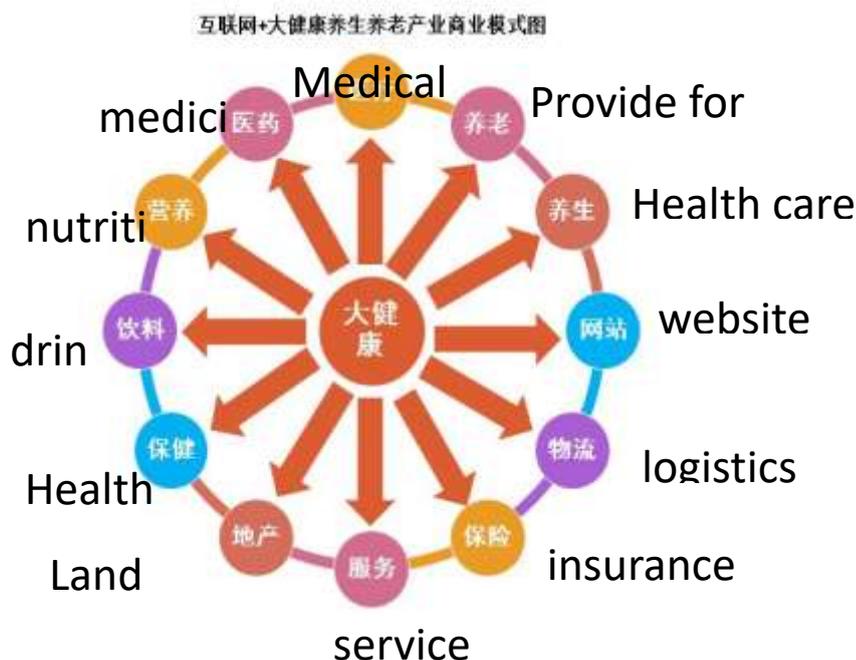


Figure 5: internet plus Great Health Care Business Model

### 2.6 medical development path

The development and trend of international medical and health industry has the following characteristics: 1) Policy support, increasing medical demand and universal coverage. No matter the United States, Germany or Japan, they can't do without the support of corresponding policies at all stages of development to promote universal medical coverage and industrial development. 2) The pressure of government investment is increasing. With the rapid growth of medical and health industry, especially the increase of medical payment, the government's pressure has increased, and the government has continuously implemented the reform of medical system to relieve the government's pressure and promote the sound development of the industry. 3) Develop the health industry in an all-round way, which is based on the actual situation of each country and focuses on it. For example, health management is highlighted in the United States, pension industry is highlighted in Japan, and security industry in Germany and Britain has distinctive features in their respective health industry systems. 4) Pay attention to innovation and improve efficiency. For example, in the United States, the gathering of excellent medical institutions and scientific research institutions provides intellectual and

human resources for industrial development and an incubation base for innovation. 5) Social capital entry, diversified satisfaction and group development. Introduce social capital, realize diversified development, encourage and support private enterprises, and realize group development. Under the general environment of medical reform in various countries or regions, the large-scale development of the United States, HCA Medical Group with a market value of nearly 50 billion yuan, Caesar Medical Group, which is famous for its health management model, and Japan's world-renowned Dezhou Medical Group and Japanese Medical Group, which mainly focus on the aged care industry, have emerged under the background of deepening social aging and increasing public demand for health. The above development characteristics of foreign medical and health industries provide valuable experience for the development of medical and health industries in China. Looking at the development path and trend of foreign medical and health industry, it is predicted that the future development of China's medical and health industry will be more similar to that of the United States. Since China's medical and health industry started in 1999, its development process in the past 20 years is very similar to that of the United States in 1940-2000. Although China developed late, China's medical industry and medical groups developed faster by learning from foreign experience! China's medical groups are in the period of integration and merger, and rapidly moving towards intensification and modernization.

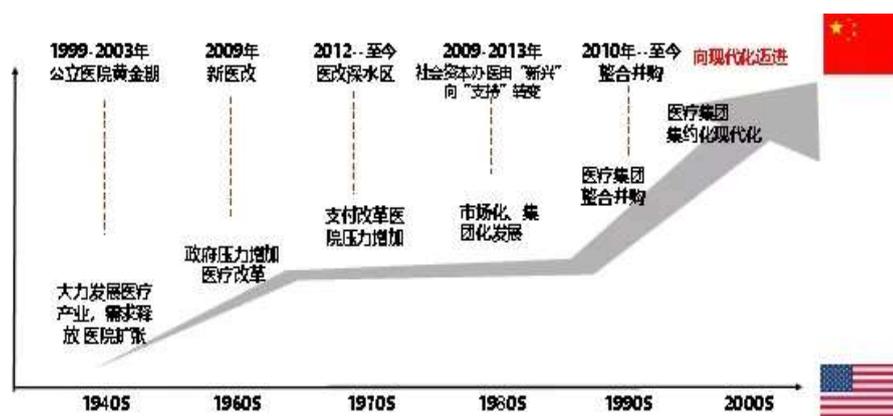


Figure 6: Research and comparison of the development trend of medical and health industry in China and the United States

Chinese medical and health industry is in the historical moment of change, especially since the implementation of the new medical reform policy in 2009, vigorously developing the medical service industry, reforming DRG/DIP payment methods, encouraging social capital to run medical services, and changing procurement modes have become the new directions of China's medical reform. We have consulted the "Several Opinions on Promoting the Development of Health Service Industry" issued by the State Council in the early stage, and clearly stated that by 2020, the total scale of health service industry will reach more than 8 trillion yuan, and the number of beds and services in non-public medical institutions will reach 20% of the total. The increase of market scale and the increase of the share of non-public hospitals provide broad development space for social capital and listed companies to enter the medical service industry, and also provide organic soil for the development of large medical groups in China. The development of large-scale medical groups can effectively promote the development of the medical and health industry, relieve the pressure of the government and meet the multi-level and diversified health service needs of the people. Under this background, China Resources phoenix medical, Peking University Medical, Fosun Pharma (medical business), Aier

Ophthalmology and other well-known medical groups have emerged. I believe that with the promotion of Healthy China 2030 national strategy and the continuous improvement of medical reform policy, more representative medical groups will be produced! We expect medical and health institutions all over the country to shine brilliantly in top-level design, strategic planning and model innovation! Write a strong sum for the future medical and health industry in China.the development trend and path of China's smart pension industry

The viewpoint comes from the information network of the Development Research Center of the State Council, referred to as the National Research Network, [www.drcnet.com.cn](http://www.drcnet.com.cn).

The smart pension industry is still in its infancy, and it is not yet mature. The future development trend will form market segments according to different levels of demand. The smart industry should pay attention to the current needs of the elderly for the aged, including not only material but also spiritual. At present, the empty nest rate of the elderly in China exceeds 50%, which means that half of the elderly groups in China are suffering from mental loneliness. Therefore, the current smart old-age care industry should provide more humanized services to satisfy the spiritual comfort and self-worth of the elderly. To realize the humanization and personalization of the smart aged care service industry, one of the important technical supports is AI technology. The arrival of the 5G era provides more powerful network support for intelligent services. Nowadays, AI technology is no longer limited to screen and keyboard interaction, and intelligent voice interaction technology has made great progress, which makes the way of human-computer interaction have different choices. For the elderly, voice interaction provides great convenience. After the outbreak of the epidemic in COVID-19, the smart old-age care industry has met new and greater demands. Affected by the consumption inertia during the epidemic, the demand for intelligent services for smart aged care services has increased greatly, whether it is old-age care institutions or elderly people who care for the aged at home. In today's critical period of rapid development and change of China's smart pension industry, this paper puts forward the following development suggestions.

3.1 adhere to the demand-oriented, realize the diversification and personalization of smart pension products and services.

To realize the diversification and personalization of old-age products and services, we should start with intelligent hardware. Major intelligent hardware enterprises should be based on the needs of consumer groups, encourage innovation and design more professional and easy-to-operate new products. Besides technology, we should also consider integrating human temperature into high-tech products. For example, for the vast number of empty nesters, provide remote companion VR technology, and give the elderly more spiritual care. In addition to developing in the direction of personalized diversification in intelligent hardware, it is also necessary to develop in this direction in terms of aged care services. When providing services for the aged, we should have a deep understanding of the different ideas and living habits of every elderly person.

In addition, further improve the infrastructure construction of the aged care service industry, such as improving the GPS positioning system and Internet system in every street of every community. When considering meeting the individual needs of the elderly, especially the spiritual needs, we should make full use of the convenience provided by today's network big data era. Use the database to collect, analyze and apply the pension information, so as to have a deeper and more comprehensive understanding of the individual needs of the elderly, and respond to the pension needs of the elderly at different levels, such as day care, medical care, recreation, psychological counseling, public welfare

activities and pension finance, etc., through big data operation, and decide the service supply according to the needs and provide dynamic services.

### 3.2 Strengthen the cultivation of compound talents in smart pension industry

The high-speed demand for the aged has aroused the urgent demand for intelligent professionals for the aged, such as professional geriatric medical care, geriatric nutrition, mental health of the aged, information processing and other talents with comprehensive strength. Therefore, it is necessary to strengthen the cooperation between relevant government departments and schools, and the government should introduce supporting policies to encourage cooperative innovation, improve the entry threshold of the industry and create a healthy and vibrant environment. Schools should strengthen skills training, cultivate compound talents for intelligent aged care services, improve their abilities and cultivate students' humanitarian spirit in practice, so that students can actively participate in the intelligent aged care industry after graduation and promote the continuous innovation and development of the aged care industry. With the goal of cultivating self-learning ability, the focus is on cultivating professional skills and industry emotions needed for professional wisdom pension posts, serving the elderly with their own kindness and love, and at the same time, driving more people to pay attention to the elderly in the community through cooperation.

### 3.3 Advocating people-oriented and strengthening information technology education for the elderly

In order to bridge the digital divide of the elderly, it is necessary to strengthen the training of their information technology ability, which requires the support of government departments, training courses, relevant training for the elderly in need, or relevant courses conducted by local vocational and technical colleges, so as to help the elderly better by relying on the Internet in the smart pension activities. The main content of the training is the practice of using smart old-age care products and simple Internet use to increase potential users, with emphasis on practical operation rather than memorizing theoretical concepts. Teach the elderly to surf the Internet, use computers and mobile phones correctly, learn to use smart old-age products, help the elderly better integrate into the modern society and improve their quality of life. At the same time, do a good job in online and offline publicity activities to attract more elderly people to understand and accept smart pension, enhance the popularity of smart pension industry and expand the scale of elderly consumer groups.

### 3.4 Increase local support and optimize industrial layout.

For the development of the aged care industry in underdeveloped areas, the local government needs to increase policy support and financial support, and introduce relevant policies to help the development and create a good environment. Because the old-age care industry is a part of social welfare and does not have great profitability, the government should subsidize related enterprises to improve the attractiveness of the old-age care service industry to enterprises. Use Internet big data to predict the development trend of the pension industry and formulate corresponding development strategies. The government encourages commercial banks to provide credit, loan interest rate reduction or other subsidy support to smart old-age enterprises, help industrial development through tax reduction or special subsidies, create a good industrial environment, and encourage more enterprises to join in the development of smart old-age industries. In order to attract more social capital to participate in it, the government should relax and lower the access requirements, adopt the public-private mode, and the government is responsible for issuing policy subsidies. After attracting investment, select suitable enterprises or social capital to build pension industry, research and develop more products, provide

corresponding services, and promote win-win cooperation, so that resources can be rationally allocated and effectively supplied, promote accurate capital investment, and reduce resource waste. It is necessary for the government and enterprises to work out a reasonable access system for the industry, and formulate corresponding industry standards to promote its scale expansion, and finally achieve the goal of industrialization, standardization and regional development.

## CONCLUSION

The huge pension industry gave birth to the smart pension industry. The smart pension industry is the product of the times and has strong vitality. With the development of social economy, the industry will grow stronger and stronger, but it started late in China and still needs to be "steady and steady". The old-age care industry belongs to the people's livelihood industry, which needs to give full play to the government functions, make overall plans for its development prospects, combine the help from all walks of life, promote the sound and rapid development of the industry, continuously meet the social needs and achieve the goal of "providing a sense of security for the elderly".

## REFERENCES

- National Research Network: [www.drcnet.com.cn](http://www.drcnet.com.cn)  
RealData  
Check big data with your eyes.  
JD Health Net  
National Bureau of Statistics data  
Baidu website  
Chen Chunliu, Ye Fei. "Five-oriented" strategy promotes the development of smart aged care service-taking Wenzhou City, Zhejiang Province as an example [J].  
Journal of Party School of Yunnan Provincial Committee of the Communist Party of China, 2019, (1): 125-129.  
Zhang lei, Han Yongle. At present, the main modes, existing problems and countermeasures of smart old-age care in China [J]. Social Security Research, 2017, (2): 30-37.  
Xie Junxiang, Zhang Lin. Smart wearable devices and their applications [J]. China Medical Device Information, 2015, (3): 18-23. 10.10.Liao Xisheng, Li Yangdi, Li Yanzhang. Research on the optimization path of smart pension industry based on industry consolidation theory [J]. China Soft Science, 2019, (4): 50-56.  
Lei Huang (1995-), female, born in Bayannur, Inner Mongolia, with a master degree, is engaged in social security research; Lin Xiaoning (1971-), female, Yingkou, Liaoning, associate professor, engaged in social security and human resource management research.  
Ministry of Internal Affairs and Communications of Japan. ICT Ultra-High Society Conception Conference Report  
[EB/OL].[http://www.soumugo.jp/menu\\_seisaku/hakusyo/index.html](http://www.soumugo.jp/menu_seisaku/hakusyo/index.html), 2019-06-20.  
Japan Aging Research Center. Aging in Japan[EB/OL].<http://www.jarc.net/>,2019-06-25.

- National Institute of Population and Social Security Research, Japan 2019 Population Tax Collection [EB/OL].<http://www.ipss.go.jp/site-ad/updated/j/whatsnew.html>,2019-06-30.
- Toshio O and Naoko Iwasaki. 2030: The 15 leaders of the 2030 Revival of the Japanese Economy-Narrated Future of Japan[N].The Shaji Shimbun, 2018-07-21.
- Y.Y.Wang Hiko, Lin,Sui Xiaoyang.Artificial Intelligence, Old AgeIng Yo-ying[J].2019,(7):47-63.
- Yellow Jianfeng Chapter Ying.China Wisdom-yin Policy Research:-Policy Research on The Fundamentals Policy ToolIng Road[J].China Science and Technology Project[J].China Science and Technology
- Liao Hui. Wisdom-yin clothes. The general topic is road diameter[J]. Economics, 2019, (6): 5-13.
- Policy Research Institute, Healthcare Co., Ltd. Revitalization of the Nursing Care Market and Service Revolution: Strategies and Practices for Making Nursing Care a "Growth Industry" [EB/OL].<https://www.jp/index.html>, 2019-06-10.
- KANAMICNETWORK.All services for long-term care insurance services [EB/OL].<https://www.kanamic.net/medical/>, 2019-05-25. 21.Ministry of Internal Affairs and Communications of Japan. [EB/OL].<http://www.soumu.go.jp/johotsusintokei/whitepaper/ja/h25/html/nc133250.html>, 2019-06-20.

# EXECUTIVE INNOVATION LEADERSHIP AND HUMAN RESOURCE MANAGEMENT INNOVATION THIS AFFECTS THE INNOVATION OF LEARNING ORGANIZATIONS RAJABHAT UNIVERSITY RATTANAKOSIN GROUP

WUTIPONG JANMUANGTHAI<sup>1</sup>, CHUTIKARN SRIVIBOON<sup>2</sup>,  
CHOLPASSORN SITTHIWARONGCHAI<sup>3</sup>

<sup>1,2,3</sup>*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: s63467810001@ssru.ac.th*

## ABSTRACT

The objectives of this study were to (1) examine the executive innovation leadership affecting the status of organization and (2) study the human resource management innovation. The study randomly collected the data of 370 samples from the Rattanakosin Rajabhat University group, using a simple sampling method. The data was then analyzed and processed via statistical tools.

Research finding were as follows:

1. Innovative leadership of executives model affecting learning innovative organization was at  $.220 + .447(\text{innovative organization}) + .331(\text{team work and participant}) + .171(\text{creative thinking})$ . It could be explained that the innovative leadership of executives' model affected the learning innovative organization at 80.5%, and the standard error of forecasting equal to  $\pm .195$ .

2. Human resource management innovative model affecting innovation of learning organization was at  $.259 + .458(\text{performance appraisal innovation}) + .269(\text{planning innovation}) + .115(\text{compensation and benefits innovation}) + .188(\text{training and development innovation}) + .085(\text{selection and recruitment innovation})$ . It could be explained that the human resource management innovative model affected the innovation of learning organization at 88.7%, and the standard error of forecasting equal to  $\pm .148$ .

**Keywords:** Executive Innovation Leadership, Human Resource Management Innovation, Innovation of Learning Organizations, Rajabhat University Rattanakosin Group

## INTRODUCTION

The current environment has changed dramatically in both internal and external environments; the internal environments comprising of financial condition, marketing condition, and organizational culture; and the external environments comprising of economy, politic, society, and technology which affects the business competition directly and indirectly in all issues, in consequence, the business has to adapt to the current environment. The progress of science and technology, and the change of economy and

society affect the business to adapt to the current environment, support to the challenge, including the competitive advantage for the organizational growth and survival. Change occurs unavoidably for all organizations, their management will face up with a change in both internal and external environments for improving their performance (Witoon Waikanya,2019), Thailand has focused on human resource development providing *The Thirteenth National Economic and Social Development Plan (2023-2027)* by Office of the National Economic and Social Development Council, it indicates the trends of change eg. the progress of technology, a change of demographic structure to the aging society, global warming from the climate change, COVID-19 pandemic that affects the fluctuation of the economy, society, environment in many countries. These trends of change affect the significant opportunity from the progress of technology in driving the human resource development, digital and information management system to support the opportunity and expansion to all areas. The trend of demographic structure change, digital disparity, and environmental and natural disaster issues affect the national competitive advantage and challenge to human resource development and equality. This plan is based on the philosophy of a sufficiency economy, sustainable development, and people are the center of development that defines the strategy of development and capacity building of human resources (Office of the National Economic and Social Development Council, 2021), consequently, the staff is a key factor for the organizational achievement. Human resource management is an important mission; human resource planning to predict and define the appropriate human resource activities, recruitment and selection process for the qualified candidates, human resource development to improve their competence, providing appropriate compensation and benefits for their motivation and good attitude to the organization, and performance appraisal.

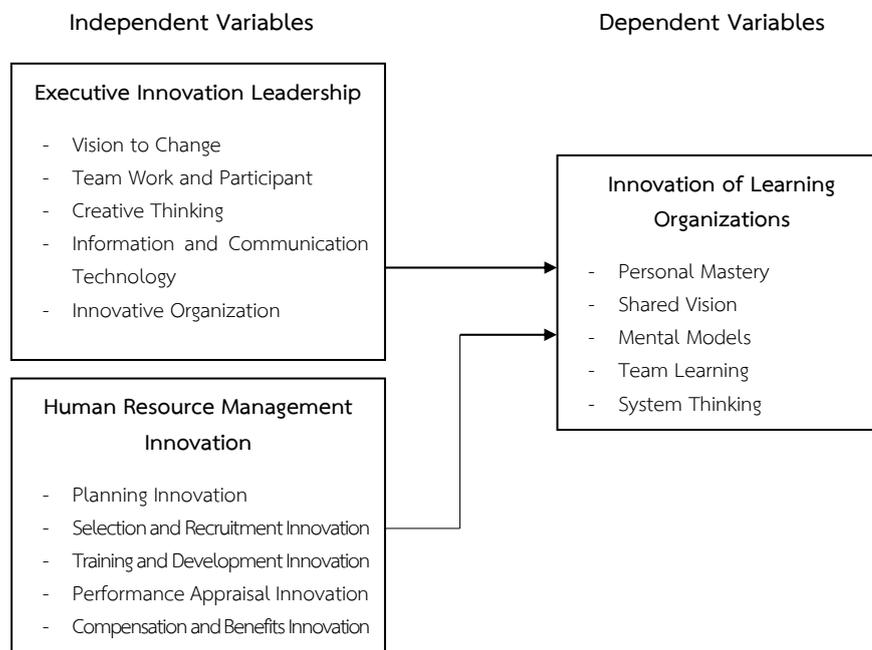
The innovative leadership of the executives is the key factor of driving the innovative organization as being a leader of modern philosophy for human resource management by synthesizing the leadership diversity to motivate the staff for creating products, services, and the way of success (Praelada Potjanart et al.,2020), context is the key factor of the innovative organization as the innovation is comprised of strategy, operational plan, internal learning, staff training and lifelong learning. Additionally, the organizational culture is one of the key factor to create the internal innovations; the behavior modification is a process of finding the good colleague or teamwork, and creating new work standard or new innovations (Dorf and Byers, 2008 cited in Surakit Suwannakam, 2018). The current condition of 21<sup>st</sup> century and Thailand 4.0 affect to the educational area unavoidably and educational management must be under the competition, consequently, the staff has to be ready for the challenge in human resource as the top management has less focused on human resource management than other departments. In addition, the progress of technology especially in the globalization is the era of using information for competition, if the top management has less focused on human resource by a lack of vision, empathy, and enthusiasm to improve their competence for the progress of technology, it will be a key weakness and threat for the organizational progress, and being the innovative learning organization that need knowledge and competence of both top management and staff especially the creative thinking to drive the innovation and achieve the position of being the innovative learning organization, consequently, the innovative leadership is needed for promoting and supporting the innovative change to keep up with the educational change. The executive of educational institution has to be enthusiastic and

brave to change by creating new innovations for the achievement and value-added change to the educational institution and sustainability.

From the foregoing, the researcher intended to study the “Executive Innovation Leadership and Human Resource Management Innovation this Affects the Innovation of Learning Organizations Rajabhat University Rattanakosin Group” for being the guidelines for improving the competencies; knowledge, skills, and attitude of staff to support to any changes and management environment to apply for defining vision, policy, organizational culture, and planning the human resource management for being the innovative learning organization of Rajabhat University in Rattanakosin Group.

## LITERATURE REVIEW

From a study of concepts, theories, documents, and relevant researches of the executive innovation leadership and human resource management innovation this affects the innovation of learning organizations rajabhat university rattanakosin group are comprised of; (1) innovative leadership of the executives, (Watt, 2002): a vision of change, teamwork and participation, creative thinking, using of information technology and communication, and creating the innovative organizational environment, (2) innovative human resource management, (Mondy, Noe, and Premeaux, 1999): innovative planning, innovative recruitment and selection, innovative training and development, innovative performance appraisal, innovative compensation and benefits, and (3) innovative learning organization, (Senge, 2006): personal mastery, mutual vision, thinking pattern, team learning, and systematic thinking. The conceptual framework is as follows;



## RESULTS

1. The population of 370 were mostly from Suan Sunandha Rajabhat University, were female, aged between 26 – 35 years old, holding bachelor's degree, single, and were in service from 6 – 9 years as the operating staff; and earned monthly average income from 35,001 baht.

2. The innovative leadership of executives overall and individual aspects were in the highest level. When considering individual aspects, vision to change gained the highest level, followed by team work and participant, information and communication technology, innovative organization, and creative thinking, respectively.

3. The human resource management innovation overall and individual aspects were in the highest level. When considering individual aspects, training and development innovation gained the highest level, followed by performance appraisal innovation, planning innovation, compensation and benefits Innovation, and selection and recruitment Innovation, respectively.

4. The learning innovative organizations overall and individual aspects were in the highest level. When considering individual aspects, shared vision gained the highest level, followed by system thinking, team learning, mental models, and personal mastery, respectively.

5. Innovative leadership of executives model affecting learning innovative organization was at  $.220 + .447(\text{innovative organization}) + .331(\text{team work and participant}) + .171(\text{creative thinking})$ . It could be explained that the innovative leadership of executives' model affected the learning innovative organization at 80.5%, and the standard error of forecasting equal to  $\pm .195$ .

6. Human resource management innovative model affecting innovation of learning organization was at  $.259 + .458(\text{performance appraisal innovation}) + .269(\text{planning innovation}) + .115(\text{compensation and benefits innovation}) + .188(\text{training and development innovation}) + .085(\text{selection and recruitment innovation})$ . It could be explained that the human resource management innovative model affected the innovation of learning organization at 88.7%, and the standard error of forecasting equal to  $\pm .148$

## DISCUSSION

1. The innovative leadership of the executives' model affecting the innovative learning organization was at  $.220 + .447(\text{innovative organization}) + .331(\text{teamwork and participation}) + .171(\text{creative thinking})$ . It could be explained that the innovative leadership of the executives' model affected the learning innovative organization at 80.5%, and the standard error of forecasting is equal to  $\pm 195$ . This indicated that the staff of Rajabhat University in Rattanakosin Group participated in defining and planning operations; defining mission, direction, organizational structure, and objectives of being an innovative organization including promoting and supporting effective teamwork, organizational achievement, creative thinking, and creative work process. It is consistent with the concept of Higgins, 1995, said that innovative leadership is a competence of understanding issues and opportunities, driving new operational guidelines, or creating innovation for the value-

added of the organization; the concept of Senge, 1990, said that the innovative learning organization is a competence of enhancing the staff skills in creating their work process continuously, promoting their creative thinking and inspiration, expanding the organizational scope and performance, and their lifelong learning; the concept of Pedler et al., 1997, said that the key elements of the innovative learning organization are comprised of 5 issues; (1) strategy - defining the learning strategy and participatory policy, (2) looking in - providing the information, accounting and control system, internal sharing and flexible reward system, (3) enabling structures - organizing the decentralized structure to promote the learning by teamwork as the flat structure with the flexibility of sharing ideas and experiences, (4) looking out - providing the environmental analysis by all level-staff and the cross-organizational learning, and (5) learning opportunity - promoting the learning environment and human resource development.

2. The innovative human resource management model affecting the innovative learning organization was at  $.259 + .458$  (innovative performance appraisal) +  $.269$  (innovative planning) +  $.115$  (innovative compensation and benefits) +  $.188$  (innovative training and development) +  $.085$  (innovative recruitment and selection). It could be explained that the innovative human resource management model affected the innovative learning organization at 88.7%, and the standard error of forecasting is equal to  $\pm .148$ . This indicated that the staff of Rajabhat University in Rattanakosin Group agreed with the human resource management in all processes; workforce planning by positions and responsibilities, defining recruitment and selection for the qualified staff, human resource development to support the competitive environment, managing the compensation and benefits for their motivation of the effective performance, and the performance appraisal. The processes of human resource management are interrelated and are the key factor of the innovative learning organization which is consistent with the concept of Mondy, Noe and Premeaux, 1999, said that human resource management is a policy of defining the human resource's role for organizational achievement or creating the human resource activities; (1) human resource planning - a process of defining the work structure and work analysis for staff or teamwork to achieve the organizational objectives, and a survey process of human resource requirement in amount, knowledge and skills, (2) recruitment - a process of recruiting the skilled candidates to achieve the organizational objectives, (3) selection - a process of selecting the appropriate candidates, (4) training and development - a process of behavior modification to achieve the organizational objectives, and improving the needed knowledge and skill for both current job and future job, (5) compensation and benefits - wages, salary, bonuses, incentives, and benefits: life and health insurance, tourism, medical fee, profit sharing, educational plan, product discount etc., (6) security and health - a protection for both physical health and mental health, (7) employee relations - a significant internal environment, and (8) performance appraisal - a process of appraising the work behavior comparing with the standard eg. recording performance, and direct communication between top management and staff. The concept of Boxall, 2007, said that human resource management is the management of internal employees comprised of; (1) recruitment and selection - a process of finding and motivating the skilled candidates, and selecting the qualified and appropriate ones for the required position and organizational achievement, (2) skill development - a process of improving the effective

operation and maximizing the organizational benefits, (3) compensation management – a process of managing the compensation in both monetary: worthily and appropriate salary, and non-monetary: challenging work that appropriate with knowledge and skills, vacation, welfare, and other rights for the internal employee, and (4) health care and environment – a process of providing sanitation and welfare for staff eg. health insurance, life insurance, environment in equipment, workplace, and standard security etc. The concept of McGill and Slocum, 1994, said that 5 elements of the innovative learning organization by the concept of The Smarter Organization are comprised of; (1) self-disclosure – knowing of self-status in knowledge, skills, experiences, open-mindedness, and lifelong learning, (2) systematic thinking – a holistic and systematic design for finding causes and guidelines for problem solving to achieve the organizational survival, (3) creative thinking – promoting the creative thinking and flexibility in all levels: individual, teamwork, and organization, (4) self-perception – a perception on knowledge, concepts, and behaviors to analyze causes and learning from self-improvement, and (5) empathy – a unity of all level-staff to achieve the organizational survival.

## CONCLUSION

The guidelines for developing the executive innovation leadership and human resource management innovation affecting the being of an innovative learning organization of Rajabhat University Rattanakosin Group are as follows;

1. Improving the executives is the key factor of being an innovative learning organization as they are the key mechanism of achieving organizational success.
2. Promoting the participation of top management and staff in sharing ideas, operations, and monitoring performance.
3. Clarifying the role of all staff that affects the assessment of any errors in which part of the process or whom responsible for.
4. Improving the work system of innovative One-Stop Service for the flexible management as the key factor of being an innovative learning organization to converge the key elements with the context of the organization.

## REFERENCES

- Jeerapa Prapanpat )2017 .(A Study of Innovative Leadership of School Administrators in the Opinions of the Teachers under the Supervision of Pathumthnai Primary Educational Service Area Office .Thesis of Master of Education in Educational Administration, Faculty of Industrial Education, Rajamangala University of Technology Thanyaburi.
- Praelada Potjanart et al) .2020 .(Innovative Leadership for the Competitive Advantage of the Organization in the 21st Century .Thesis of Doctor of Management, Faculty of Business Administration, Rangsit University.
- Witoon Waikanya) .2019 .(The Effect of Human Resource Management on Entrepreneurs Success in Rojana Industrial Park, Phra Nakhon Si Ayutthaya . Independent Study of Master of Business Management, Faculty of Business

- Management and Information System, Rajamangala University of Technology Suvarnabhumi.
- Office of the National Economic and Social Development Council) .2021 .(The Thirteenth National Economic and Social Development Plan 20)23202-7 .( Bangkok :Office of the National Economic and Social Development Council.
- Boxall) .2007 .(The Relationship Between “High Performance Work Practices ”and Employee Attitudes :An Investigation of Additive and Interaction Effects . International Journal of Human Resource Management, 18)4 :(537 –567.
- Daft) .1998 .(Organization Theory and Design .South-Western College, Publishing, Cincinnati, Ohio.
- Higgins) .1995 .(Strategic Management .5<sup>th</sup> ed .Florida :The Dryden Press.
- McGill and Slocum) .1994 .(The Smarter Organization .New York :John Wiley and Sons.
- Mondy, Noe, and Premeaux .(1999) .Human Resource Management .Upper Saddle River NJ :Simon and Schuster.
- Pedler et al) ..1997 .(The Learning Company, a Strategy for Sustainable Development .)2<sup>nd</sup> ed(., McGraw-Hill, London.
- Senge, P .M) .1990 .(The Fifth Discipline :The Art and Practice of the Learning Organization .New York :Doubleday
- \_\_\_) .2006 .(The Fifth Discipline :The Art and Practice of the Learning Organization . New York :Boubleday /Currency
- Watt .(2002) .Creative Leadership .New York :Free Press
- Yamane, Taro .(1970) .Statistics :An Introductory Analysis2) .<sup>nd</sup> ed .(ToKyo :John Weatherhill, Inc.

# ANALYSIS OF THE INNOVATION DIRECTION OF XIAOMI SMART HOME BUSINESS MODEL UNDER THE INTERNET

**YANG SHENG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 2811748701@qq.com*

## ABSTRACT

With the rapid development of information technology, the Internet is gradually deepening into people's lives, and its influence will no longer be limited to the Internet industry itself and the field of e-commerce, but extended to all walks of life. With the gradual improvement of people's pursuit of life quality, smart home arises at the historic moment. It meets people's needs for a better life, has the characteristics of convenient, comfortable, safe and energy saving, and provides people with more enjoy the home environment. With the rapid development of China's economy, the improvement of people's living standards, and the continuous progress of science and technology, the related technology of smart home is increasingly perfect, so that the production cost of enterprises and the consumption cost of consumers are gradually reduced, which will greatly stimulate the demand of consumers. In addition, the development of the smart home industry has also been vigorously promoted by the government, and the relevant policies of the industry have been formulated successively. Visible, smart home has a huge market potential and broad development space. Xiaomi occupies an important position in the smart home industry, just a few years occupy a huge share of the smart home market, which is closely related to millet smart home business model, through millet in the smart home industry business model for detailed analysis, find out the advantages and deficiencies, to find the solution, can enrich the smart home this emerging market strategic theory, help millet company in the future market competition, drive the healthy and rapid development of our smart home industry in the future.

Based on this, this paper is based on the competition strategy theory, based on PEST model and company analysis SWOT model, the development of smart home business development of millet, based on the current analysis summarizes the current millet company in the smart home industry using business model, finally under the Internet + mode millet smart home business model innovation direction and summary.

**Keywords:** Internet, Xiaomi smart home, business model innovation

## INTRODUCTION

With the continuous change of science and technology, the integration between the Internet and social life is even closer, and the cognition and attitude of market consumers towards smart home have gradually changed, and the changes also include the strategic choice of enterprises in the market competition environment. Yan Bowen and Long Ziwu (2018) believe that smart homes with high technology content, high consumption price and high

quality of life are more like luxury goods, which have obvious alternatives in the home furnishing field and are not indispensable. When choosing a smart home, the reliability and stability of products and brands are more concerned by consumers. With the increase of smart home brands, the behavior of manufacturers striving for the consumer market by reducing enterprise profits will only cause vicious competition. Only by making full use of the differentiation of product functions to increase consumer stickiness can the market advantages be guaranteed. Zhu Jinglei (2019) believes that with the continuous refinement of intelligent products, the product market tends to be homogenized, and corporate profits are constantly impacted, affecting its long-term development. Therefore, integrating advanced technology, accelerate product research and development innovation, broaden publicity channels, enhance brand awareness, optimize the organization management structure, establish salary incentive system, promote brand effect, resist industry competition; effectively allocate resources, promote financial management, is the necessary conditions for the stable development of smart home enterprises. Chen Hui (2019) believes that for new competitors entering the industry, due to the industry cost barriers, technical barriers, high patent barriers, market access barriers have certain barriers. At the same time, existing enterprises in the industry can reduce production costs through scale effect, so they are not easily threatened by new competitors in the industry.

Through the literature analysis, the research of the competition strategy of smart home enterprises mainly uses PEST analysis, SWOT analysis and Porter five-force model to analyze the external environment and internal environment of enterprise competition, as well as the advantages and disadvantages, opportunities and threats of enterprises, and formulate the enterprise cost strategy and product differentiation strategy.

## **Background and significance of the research**

### **(I) Background of the research**

With the continuous progress of social economy and the rapid development of science and technology, the Internet of Things technology derived from the continuous upgrading of the Internet is becoming increasingly mature and more and more widely applied in all walks of society. IoT (Internet of things) refers to the Internet, the expansion and extension of the traditional Internet mode. The Internet interconnects the information sensing devices in goods through Internet technology, thus forming a huge network that can combine goods and users at any time and place. With the upgrading of Internet technology and the popularization of intelligent terminal products, the Internet of Things technology has become the breakthrough point of scientific and technological reform, and the market scale has increased in geometric series, and the market potential is huge. The latest update on the forecast of global Internet and Internet of Things devices, released by the Strategy Analytics Internet Home Devices (CHD) research service, points to the number of Internet-connected devices worldwide by the end of 2018.

In China, the development of the Internet of Things is also changing with each passing day, and the Internet of Things industry is rising rapidly. As a new field of technology, China has five major advantages, To lay a foundation for the development of the Internet of Things: First, the advantages of economic volume, China surpassed Japan as the world's second-largest economy in 2010, The economy is huge, There is enough markets and capital to invest into emerging technology, Provide economic support for the development of the Internet of Things; Second, research and development technology advantages, As early as the late 1990s, China has launched a research on the core sensing network technology of the Internet of Things, Earlier than in many countries, The current research and development level is in the forefront of the world; Third, property rights patent advantages, Since in the Internet of Things

field, China has a large number of self-developed technology patents and intellectual property rights, It has become one of the leading countries of the Internet of Things technology standards; Fourth, the advantages of the whole industrial chain, China is able to build a complete industrial chain of the Internet of Things, Healthy development of the upstream, middle and downstream reaches, make the old and new contrast and complement each other; Fifth, 5G technology advantages, As one of the new driving drivers of future economic development, China's 5G technology has formed the absolute advantages, Network growth and full coverage will provide facility support for the development and popularization of the Internet of Things.

On the basis of the rapid technological development of the Internet of Things, the smart home industry, an important market segment, has become a more and more important business of various technology enterprises. Smart home uses the Internet of Things technology to transfer the information sensing equipment information (such as sound control information, video data, lighting system, home appliances, data, air conditioning braking, security system, etc.) to a unified terminal equipment, through the terminal equipment software programming, arbitrarily control the power device, audio device, video device, environmental monitoring device, security device, lighting device in the home. Smart home is the product of the combination of traditional home appliances and intelligent technology, but it far exceeds the sum of houses and home appliances in the traditional sense. Smart home is continuing to change and affect people's clothing, food, housing and transportation, providing users with an efficient, convenient and economical modern home environment. At the same time, smart home is the Internet of Things industry that vigorously promotes the development of national policies. Smart home is close to the lives of the general people. The healthy development of the industry directly affects thousands of households, with huge markets and business opportunities waiting for various high-tech enterprises to further explore.

In the field of smart home, internationally famous Internet companies such as Amazon, Google, Apple and established home appliances such as Siemens occupy market share, Baidu, Ali, Tencent and other large Internet companies as well as Haier, smart home has become the development direction of the social demand. Top international technology companies take the lead in product quality and technological innovation, featuring high-tech products; traditional home enterprises such as Haier, often rely on resources, channels and reputation brands to gradually transform to smart home; Internet or technology companies such as JD adopt the "asset-light" strategy. Xiaomi has launched a variety of smart products, such as air purifier, robot small love, smart TV, sports bracelet, etc., which now occupy a certain market share with a huge fan base and excellent marketing means.

## **(2) The Significance of the research**

Xiaomi technology co., LTD. (hereinafter referred to as millet company) was founded in 2010, started from smartphone business, gradually developed into smartphones as the main business, relying on smartphone terminal unicom smart home products, build the Internet of things ecological products of intelligent product development production company, smart home business plays an increasingly important role in millet, is together with smartphone business become two markets of millet. In terms of smart home, Xiaomi is currently in a dominant position, and has maintained rapid growth.

On March 29, 2016, Lei Jun, the founder of Xiaomi company, released its new smart family brand, — Meijia MIJIA, in Beijing. On March 29, 2017, the total number of Mijia APP exceeded 50 million devices, the average daily online equipment at the same time, the average daily processing equipment requests was 20.4 billion times, and the average daily automation scene was 12 million times. On March 29, 2018, the Mijia APP has covered 20 million homes, more than 85 million connected devices, and more than 10 million daily active

devices. On March 31, 2019, Xiaomi IoT connected devices exceeded 171 million units (excluding mobile phones, tablets, and laptops). In just a few years, Xiaomi has built the world's largest consumer IoT Internet of Things platform, connecting more than 100 million smart devices, and 242 million monthly active users of MIUI.

Although Xiaomi's smart home business has achieved excellent results, it occupies a certain share in China's smart home market. However, with the continuous expansion of the market demand for smart home products, the personalized consumer demand and differentiated service experience requirements are increasing. At the same time, more and more enterprises enter the emerging industry of smart home, and the market competition is becoming increasingly fierce. Xiaomi's smart home business is facing many challenges. How to turn the challenge into an opportunity, stand out from the domestic and foreign competitors in the same industry like the surging market screening, so as to become the leader in the smart home industry, is the focus direction of Xiaomi's next step of research and efforts in this business.

This paper uses the theoretical knowledge related to strategic management, the smart home industry and millet company competitive environment, help millet research to choose smart home products competition strategy, hope that through the study of this paper, can enrich the smart home this emerging technology enterprise strategy theory, millet company in the future market competition, drive the smart home industry in the future in the direction of healthy, high-speed development.

## **II. Current status of research both at home and abroad**

### **(1) Current situation and background of smart home**

With the development and popularization of the fourth generation of Internet technology, smart home technology has been gradually integrated into the public vision and life consumption, and has become the next representative industry of the Internet of Things technology in the future. Through reference to some foreign documents, we understand the development situation and prospects of smart home in the international market. Yassine et al. (2018) pointed out that with the technical support of cloud computing and big data, the smart home industry has a broader market, which can provide consumers with more targeted services. Poncela et al. (2019) mentioned that the smart home system has been improved from a complex and cumbersome system to a simple and easy-to-use operation platform, bringing consumers an easier consumption experience to use. Gu Zhengbo (2019) in the "Internet of Things and smart home", smart home is residential as the platform, the Internet of Things technology as the core, on the basis of information sensing equipment, terminal software programming as the control lever, comprehensive use of sound control information, video data, lighting system, home appliance data, air conditioning braking, security system, etc., home life related facilities integration, form home remote control management system. According to information statistics, the output value of the world smart home market will continue to maintain a growth trend in the next few years. It is expected to exceed US \$150 billion in 2023. The size of China's smart home market is growing from 80 billion yuan in 2017, with a rapid rate of nearly 50% per year. Zhu Minling and Li Ning (2015) that in the development of Chinese smart home industry, due to the large expected market scale, attract a large number of capitalists and venture capital, intelligent gimmick greater than use value, the good and bad uneven "intelligent" products lack of unified industry standards, reduce the consumer expectations, become a bottleneck in the development of the smart home industry. At the same time, the security loopholes of information and data in the smart home have caused the risk of privacy leakage for users. How to ensure the data security problem is an urgent problem to be solved in the future. The research of Xue Jinlin (2020) pointed out that

the application of Internet of Things technology in smart home will become the future development trend of the future smart home market, which can meet the needs of contemporary home users for diversified services, and provide convenience and comfortable experience for people, and fundamentally change the product demand of the home furnishing market.

At present, China's smart home industry is still in the embryonic stage. Compared with domestic smart home enterprises and international first-tier and second-tier smart home enterprises, there is still a considerable gap between brand awareness and consumer recognition. However, with the advent of the 5G era, China's Internet of Things technology and smart home industry will enter the fast lane of development.

## **(2) Overview of Xiaomi's smart home**

Founded in 2010, millet company through the smart phone business into the smart product market, and the use of smart phone product terminal operating system, home products, develop the smart TV, sweeping robot, Internet air conditioning, Internet washing machine and other smart home products, gradually build millet IoT ecological chain, and AIoT as the core strategy of the future development strategy. The number of research mainly focus on the following aspects, the first aspect is the millet smart home competition development strategy research, such as scholars in jinlong think millet smart home in the process of the development should use the existing mobile phone market users actively convert it into the brand smart home users, enhance online and offline marketing, use strategic alliance to seize market share, by the existing ecological chain products to provide users with better service closed loop, improve user stickiness, to resist the threat of competitors. In her research, Zhao Na pointed out that Xiaomi smart home's competitive strategy should be a differentiation strategy, and from the brand image, product technology, organizational structure, customer service, human resources, marketing to give the security measures needed to achieve the competitive strategy. Wang Wei (2019) pointed out in its research that Xiaomi smart home companies should choose a two-step competitive strategy of cost-leading strategy and characteristic management strategy. Sun Yaling (2019) in its research from rice enterprise smart home marketing strategy of the research, and pointed out that millet smart home marketing should adhere to independent innovation and patent application, improve consumer product use and after-sales service experience, strengthen offline channel management, in expanding millet ecological chain at the same time, should be reasonable management of ecological chain enterprises and products. The second aspect is to conduct a detailed combing of Xiaomi smart home products, such as Sun Lu, Li Li and Tao Fuping (2016) believe that Xiaomi's product development model is different from other companies, that is, user participatory product research and development. Each generation of updated version of Xiaomi's products comes from direct feedback from users, which not only improves product technology according to market demand, but also increases the sense of participation, so as to improve the stickiness between enterprises and users in many aspects. In the marketing process, Xiaomi's experiential marketing enables some senior users or users with good product feedback to preferentially obtain new products, and timely improves them according to the feedback information of new products, which not only solves the problem of insufficient production, but also reduces the potential risk of batch listing of new products. Duan Yingying (2015) believes that millet has independent MIUI system, perfect electricity sales platform, good media marketing ability, stable loyal users and sound supply chain advantages, but in the research and development technology and patent technology is relatively weak, and the data information security risks, competition, foreign technical barriers affect the sustainable development of enterprises. Zhang Guiye (2017) believes that the high cost performance of Xiaomi's products depends on suppliers' accessories. Therefore, compared with the whole industry chain

enterprises, Xiaomi is weak in its bargaining power with suppliers, and it has not formed an oligarchy in its various fields, and lacks the advantages and confidence to negotiate with suppliers. Therefore, Xiaomi should maintain its online marketing model to reduce product costs. Gao Xuepeng and Zhang Fan (2019) that millet company is a mobile phone production and sales as the main manufacturing enterprises, in recent years millet mobile phone production and sales revenue from 80% in 2015 to 65% in 2018, visible its intelligent terminal IoT and consumer goods revenue rising, millet company is the Internet enterprise transformation, establish millet intelligent ecological chain model. The higher valuation of the capital market for Xiaomi also reflects the market's confidence in Xiaomi's development prospects.

Third, millet smart home development of the internal and external environment and business model analysis

### **(1) Xiaomi Company Introduction**

#### **1. Development process of Xiaomi company**

Founded in April 2010, Xiaomi Technology's main business is mobile equipment and software. The founder is chairman of Jinshan Software, and a famous angel investor, Lei Jun, and serves as its chairman and CEO.

At its inception in 2010, Xiaomi developed a third-party operating system MIUI based on Android;

In mid-2011, Lei Jun publicly announced that he would release a cost-effective Xiaomi smartphone. It was different from the two ecosystems of domestic smart phones at that time: Apple and Samsung with high price and high performance, and many domestic shanzhai machines with low price and high performance, and learned from the business model of the Internet to sell them through e-commerce. The low price and high performance Xiaomi smartphone, once launched, has popular rice fans.

After more than five years of development, Xiaomi has not yet been listed, but in December 2014, it was valued at \$45 billion, adding 180 times more value in just five years, making it the most valued Internet startup in the world. Xiaomi's user-centered business philosophy and the business model of the software and hardware integration are all highly consistent with the theme of the current mobile Internet era, and the wave of the smartphone era has pushed it onto a steep growth curve. At present, in the domestic Internet industry, Xiaomi's volume only ranks after BAT, and ranks in the second tier of domestic Internet enterprises, compared with JD 360 and other companies.

#### **2. Xiaomi's main business**

##### **(1) smart mobilephone**

In 2014, Xiaomi became China's largest smartphone maker. That year, Xiaomi tripled its mobile phone sales to 61 million units annually. At the press conference, Lei Jun said: "The core of Xiaomi's business model is to make excellent quality products and sell them at the cost price, so as to build a huge mobile Internet platform." Lei Jun carefully cultivated the Xiaomi fan base and used the "limited-time buying" mode to sell high and low-price smartphones. Take meager hardware profit, betting on future mobile value-added services revenue.

Xiaomi has become China's largest smartphone maker, with a market share, surpassing Samsung's 11% and 12.8%, according to Q and 1 Q IDC 2014. Meanwhile, Xiaomi's global market share has increased from 2.1% to 5.6%, jumping one step into the world's third-largest smartphone maker.

##### **(2) TV and boxes**

The first Mi TV, released in October 2013, includes three 40-inch, 49-inch, and 55-inch flagship products, selling a total of 6.77 million televisions and box devices. Lei said half

the number of the Mi TVs and boxes sold are in use every day, with an average time of 3-4 hours / day. In the field of video content, Xiaomi cooperates with domestic video websites and content parties to access broadcast control platforms with professional licenses and provide relevant content to its TV terminals. At present, the total number of legitimate video content has reached 18 on Xiaomi TV, 051, but not as total as 33,213 on Xiaomi phones. Overall, as Xiaomi focused on mobile business, its accumulation on TV brand and content is still relatively weak.

### **(3) smart home**

In the field of smart home, Xiaomi's main products include routers, home appliances, air purifiers, plug boards, bracelets and other hardware products. At present, Xiaomi air purifier basically exceeds 20% of the market. Xiaomi mainly invests in and promotes SDK smart modules to create its own smart home ecology. At the same time, Xiaomi tries to integrate its own 22 yuan intelligent module into more home appliances in advance, to unify the home appliance equipment entrance through the general control center. At the same time, Xiaomi further provides free cloud services for its partners, including application cloud, basic cloud and network infrastructure. At present, Midea has begun to plant Xiaomi's SDK in home appliances, but Xiaomi still lacks the effective means to attract more third-party home appliance manufacturers to plant Xiaomi's SDK.

### **3. Overview of the development process of Xiaomi smart home**

Xiaomi Technology Company Limited was formally established in April 2010. Xiaomi started as a smartphone. In just four years, Xiaomi sold 61.12 million mobile phones in 2014, ranking first in China's market share. As the competition in the smartphone market intensifies, Xiaomi is also constantly seeking transformation and upgrading, and smart home is such a blue ocean market with broad development prospects. Since its establishment, Xiaomi has been transforming from an enterprise mainly with smartphone products to an innovative technology enterprise focusing on the research and production of intelligent products in the whole Internet industry chain. In 2016, Xiaomi released a new ecological chain brand, —— Mijia MIJIA, which is used to specifically provide Xiaomi supply chain products, while the Xiaomi brand is used to specifically develop and produce Xiaomi's own products.

Xiaomi constantly expand smart home business, launch smart home products, including millet TV, millet router, millet intelligent lighting system, rice home smart door lock, millet scale, millet smart socket, millet, small love speaker, rice home Internet smoke stove set, rice cooker, rice home oven, millet smart camera, millet Internet air conditioning, rice home washing machine, rice home sweeping robot, millet water purifier, rice home air purifier, rice home projector, rice home induction cooker and a series of refreshing high-tech products.

Xiaomi officially launched the dual mobile phone + AioT (AI + IoT) strategy in 2019. With the continuous hot sales of Xiaomi smart home products, IoT and life consumer products have accounted for nearly 30% of the company's total revenue. According to the third quarter of 2019 performance report released by Xiaomi Group, the number of terminal connected devices on the Internet of Things platform enabled by the artificial intelligence of Xiaomi Group has exceeded the 200 million mark, reaching 210 million yuan. MIUI has 292 million monthly active users worldwide, and Xiaomi has built itself into the world's largest consumer IoT Internet of Things platform.

At the same time, millet company actively with other enterprises to carry out the smart home industry cooperation, jointly create good quality, sufficient number of smart home products, such as with China resources real estate to build smart home community, and TCL production smart TV, in 2018, China smart TV market, is with 13.9% share became the first.

## **(2) Analysis of Xiaomi Smart Home Business Model**

### **1. Marketing model analysis**

#### **1) Marketing strategy based on user participation and interaction**

In the process of developing the MIUI software system, Xiaomi provides users with an open feedback platform to users. Each software update is based on the feedback and suggestions of loyal users. This interactive marketing method has brought various positive effects to Xiaomi. One is to increase the sense of user participation, so that users can experience the product performance improvement brought by their own suggestions in the new product, so as to increase the user use stickiness. Second, determine the direction of research and development as demand-oriented, so that new products can be more quickly integrated into the market demand, and increase the market competitiveness. Third, based on a single user, establish a word-of-mouth communication model, and enhance the image of the brand in the hearts of potential consumers. This marketing mode of marketing not only provides a direction for research and development, but also provides a reliable and low-cost publicity method for enterprise brand and product reputation, and provides the basic conditions for Xiaomi to develop smart home business.

#### **2) Marketing strategy based on new media characteristics**

The main user group of Xiaomi is concentrated in the younger generation, which mainly relies on new media to obtain information and spread information. Therefore, Xiaomi uses the new media communication characteristics and communication channels to monitor the target user market, and provide publicity and marketing for the brand. First, we should make full use of the weak relationship communication characteristics of Weibo, launch topics that attract loyal users and potential users, increase the discussion degree and occurrence frequency of Weibo, and gradually expand the communication scope of brands on the Internet. Second, continue to operate and maintain the sense of interactive participation of loyal users in the forum. The original loyal users of Xiaomi participated in the feedback of product experience and providing research and development suggestions through the forum. With the decline of the attention of the forum and the improvement of Weibo attention, Xiaomi did not completely transfer its marketing strategy to Weibo, but continued to maintain the loyal user activity and carry out multi-line marketing. Third, make use of the strong relationship communication characteristics of WeChat to give users one-to-one customer service services, and increase the user's service experience, so as to increase the user stickiness. The above three marketing strategies provide a systematic user expansion and user maintenance way for Xiaomi's smart home business.

#### **3) Marketing strategy based on fan dividend**

Based on the smartphone business, Xiaomi continues to be expanding its surrounding products, bringing loyal users into the potential consumer goals, and making use of the fan dividends and brand reputation dividends to gradually enter the smart home market. Mobile phone business as the main income business, the market attention is still the highest. Xiaomi combines the mobile phone system with the smart home system to enrich the use performance of mobile phones, and make use of new product launch opportunities to vigorously promote smart home products. While paying attention to new mobile phones, Xiaomi fans will naturally be attracted by the modern manipulation performance of the smart home to buy more peripheral products. Xiaomi's "bundled" marketing method not only drainage its smart home products, but also lays a foundation for the construction of intelligent industry ecological chain, forming an all-round intelligent manipulation of Internet of Things products.

Xiaomi company's smart home business is in the same line with its brand culture. "Born for a fever" is the classic symbol of Xiaomi company. The smart home business also inherits the marketing strategy practiced by Xiaomi company in its main business. From the

word-of-mouth mode, hunger mode, fan mode, and then to the feelings mode, Xiaomi has always been at the forefront of Internet marketing, made full use of the characteristics of Internet communication, and created good conditions for its brand promotion and image establishment.

## **2. Analysis of the production and operation mode of Xiaomi smart Home**

Xiaomi is an asset-light company, and the advantage is that it can use the terminal devices in the mobile phone industry to control the information sensing devices in the smart home products, so as to directly build the Internet of Things platform and realize the development and layout of the whole smart home product chain. The development history of Xiaomi's products can be said to be the process of branding and integration of imitating mature products. Xiaomi company earlier realized that imitating mature products cannot form a long-term competitive advantage. Only by taking active transformation and upgrading can we truly establish the brand image of Xiaomi and create exclusive products. In the early days, Xiaomi, on the one hand, was in the consideration of hunger marketing, and on the other hand, it really lacked strong production capacity. At one time, the products went out of sale, which could not meet the needs of consumers, and even deliver the goods on time. After losing losses in terms of production capacity, Xiaomi realized the importance of supply chain and adopted a variety of means to provide complete guarantee for allocation and supply. Xiaomi focuses on research and development, outsourcing its production and assembly services. Millet company incubation and invested in hundreds of ecological chain suppliers, the main ecological chain suppliers including smart rice (air purifier and air quality monitor supplier), China rice (smart bracelet, scales supplier), stone technology (intelligent sweeping robot supplier), na en bo (smart scooter supplier), cloud rice (water purifier and other product supplier) and many other suppliers. The assembly of Xiaomi's smart home products is mainly given to outsourcing companies, and Xiaomi has maintained a good relationship with the top five outsourcing partners, with a 1-to 5-year service relationship. Xiaomi, ecological chain suppliers and outsourcing partners have achieved mutual benefit and win, and has strong and stable production capacity under asset-light conditions.

As a newly rising hardware manufacturer, Xiaomi has become the focus in recent years. Some people say that Xiaomi mode into smart home = hardware + software + Internet services.

### **1) "Xiaomi" business model —— hardware, software, services**

Depth through the link relationship between hardware (Mi mobile phone, Mi box, Mi smart TV, Mi router, Mi bracelet, Mi camera, Mi blood meter, Mi smart socket, etc.), software (Mi desktop, application store), service (MIUI community, Mi Chat, Mi network, etc on). The advantage is that it avoids the lack of caliber between traditional hardware manufacturers, Microsoft and the network (similar situations in the Android camp). For example, in the primary association field, the rise of Xiaomi phones has led to the rise of peripheral products such as MIUI, Xiaomi official website, Xiaomi bracelet; in the secondary association field, the growth of address book, cloud storage, application store, and APP; through the secondary correlation field, the app store promotes the development of video, music, reading, games and other content industries.

### **2) Analysis of the core competitiveness mode**

The core competitiveness of enterprises rely on, enterprises have alone, a core ability to ensure that enterprises stand out in the market competition. Core competitiveness is the foundation of an enterprise, and all the achievements achieved by an enterprise cannot be separated from the core competitiveness of the enterprise. The core ability of the enterprise changes with the development stage of the enterprise, including advanced technology advantages, professional talent advantages, product price advantages, enterprise management advantages, brand marketing advantages and other core advantages. Xiaomi interprets its core

competitiveness as a "triathlon" business model: advanced hardware products + diversified marketing + Internet thinking. The core competitiveness of Xiaomi's smart home industry can be called the whole ecological chain platform + advanced technology research and development + sticky users. Relying on its smart phone user base, Xiaomi smart home products will integrate its smart products in the era of the Internet of Things to create their own smart home empire. Mijia adopts a diversified marketing mode combining online and offline to provide users with simple and beautiful design and advanced and practical products. Marketing has always been Xiaomi's strength. From the marketing that imitated Apple's mobile phone press conference in the past, to hunger marketing, to fan marketing, every marketing change of Xiaomi has aroused great response to the market, and gained a huge influence by making use of extremely low publicity costs. Xiaomi has a very strong ability to integrate resources through negotiation and cooperation. In addition, Xiaomi pays attention to product research and development, and invests billions of yuan in the field of smart home. Xiaomi has become the target of its example in the smart home industry, and any new product produced will drive the decline in the average price of the industry. Xiaomi's brand has become a representative of conscientious enterprises in the eyes of consumers. In summary, the core capabilities of Xiaomi's smart home business are mainly manifested in the following two aspects:

Xiaomi is an innovative technology company with Internet thinking. In the field of smart home, it mainly relies on mobile terminals to build an ecological chain platform of the Internet of Things. It remotely manipulates smart home products through mobile clients, attracting a large number of fans to buy and experience. With millet company constantly deep smart home industry, developed some good quality and inexpensive products and services, such as millet smart TV, millet sweeping robot, millet smart speakers, millet box, millet built China's largest smart home IoT platform, IoT Internet equipment more than 171 million units (excluding mobile phones, tablets and laptops), MIUI monthly active users reached 242 million. Now, Xiaomi smart home products can be connected through a variety of means, Xiaomi mobile phone is no longer the core of the smart home operating system. The platform model has brought new customer loyalty to Xiaomi smart home, and the integration of operating system and use interface, so that more users can choose Xiaomi products.

Low cost advantage, Xiaomi company's low cost is interlinked, will be all aspects of the cost control to the extreme. First of all, Xiaomi company was established later, taking advantage of the development wind of the Internet industry, with the Internet-based production mode to achieve a cost advantage. Xiaomi does not have its own factory, production line and a large number of working workers, with no burden of land, factories, workers' wages and social security. Instead, Xiaomi uses the ecological chain to incubate and cultivate future strategic partners to outsource all the production and assembly of its products to other enterprises. At the same time, Xiaomi enterprises do not need to cultivate skilled workers, do not need to worry about the transformation and upgrading cost of the production line.

Second, Xiaomi has widely used the Internet to speak out for the marketing of its own products. Through press conferences, online booking and online mall, Xiaomi has formed its own fan culture, reduced the advertising costs of various kinds through word of mouth, and established a smooth channel.

Finally, for smart home, Xiaomi adopts the cost pricing method of —— to serve with hardware. Compared with traditional hardware manufacturers, "Xiaomi" and "Letv" have the common characteristics of ——, namely, hardware cost pricing is very low, using other businesses and services to make up for subsidies. This cost pricing reason is that now the rapid social development, hardware products very fast (for example, a lot of people's mobile phone

from the past few years, to update a year), hardware competition is more and more fierce, therefore, emerging hardware manufacturers, with "software" pull "hardware", profit point is not only the hardware itself, but contains huge cost of software and service system. And the traditional manufacturers that follow their prices will mean losses.

Here take the pricing of Xiaomi mobile phones as an example. It is well known that the same configuration of Apple, Samsung and most domestic brands of smart phones sell for more than 4000 yuan, and the price of Xiaomi mobile phones is only 1999 yuan or even 999 yuan, which is half of the price of the above brand mobile phones, which can be said to be such a big price gap, allowing "Xiaomi" to rise rapidly. Its surrounding smart products will also get the market with this pricing model. The Xiaomi hardware ecosystem is shown in Figure 1.1.

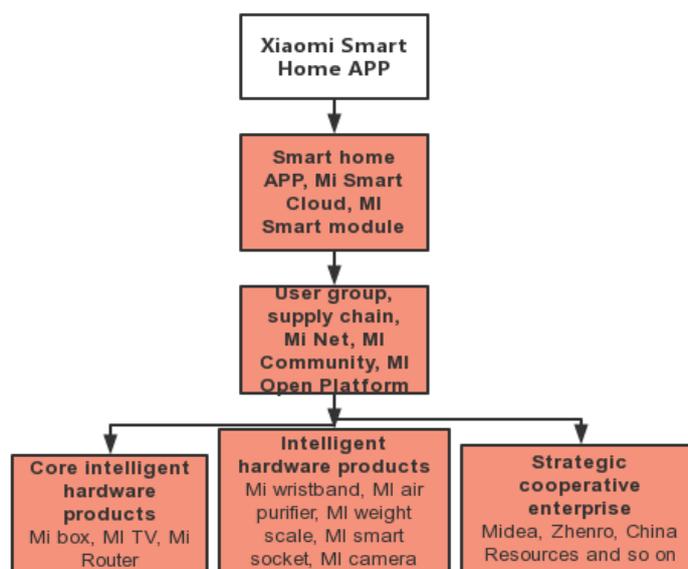


Figure 1.1 The "Xiaomi" hardware ecosystem

The figure shows that Xiaomi's pricing model aims to help it win the market, form a relatively complete ecosystem chain, and obtain greater market space. Xiaomi continues to reduce its own costs, thus occupying a large number of market share, and its products are particularly selling well, which enables Xiaomi to realize the large-scale production of most smart home products, further reducing the product cost and forming a virtuous cycle.

With the cost performance advantage, Xiaomi has continuously compressed the cost unrelated to quality, thus ensuring that in the low-price mode, Xiaomi still never cut corners and uses real raw materials to make its products, forming a good goodwill. Through research and development and innovation, Xiaomi produces high-quality intelligent hardware single products, and many single products are unified in the Xiaomi ecological chain platform, bringing together into a cost-effective smart home system. Moreover, Xiaomi always guarantees that the comprehensive net profit rate of hardware does not exceed 5%, which inevitably leads to the best quality among the goods of the same price and the best price among the goods of the same quality. At the same time, Xiaomi attaches special importance to the customer experience, adheres to the people-oriented service concept, and directly interacts between MIUI R and D engineers and consumers, and constantly update and improve the reasonable needs raised by customers. Xiaomi's smart home business provides customers with affordable and inexpensive products and high-quality and affordable services, which has become a cost-performance benchmark in the industry.

Product design advantages, Xiaomi company since its establishment, has attached great importance to the product design, a considerable part of Xiaomi company's technical staff are engaged in product design work. With the continuous maturity of technology and the gradual accumulation of funds, the integration design of product appearance, image and performance has also become one of the highlights of Xiaomi. Xiaomi smart home products adhere to the simple but not simple design concept, using a large number of black, white, gray and other simple and generous monochrome tone. This design mode, without flashy excess decoration and color, highlights the simple beauty of technology, symbolizes Xiaomi's calm and rational and objective, get recognized by the market, and become the object of imitation in the industry.

The brand is deeply rooted in the hearts of the people. Xiaomi Smart Home always adheres to the user demand-oriented, taking advantage of product cost performance advantages and user participation in research and development, quickly accumulated high popularity in the short term, and has a loyal fan of Xiaomi brand. Since the establishment of the company, Xiaomi has been doing its best at the same time, Xiaomi company gradually carry out offline business, from Internet management to online and offline double path to expand the market business model, promote independent innovation, independent research and development, constantly strengthen marketing, and gradually expand the market share of smart home products. Especially after Xiaomi was listed in Hong Kong stocks in 2018, Xiaomi has become the focus of the majority of investors. Consumers can buy the functions and services of Xiaomi products, Xiaomi brand more deeply rooted in the hearts of the people.

### **3) Analysis of corporate culture model**

Xiaomi smart home is one of the core businesses of Xiaomi Co., Ltd.. Xiaomi smart home corporate culture and Xiaomi corporate culture share the same line, that is, "born for a fever". The word "fever" has established Xiaomi's user-centered corporate culture.

First, the enterprise LOGO reflects the enterprise culture with users as the core. Xiaomi's LOGO is in the "MI" shape. The logo is not only simple and easy to identify, but also contains the heart and wisdom of the designer. Looking forward, "MI" is meter pinyin, but also represents the meaning of Internet, which expresses the Internet technology attributes of enterprise products. LOGO, on the other hand, is that the Chinese character "heart" is a little less, reflecting the concept that Xiaomi brand makes users "save a little heart" in product design.

Second, the consumption experience reflects the corporate culture with users as the core. User experience can be divided into three levels. The first layer is the user use experience, the second layer is the user participation experience, and the third layer is the after-sales service experience. On the use experience, millet company based on youth, consumption level is limited and have a certain preference for intelligent products target audience demand, pay attention to improve the product cost performance, the intelligent, modern home products to easily acceptable price into the consumer market, fully meet the consumer demand of the target audience, bring good use experience for users. In participating in the experience, millet company always adopt the "use-feedback-update-use" mode, let all used millet smart home products users to participate in the product update research and development, according to the user feedback update product performance, make the user to participate in the research and development, improve the user psychological satisfaction, increase the use of user viscosity. In terms of after-sales service, Xiaomi's high-quality, humanized and one-to-one customer service mode has improved customer consumption satisfaction, so as to accumulate a good reputation of Xiaomi brand in the market, and provide favorable conditions for the improvement of market competitiveness.

Third, the "rice noodle management" reflects the corporate culture with users as the core. "Because of the rice noodles, so Xiaomi" is the catchphrase of Lei Jun, the founder of the Xiaomi company. The loyal fans of the Xiaomi brand group is a special corporate culture different from similar companies. In addition to building a product-based fan base, Xiaomi also relies on brand cartoon images to resonate with more users. Millet brand cartoon image for a rabbit with five horn red star green lei feng hat, and millet name is easy to let people with "millet plus rifle" together, full of revolutionary slogan and revolutionary characteristics, inspire the masses of users patriotism and Chinese national pride, increased the user love and recognition of millet brand, but also expressed the connotation of patriotic corporate culture.

#### **4) Analysis of the enterprise organization structure mode**

The theoretical research of enterprise organizational structure is very rich, and experts and scholars have studied and demonstrated the importance of enterprise organizational structure to enterprise development from various perspectives. In a word, the essence of the enterprise organizational structure is the division of labor and arrangement of work tasks within the organization. In the early days, Xiaomi was small with a small number, similar to most high-tech and Internet companies, Xiaomi adopted an arrow organizational structure and implemented flat management, which was roughly divided into three levels. The first layer is the core management of the company led by Lei Jun, chairman of Xiaomi. According to the management division of expertise, each executive can exercise the independent power within the division of labor; the second layer is the department heads and product managers; the third layer is the ordinary staff. With the continuous expansion of the Mi Empire, the organizational structure of Xiaomi has been continuously adjusted, especially since Xiaomi was listed in the Hong Kong stock market in 2018, Xiaomi has accelerated the pace of organizational structure adjustment and made major organizational structure adjustments for many times. See Schedule Table 1.2 for details.

Table 1.2 List of major organizational adjustments of Xiaomi in recent years order number time Xiaomi company organizational structure adjustment content

1. September 3, 2018 Four business departments, including TV Department, Ecological Chain Department, MIUI Department and Interactive Entertainment Department, will form ten new business departments and establish the organization Department and staff department of the group
2. February 17, 2019 Implement hierarchical management, with a total of 22 levels
3. February 27, 2019 Cui Baoqiu was appointed as vice president of the Group and chairman of the Group Technical Committee, and divided the previous artificial intelligence and cloud platform Department into three departments, including artificial intelligence Department, big data Department and cloud platform Department
4. March 7, 2019 Establish the AIoT Strategic Committee
5. May 31, 2019 The original Group Quality Office was merged with Safety Compliance into the new Group Quality Office
6. June 13, 2019 Establish an offline business committee

Xiaomi from small to grow stronger, enterprise management from relatively simple become redundant, enterprise organization structure has become relatively complex and multi-level, this is a large company especially the Internet high-tech companies, high freedom, diffuse organization may inspire others, in the short term, but from the perspective of a standard company, clear responsibilities, relatively strict organization structure is a solid foundation of long-term development. However, Xiaomi has been trying to streamline administration, maximize the ability and potential of employees at all levels, and continue to optimize the organizational value curve by adjusting the changes of organizational elements, and beware of the arrival of efficiency and decline.

Problems and solutions existing in the process of the development of Xiaomi smart home

### **(1) Problems existing in the development process of Xiaomi smart home**

Although Xiaomi has a relatively late layout in the smart home industry, Xiaomi has achieved the latecomer. At present, the smart home business is developing rapidly and in the leading position in the market. However, while Xiaomi smart home business is booming at the same time, there are also some problems gradually exposed, there are also deep contradictions behind the fire cooking oil. Specifically reflected in the following several aspects.

#### **1. The Quality aspect needs to be strengthened**

Xiaomi one-sided pursuit of brutal growth in the number of smart home products, to a certain extent ignored the improvement of product quality. Xiaomi smart home business relies on small profits and more sales, the lowest cost of the means to quickly seize a huge market share, different categories of products have a huge market sales. But at the same time of horse racing enclosure, a lot of products quality is unsatisfactory. Moreover, in order to make the products quickly come out to seize business opportunities, many smart home products of Xiaomi are simple imitation of the existing foreign high-end smart home products, and even some degree of shoddy manufacturing, the accuracy and professionalism of the products are greatly reduced. Xiaomi does not have its own factory, and its products are provided by ecological chain enterprises and OEM factories. Therefore, it is difficult to control the quality. The quality gap of different enterprises in different batches is large, and consumers even buy Xiaomi products with the mood of buying lottery tickets. In addition, Xiaomi smart home products are facing many quality problems. Many products need to be repaired or even replaced in the short term because of quality problems. Xiaomi's after-sales service is not in place, which seriously affects the consumers' follow-up choice of it. With the continuous progress and development of Xiaomi's smart home business, the number of Xiaomi products is becoming more and more. Even under the same comprehensive waste rate, Xiaomi will inevitably have more poor products and waste factory circulation to the market. Therefore, Xiaomi needs to strictly control the quality and ensure quality and quantity.

#### **2. Scientific and technological content needs to be improved**

For a high-tech company, Xiaomi pays too much attention to its wide product coverage and ignores the "intelligent" function. Xiaomi smart home products almost covers the whole smart home market, in many fields, millet company intelligent concept for the first time into the traditional home products, from the smart door lock "the door" into the indoor, has spread to every corner of the house, lighting system, bathroom, kitchen utensils, audio equipment, temperature control system, cleaning system and so on. Some of these products are of a relatively high degree of intelligence, and have a good reputation. But a considerable part of the products only make use of the concept of smart home, mixed with some insignificant intelligent elements, from the actual effect, and the smart home products in the hearts of the majority of customers are far away. Intelligent products, its fundamental purpose is to provide the majority of consumers with a more comfortable, convenient, safe, worry-free life enjoyment, "intelligent" should be integrated into the bones of the product, rather than as a flashy ornament and decoration. "Smart" is more like a marketing gimmick for Xiaomi's smart home products, did not bring refreshing consumer experience and bright visual impact to consumers. Its intelligent functions of Xiaomi's products sometimes cause inconvenience, such as difficult to start and high maintenance costs.

#### **3. Profit margin is too low**

Xiaomi attaches great importance to the cost performance of smart home products, which leads to too low profit margin, poor risk resistance of enterprises, and most of the ecological chain enterprises are faced with survival difficulties. Higher cost performance is millet started, millet's vision is "let everyone can enjoy the fun of science and technology",

millet product concept is "born for fever", these blood, full of idealistic slogan attracted thousands of millet "rice noodles", millet products at the beginning of the business also met the ordinary consumers to have their own relatively cheap high-tech products. But with the continuous transformation and upgrading of Xiaomi, Xiaomi has grown from a newborn calf to a familiar large high-tech company in just a few years. The company's products are also gradually moving from the original middle and low-end market positioning to the middle and high-end. At this time, the pressure of technology research and development is increasing. In order to fulfill its commitment to consumers, Xiaomi has to continuously reduce the costs of other aspects on the basis of maintaining the original production source and material quality, a large part of which comes from the profits of ecological chain enterprises. As a result, many ecological chain companies Xiaomi cultivated are transforming and trying to get rid of Xiaomi's impact on its dominant role.

## (2) Analysis of the problems existing in Xiaomi's smart home business

There are many above problems in Xiaomi's smart home business, some of which are caused by the objective environment, and some of Xiaomi's subjective neglect of management and insufficient attention. It can be briefly attributed to the following three factors: Xiaomi is in the initial stage of the development cycle, and the degree of fine management is not enough; the other is the "intelligent" business is slow development and lack of major technological innovation; the enterprise and ecological chain are in the run-in period, and both sides need to constantly adapt, and Xiaomi's strategy needs to be further adjusted.

### 1. Enterprises are still in the beginning stage of the development cycle

First, from an objective point of view, the smart home industry is still a blue ocean market, the market scale has exploded, the incremental market can make enterprises make a lot of money. Consumer demand for quantity is still greater than the requirements for excellent quality of products, and manufacturers do not need to dig deep into the market. At the same time, due to the main low cost strategy, the low cost reduces the consumers of high quality expectations, Xiaomi has not shifted the focus of production from quantity to quality.

Second, Xiaomi's smart home business is still in the initial stage of the development cycle. Compared to being stronger, the task of being bigger is more urgent and the pressure is greater. Therefore, Xiaomi currently focuses on diversification, rather than specialization. Xiaomi is eager to become a leader in the smart home, hoping that consumers will emerge the corporate image of Xiaomi and Xiaomi's products as soon as they mention the smart home. Improving the product market share and strengthening the impression of products in the hearts of consumers is an important work content of Xiaomi in the hearts of consumers.

Third, Xiaomi company in the smart home industry slightly greedy, dabble in too many fields, too scattered energy, often to seize the market, so that the product quickly meet with consumers, a product in the intelligent level is not enough, the technology is not fully mature conditions, Xiaomi company hurried to push it to the market. Moreover, Xiaomi's products are produced by ecological chain enterprises and OEM. Xiaomi does not have its own factory, so it is difficult to achieve strict quality of every product.

## **2. Strengthen the development of "intelligent" business**

The core of the smart home products is the technology. Only with the core technology, can we produce the smart home products that meet or even exceed the consumer expectations. The reason why there is still a considerable market for the traditional home products, especially when the older consumers still choose the traditional home products for consumption, is because the smart home "intelligent" is not enough, the so-called "intelligent" did not let the consumers feel absolutely convenient and comfortable. Although Xiaomi's smart home products have certain intelligent elements, bringing a new production concept to

the traditional home furnishing market, Xiaomi still did not achieve a major technological breakthrough, and developed and designed a high-level "intelligent" products. Compared with other enterprises in the smart home industry, smart home products are much the same, and there is no obvious leading technology, the homogenization phenomenon is serious. Consumers currently mostly choose Xiaomi only because of price factors. However, only by high cost performance and low cost of consumers, it is difficult to win the favor for a long time. Once other enterprises have major technological innovation, fundamentally change the definition of smart home and create a new connotation of smart home, Xiaomi's current position as a leader will be greatly impacted and challenged. Therefore, in order to excel in the smart home products, Xiaomi company must constantly strengthen its own "intelligent" business, increase the investment in technology research and development, and strive to create hot style products.

### **3. Xiaomi enterprises and their ecological chain are in the running-in period**

Xiaomi company can make a bloody way from the highly competitive smart home market, the low-cost strategy in this process, to help Xiaomi enterprises temporarily gain a firm foothold. Xiaomi relies on the increasing smart home market scale, and the rising sales of smart home products, so as to achieve the economy of scale, and constantly reduce the production costs and increase profits. But the process is relatively difficult, long-term low profit not only make millet in research and development, marketing, after-sales service and other cash burning links, and greatly affect the long-term development of ecological chain enterprises, a considerable part of ecological chain enterprises are seeking change, to get rid of millet control, reduce millet product share in its production products, millet as a springboard rather than long-term mutual benefit cooperation and win-win partnership. In addition, the competition in the smart home market is getting more and more hot. Xiaomi's development strategy must be carried out simultaneously with the development stage of the company. Too low price is no longer a magic weapon for Xiaomi and its ecological chain, but gradually become a major obstacle restricting Xiaomi to deepen innovation and promote high-quality development. The disposable income of consumers is increasing year by year, the sensitivity to the price may be lower and lower, low price is no longer the main factor to attract consumers, millet company needs to drive the development of ecological chain enterprise transformation, through further run-in, the cake bigger, find a win-win balance, from low profit mode to the direction of high value-added adjustment.

#### **(3) Research on Xiaomi Smart Home optimization Strategy**

In the early days of its business, Xiaomi dominated a competitive smartphone market through a low-cost strategy, seizing a huge market. In the early growth stage of the smart home industry, it is also the enterprise with the highest share in the industry through the low-cost strategy. Although in the smart home industry, Xiaomi's market share and product sales are far ahead, its profitability has always been difficult to improve, and the corporate image of low-end products has always disappeared in the hearts of consumers. Xiaomi's strategic planning goal need to adjust with the new stage of enterprise development, at the same time, low cost strategy as the past rapid development seize the market share ace, now gradually step back, give way to more conducive to promote enterprise product technology content, product quality, improvement of corporate image differentiation strategy. Low-cost strategy can continue to play a role in procurement, operation and other links, but in the production, service, marketing and other important links, Xiaomi must fight out its own blood path, to achieve a breakthrough in the current fragile profitability. After determining the choice of competitive strategy, this chapter gives the implementation path of Xiaomi smart home differentiation strategy, and puts forward the corresponding safeguard measures.

##### **1. Establish a Xiaomi smart home enterprise research and development system**

Under the conditions of market economy, the competition between enterprises has continued the law of survival of the fittest. As a manufacturing enterprise, to gain a foothold and win a place in the fierce competitive environment, improve their core competitiveness is the only method, and the key element of the core competitiveness is advanced technology (Zhou Tao 2018). Therefore, in order to quickly improve the technical strength and competitiveness of enterprises need to make the following plans.

1) Increase mergers and acquisitions of technical enterprises

In the global integrated market environment, merger and acquisition is one of the fastest ways to improve the competitiveness of enterprises, which naturally includes mergers and acquisitions of technology, technology mergers and acquisitions, is the fastest way to improve the enterprise research and development ability. Make up for the lack of enterprises in a special field by the acquisition of companies with technical advantages. So as to quickly enhance the competitiveness of enterprises.

2) The "Bamboo forest mode" of investment + incubation

Strengthening mergers and acquisitions can only meet the improvement of the research and development capabilities of the existing mature technologies. With the maturity of the Internet of Things technology based on the Internet, the weather vane of the industry market is constantly turning without rules. Therefore, under the uncertain external factors, in addition to increasing technology mergers and acquisitions, Xiaomi also needs to cultivate innovative enterprises and projects, invest and incubate potential companies and products, and use soft resources to drive and help the innovative growth of enterprises.

3) Accelerate the pace of talent introduction

Increase the introduction of technical personnel. The high-quality and efficient development of enterprise production activities requires a stable and high-quality talent reserve, and it is also a strong backing for the personalized demand of products. So far, on the one hand, it is necessary to recruit mature outstanding talents from various famous Internet companies. On the one hand, we should continue to recruit master and doctoral graduates from domestic universities such as Tsinghua University, Peking University, Beipo, Xidian and other strong electronic communication schools, so as to cultivate reserve strength for Xiaomi.

## **2. Establish the customer service system of Xiaomi smart Home company**

For Xiaomi Smart Home Company, the difficult to make satisfactory after-sales has been complained by buyers. There are two ways of after-sales of Xiaomi products, one is to return to the factory by mail for repair through online application, which takes a very long time. One is through Mi Home, which has limited coverage and a large number of third- and fourth-tier and second-tier cities. Although online customer service telephone consultation, can achieve accurate, fast and efficient service, but due to increased sales, problems are endless, customer service has also been ignored, which has seriously affected the brand image of Xiaomi. If this problem can not be solved, in the long run, the brand image of Xiaomi smart Home company will also have a negative impact. Therefore, Xiaomi smart home company needs to build a professional service team and service mechanism needs to make the following planning.

### **1) Build a professional service team**

Improving the ability of the enterprise is the key to the sustainable development of the enterprise in the future. Excellent employees can promote the development of the company. Therefore, Xiaomi Smart Home Company needs to pay attention to the introduction of high-quality talents, and strengthen the training of the ability promotion of existing employees. To build a professional service team, employees not only need excellent technical ability, but also value interpersonal ability. To sum up is: technical ability is to provide customers with accurate product diagnosis ability in the actual work process. Interpersonal skills cover a relatively wide

range of aspects, including attitude, conversation, and the quality of communication with customers (Zhang Ying, 2018).

## **2) Establish a product and service team**

The establishment of 400 service center to let professional and technical teams conduct direct docking services with customers is the cornerstone of service management. Through the construction of 400 service team, customers can not only solve the confusion of the product in the first time, but also for enterprises, enterprises will have a feedback window after the product is put into the market. Collect the product problems through the 400 service window, and upgrade the product, to achieve the purpose of improving the product. Enterprises have a window to directly connect with customers to understand the deficiencies of products in the actual use, and can also improve customer satisfaction.

## **3) Strengthen the ability improvement of professional and technical personnel**

Technical personnel are the core members of the team. Their service level will directly affect the business ability of the overall team. Therefore, improving the professional team to conduct targeted and personalized staff training according to their strengths and disadvantages is the key to improve their professional ability.

### **3. Improve the internal service mechanism of Xiaomi Smart Home Company**

#### **1) Strengthen the internal process service mechanism**

In fact, as the after-sales service organization of Xiaomi Smart Home Company, the service quality and efficiency of Xiaomi depend on the advantages and disadvantages of internal service. In the actual work process, mainly rely on the integration of the company's internal resources and the second-line service personnel support, can be completed. Therefore, strengthening the internal service standardization and process change is the key to improve the service level. At the same time, it is the spiritual support of this measure to establish a good sense of service, the front-line serving customers, and the second-line employees serving the front-line employees.

#### **2) Establish the assessment service standards and key performance indicators.**

Through the customer satisfaction survey and score of 400 telephone, the assessment mechanism of first-line employees is established, and through the completion rate of front-line employees, the completion rate of second-line employees is formulated. Specific standards, the following only first-line employees as an example: performance appraisal indicators: through customer problem solving results (solved & unsolved), customer satisfaction with service personnel (smooth communication & not smooth), customer follow up speed (the day reply & reply & reply within a month) and other comprehensive indicators of frontline staff performance assessment, and linked to the actual performance bonus, drive the enthusiasm of service personnel to improve the service level.

#### **4. Establish the supply chain system of Xiaomi smart home company**

With the global economic integration, the increase of market uncertainties and the all-round competition of enterprises among industries, the proportion of the purchase amount in the sales volume continues to increase. To control costs and increase revenue, Xiaomi Smart Home uses an outsourcing strategy to meet the needs of cost-reduction. However, for the upstream supply chain, blindly lowering the procurement price will bring the adverse development cycle of the upstream industrial chain enterprises. Therefore, the construction of a win-win supply chain system determines the key to Xiaomi's smart home profits. Xiaomi needs to speed up the implementation of the supply chain system construction, the specific measures are as follows.

#### **1) Improve supply chain management and coordination**

Universal supply chain thinking in the supply chain, improve the supply chain management system, strengthen enterprise standardization, informatization, cultivate their

own supply chain professionals, to guide the mode of improve upstream and downstream enterprise coordination ability, form a division of labor and cooperation network system, actively "go out" to carry out foreign trade and investment cooperation, build a global supply chain, improve the efficiency of global resource allocation.

2) Strengthen supply chain technology and model innovation

We will actively cooperate with universities and research institutions, build supply chain research centers or laboratories, carry out supply chain technology innovation and software and hardware research and development, use the current system, promote the application of new supply chain technologies, and accelerate the digitalization, intelligence and internationalization of the whole industrial supply chain.

3) To build and improve various supply chain platforms

Take the platform as an important carrier to improve the supply chain system, strengthen the system and data docking with upstream and downstream enterprises, give full play to the docking functions of the supply chain HUB platform in resource agglomeration, realizing demand and information services, and build a cross-border integrated industrial supply chain ecology.

4) Standardize the development of supply chain financial business

Xiaomi Smart Home Company can strengthen the cooperation with commercial banks and platform enterprises, innovate the supply chain financial business model, optimize the supply chain capital flow, and actively yet steadily carry out the supply chain financial business in accordance with the law and regulations.

The purpose of enterprise strategic research is to assist enterprises to develop scientific, reasonable and suitable development strategies. This article tries to take millet smart home company as an example, on the basis of the domestic smart home environment combing and summary, the macro environment, industry environment, competitive environment, on the basis of the analysis of the millet smart home operation mode, such as marketing mode, production mode, brand culture, based on the current situation analysis summarizes the millet smart home problems in the development process, and the reason analysis, put forward the corresponding development optimization strategy.

This paper shows that millet smart home company through a unique business model operation, in the field of smart home experience advantage, supplier relationship advantage, cost control advantage, product design process control advantage and innovation-driven kinetic energy advantage, strengthen millet brand image in the field of smart home and industry influence, through low price, high price ratio, high function use of products quickly occupy the smart home market, so as to achieve the strategic goal of enterprise development. Xiaomi Smart Home Company is one of the industry representatives in the emerging field of smart home. Through the research of this paper, we hope to provide some reference for continuously improving the enterprise value and competitiveness of the industry and clarifying the direction of how to the improvement and promotion of the Internet of Things technology. Due to my limited knowledge, this paper will have certain limitations, here please ask the experts and teachers to correct. In the future, I will combine and flexibly apply the theories learned in school with the enterprises in the future, which has applied what I have learned and can contribute to the practical work.

## REFERENCES

- A Yassine, S Singh, M Hossain and G Muhammad.2018. IoT big data analytics for smart homes with fog and cloud computing.Future Generation Computer Systems.
- A Poncela, F Coslado, B García, M Fernández, J Ariza, G Peinado, C Demetrio and F Sandoval.2019. Smart care home system: a Platform for e Assistance.Journal of Ambient Intelligence and Humanized Computing, 10 (10).
- Gu Zhengbo.The Internet of Things and the Smart Home [J].Computer Programming Skills and Maintenance, 2019 (11): 113-115.
- Zhu Minling, Li Ning.Current status of smart home development and the Future [J].TV Technology, 2015,39, (4): 82-85 + 96.
- Xue Jinlin.Application and development of the Internet of Things in smart home [J].Information Technology and informatization, 2020 (01): 126-128.
- Yan Bowen, Long Ziwu.High-tech Xiaomi Company Competition Strategy Research [J].Journal of Hubei University of Economics (Humanities and Social Sciences Edition), 2018,15 (10): 65-67.
- Chen hui.Research on Xiaomi Competition Strategy Based on Porter Five-force Model [J].Market Week, 2019, (6): 23-24.
- Zhu Jinglei.Research on the Technology and Application of Xiaomi Smart Home [J].Computer Knowledge and Technology, 2019,15 (14): 191-192 + 204.
- Wang Wei.Smart Home Company of Xiaomi Development Strategy Research [D].Huazhong University of Science and Technology HUST.
- Duan Yingying.Xiaomi Company Cost-leading Strategy analysis [J].Economic Research Guide, 2015 (8): 16-17.
- Zhang Guiye.Market analysis under Xiaomi mobile phone low price strategy [J].Tax payment, 2019,13 (14): 193-194.
- Gao Xuepeng, Zhang Fan.Research on Xiaomi Enterprise Development Strategy [J].Mall modernization, 2019 (10): 26-27.
- Sun Lu, Li Li, Tao Fuping.Information interaction ability, value creation and competitive advantage —— Xiaomi Case Study [J].Research and Development Management, 2016,28 (6): 101-113
- Thunder, Liu Hongguo.Xiaomi Technology marketing analysis based on strategic, strategic and tactical levels [J].Market Research, 2013 (10): 44-46.

# EXPERIENTIAL MARKETING STRATEGY RESEARCH OF STARBUCKS

**FEI ZHENG**

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 17494704@qq.com*

## ABSTRACT

With the rapid development of coffee industry, the potential profit of Chinese coffee industry is also very huge. At the same time, more and more coffee brands appear in the Chinese market. Coffee giant Starbucks also faces big challenges. It is not enough to analyze the marketing strategy of Starbucks only through the traditional marketing theory model. Service and brand culture are also indispensable factors in the coffee industry. How to develop brand culture and keep customer satisfaction and loyalty; At the same time, maintaining good marketing performance is a difficult problem that many enterprises need to solve. While international brands occupy the Chinese coffee market one after another, Chinese local coffee brands are also actively exploring the road of internationalization. Analysing the brand experience marketing strategy of coffee giant Starbucks is helpful for Chinese coffee brands to learn from its successful marketing model and be inspired by it, so as to grow and expand smoothly and even promote overseas. By analysing Experiential Marketing Analysis Model and related cases, this paper puts forward two problems for Starbucks to implement Experiential Marketing: ① Cultural adaptation problem; ② Expansion Speed Problem. Finally, some suggestions are put forward to solve the two problems.

**Keywords:** Experiential Marketing Analysis Model, Chinese coffee market, Starbucks brand

## INTRODUCTION

For people who love coffee, Starbucks is a name which is extremely familiar to them. In a times of customer demand center changing from product to service, and service to experiment, Starbucks makes full use of the third life space experience to establish a coffee religion which is characterized by Starbucks Experience. (B -Joseph Pine,1999) Starbucks is different from ordinary coffee shop, because it entrusts a cup of coffee with rich experience and profound cultural connotation. Starbucks has temperament light design and coffee-colored desk, individualized decoration and beautiful music rhythm, which created warm situation. With coffee fragrance and various coffee and cakes, to consume in Starbucks can gain a kind of unique feeling. Starbucks provides the third space experience, and offers customers with emotional product to let it become capital of showing-off, and thus attract more customers. Except this, Starbucks often send free coupons to staff and customers to attract potential customers.

At present, Starbucks already become a kind of cultural symbol and is deeply loved by the Chinese. What Starbucks symbolizes is no longer a cup of coffee, but a kind of brand and culture. Then what on earth does Starbucks win admittance and approval from people all

over the world? This paper thinks that experience marketing is its key factor in success. Starbucks growth and development give birth to a wealth creation mode in new economic ties: to integrate experience into your product and service, and to use experience marketing to create future and success.

This paper will illustrate its success mystery through analyzing experiencing marketing strategy in China. The thesis is divided into introduction, main body and conclusion; the main body is composed by five parts, including review of experimental marketing and development of Starbucks in China, methodology and analysis of the survey, research discussion and findings.

## **LITERATURE REVIEW**

### **2. The Construction of Experiential Marketing Analysis Model**

#### **2.1 Concept of Experiential Marketing**

The word “Experience” originates from Latin language *experientia*, which means inspect, test. According to the explanation of Aristotle, for experiences which are formed by sense and feeling, memory and many same memories, they are called experience. Norris(1941) firstly put forward the consumption experience, he emphasized that the emphasis of consumption experience lies in object service, rather than products(Zhang, X., & Zhao, L.,2018). Abbott(1995) stresses that experience is related to consumers, he points out that experience is related to consumers, and all products are for implementing service, and provide consumption experience(Zhang, X., & Zhao, L.,2018). What people thirsty is not product but satisfied service. Experience is achieved through activities, besides, it is economic activity which is within people’s inner and outer world. John and James defined experience as a kind of economic product,whose value is much higher than commercial product and service. They think when a company consciously takes service as stage, and product as tool, to integrate consumers in it, and concentrate on consumers to create activities which are worth consumers’ memories, the so-called experience appears. Holbrook (2018) divides consumers’ experiences into fantasy, feeling and interesting, and thinks that consumers’ experience comes from fantasy, feeling and interesting pursue. Consumers nowadays focus on functional interests brought by products and service, they attach more attention to certain experiences like their psychological demand and interest preference in the process of purchasing and using products and service. In the situation of same product and service, experience becomes decisive factor of key value, experience is usually the important reliance for customer to make purchase decision. Customer is ration and sensitive at the same time. In comparison with the past, people have increasing demands in pure experiencing consumption, people’s total income accounts for entertainment are increasing, various phenomenon prove that, consumers are becoming more and more sensitive, individualized and emotional. Their demand emphasis converts from pragmatic pursue and price into emotional satisfaction or the experience of pursuing consistency between products and self definition. (Bernd Schmitt, 2004) Experiencing marketing stands by consumers’ organs and emotion, thinking and behavior plus imagination, it redefines and designs a thoughtful marketing method. Experiencing marketing features are: first of all, it focuses on customer experience, and enables experience into necessary component of customer value; secondly, dramatic and interaction definitions become core definition and guidance manners of marketing; thirdly, marketing planning, designing and creation out of experiencing economy needs to combine science and humanism, technology and art.

## **2.2 The Components of Experience Marketing**

Experience marketing has the following component: equipment, which is also called as experiencing scenery, which experiences aspects of the physical environment; experience the inner implementation of customers' interaction activities; the product, for the sake of making product with experiencing value, the direct method is to add some elements to increase customers' feelings in communicating with products; service, service experience manifestation is composed by many detail integration; the interactive experiencing process, which means activity order of a series of activities for providing product and service as well as commercial experiences, for different experience interaction processes, these four elements' contribution degree in experiencing effect are different according to features of product, service and industry. (Schmitt, 2011) Perception experience means organ experience, it applies sense organs of vision and hearing, tasting and smell in experience marketing. Organ experience can be divided into company and product recognition, the simulation of consumers' purchase motivation and adding extra value of product, and so on. As for the thinking experience, it uses creative method to simulate consumers' curiosity and interest, and thus think problems concentrately, and thus create consumers with experiences of cognition and solving problems. Behavior experience means to add consumers' body experience to point out substitution methods for their behaviors, enrich their life and interaction in life, and thus simulates consumers consciously change their life formation. For the emotional experience, it refers to consumers' impression and feeling on product and brand. For related experience, it means to practice self improvement for individual thirsty, and enable others to have good feelings on themselves, it enables consumers to connect with a wider social system and thus establish preference in a certain brand.

## **3.The Development Situation of Starbucks Market in China**

### **3.1 Starbucks Employees**

Starbucks stipulates to give one-month training for each new member. In Starbucks, here is a saying: in Starbucks, there is no difference between boss and staff, for we are all partners. And this makes me felt an extra intimacy in my job. The first month of each new member in Starbucks will get one experienced partner to be the teacher for guidance and study. The study in Starbucks divides into three modules: The first module has several parts, the first part is to have a coffee taste, this lets me know the four steps of coffee taste: smell and suck, remain and collocation.

The second module is to learn modulate some simple coffee, such as latte and cappuccino, mocha and some other simple coffee. the staff must remember dates of all raw material formula, and cannot let customers ate anything out-of-warranty.

The third module is to learn skills of sales, such as how to communicate with customers, how to have customers bought the drinks and commodity you recommended. There are also methods for cashier quick button, and rapid making of cool and hot drinking, this method is to let customers wait for their purchased drinks less than three minutes from payment to coffee. Moreover, the staff also learn Starbucks' strategies towards the coffee planting farmers, such as establishing fair trading, some coffee bean packages have special symbol, then you should know the significance of this symbol and Starbucks' feedback to society and their advocate of environmental protection, Starbucks deduct two rmb for customers who bring cups themselves. Moreover, there are solution for dealing with different customers to let them feel 100% satisfaction.

## **2.2 Starbucks Customer**

For Starbucks customers in China, most of them are white collar who have high requirements on life quality, Starbucks, as third space for life, is the usual place for them to go. Therefore, this paper selects 100 usual customers of Starbucks, and sends out related questionnaire and interview questions for them for gaining feedback on experience marketing.

## **4. Research on Experiencing Marketing of Starbucks**

### **4.1 Perceptual Experience**

The first impression of customer is composed by equipment. Design administration of Starbucks asks designers to pay attention to every details of the comprehensive experiencing process of customer from their entering to leaving. Starbucks comprehensive equipment brings customers a kind of free and comfortable feeling in vision and hearing, tasting and smelling. First of all, good architectural outer appearance, the shining falling glass window with tender and warm lamp, with Italy-styled furniture plus western abstract representative pictures, all of these bring customers with different organ feeling. The sound of coffee cooing and coffee bean, the beautiful music in the sky, all of this reflects a kind of Starbucks fragrance; Starbucks uses wooden material from desk to chair, boxes and even floor, this let customer to feel grace, stable and warm. Besides, the movable chair and table enables customers to have comfortable feeling, they feel casual and ease as if they were at home. Meanwhile, there are painted chess and word guessing on the table, with news and magazines on the shelf, customers can get an entertainment when they feel tedious and boring. The fragrance of coffee cooking directly simulate customers' desire for enjoying Starbucks coffee. From tender lam to comfortable and leisure background music, from freely moved chair and table to the strong fragrance of coffee cooking, from freely combined chair and desk to the dedicated news and magazines, Starbucks provides customers with experience journey in each tiny details, and thus attract more customers' attentions and love. For the perceptual experience, CIS accounts for 42.9%, and style accounts for 12.6%; color and taste account for 9.3% separately. According to the questionnaire data, consumers' perceptual experiences are mainly based on vision. Starbucks present consumers with feelings of warmth and happiness, comfortableness and pleasure. In color, Starbucks gives consumers the feeling of shining and tender, warmth and nature, customer mentions that color in Starbucks bases on coffee and green, which belong to natural color, and let customers to have comfortable and free feeling the moment they walk into Starbucks. In aspect of taste, customers talk about their feelings in coffee taste, and almost no one dislike its taste in coffee. However, there are still customers who point out differences between Starbucks and other coffee chain shop. The reason why they come to Starbucks is because they like its style and atmosphere, this meant, when product and service both reach to mature situation, customers will select brand which has continuous positive experience in them.

### **4.2 Thinking Experience**

For thinking experience, simulation accounts for 41.6%, seducing account for 39.3%; to create a kind of surprising accounts for 19.1%. Customers' thinking experiences are based on simulation part, that is, it can creates cases which could simulate customers' discussion. For instance, the grace behaviors of customers, and so on. In aspect of simulating thinking, such as music play of different languages and nations, it lets

customers simulate an idea of horizon broaden. In the eyes of customer, Starbucks is no longer a coffee bar, but a home and an occasion with cultural fragrance. Starbucks enjoyed the brand effect of global coffee brand, which operate huge function on opening its market in China. In many white collars' minds, Starbucks was the symbol of healthy and success and position. For the sake of pursuing fashion, more and more Chinese people are willing to pay two times or three and four times prices which are higher than tea drinking to taste a cup of Starbucks coffee, which made them with sense of success. In China, the slogan of Starbucks is to provide the middle class in China with a fashionable social occasion with clean style but reasonable costs. (Bernd Schmitt, 2004)

### **4.3 Behavioral Experience**

Starbucks sticks to a way of direct management, and only accept company alliance or authority, it refuses personal or individual alliance. (Sherry J. A, 1992) Besides, Starbucks makes serious standard for its partners: for instance, whether the cooperator's reputation, quality controlling ability could use the standard of Starbucks standard to train staff. Starbucks could strictly asks its manager to admit company theory and brand, simulate behavior and discipline as well as quality with consistency. Starbucks guarantees each branch shop with standard procedure in each item or project. All staff in Starbucks finish their own jobs according to stipulations of staff operation, in this way, staff can pay attention to each details, and implement each service into practice. Through a series of standardization, Starbucks achieve the purpose of letting customer to have comprehensive experience. Staff in Starbucks behaves according to the standard of product and service procedure. For behavior experience, body experience is 42.7%; life form accounts for 25%; interaction between others accounts for 16.9%. Customers still take their comprehensive feeling as main factor. Starbucks creates right product and simulation plus atmosphere, which enables customers to have rich body experiences. Customers experience the stable quality of coffee products, the enthusiasm in servants, the humanized equipment and the longing atmosphere. Starbucks flexibly combine customers' life form, it can have students reading without bothering, and let working class to have a rest after work. Many customers show that Starbucks have been part of their life.

### **4.4 Emotional Experience**

The moment customer enters into Starbucks, no matter how busy the servant is, they will turn back to get eye contact with customer, and say "Welcome to Starbucks" with smile. Starbucks gives profound training in its staff, and enable each staff to be expert in coffee. While customers are enjoying coffee, they can also discuss various knowledge about coffee with staff of Starbucks freely and thus gain more experiences in coffee, then they can describe these knowledge to their friends and relative, or to leisurely enjoy music and read news, use their wireless functional computer to surf the internet, and enjoy beautiful times. If someone breaks the beverage carelessly, in Starbucks, no one would blame you, servant will care about you, and exchange a new beverage for you, which sows its individualized style. Servant will use a series of service skill training, including basic etiquette, sales skills and coffee knowledge, to standardize service and make it individualized. In the process of service, it lets customers to feel their kindness and enthusiasm, and thus reflects the service theory of customer comes first. For affection experience, consumption sitcom accounts for 38.3%; location space account for 26.3%; product accounts for 16.2%; Schmitt(1999) pointed out that, emotion happened in the period of consumption was strongest in affection. For emotion, the scene of consumption was very important. This research proves that the main factor for customer's emotion in

consumption lies in consumption scene. Customers experienced the feeling of being at home, they feel comfortable and free as well as relaxed. Meanwhile, another place for simulating customers' emotion lies inside Starbucks, for customers feel free and cold do things they want, they can think things or daydreaming; when customers want to be alone but unwilling to feel lonely, Starbucks is indeed a good place to choose. Many customers also point out that Starbucks provides a social communication occasion, they can have gathering here. Even though Schmitt thought face-to-face interaction is the most important condition for simulating strong emotion, this research shows that service person is not the main factor for emotion simulation, and the reason may because Starbucks adopts self-free service, servant and customer have short time in contacting with each other.

#### **4.5 Related Experience**

About related experience, group belonging and society recognition separately accounts for 20%; cultural value accounts for 16.7%; social influence and social role accounts for 13.3% separately. The sociology points out that customers believe in that they could change their recognition or the participation degree in a certain group for purchasing a brand. According to the research, customers think Starbucks is a place full of humanism fragrance, to buy a cup of Starbucks coffee is a thing to be proud, for it can improve their tastes and make themselves different from others.

### **5. Discovery and Solution**

#### **5.1 Findings**

##### **5.1.1 Cultural Adaption Problem**

According to the research data collection, some interviews do not lie Starbucks, for they prefer traditional Chinese tea. Here, it reveals a cultural adaptation problem. As it is known to all, China is a nation with long history of tea. Chinese tea can prevent sickness and do good for healthy. Chinese tea culture is beyond any other beverages. What's more, tea has large number of consumers, billions of Chinese. That's why part of customers interviewed in this research express their dissatisfaction about experiences in Starbucks. Anyway, Starbucks cooks coffee, which is not loved and familiar to the Chinese. Even though Starbucks do innovate special tea, customers say that if they want to drink tea, they prefer other tea bar rather than Starbucks.

##### **5.1.2 Expansion Speed Problem**

The high speed in expansion result weakness in experience. While gradually occupy Chinese market, Starbucks was covered with interests, and forgot its enterprise mission of "building Starbucks into global top coffee brand, and stick to its habitual principle in the continuous growth process of Starbucks". Starbucks began and gradually ignored the essence of experiencing marketing. Starbucks developed from hundreds of shops into more than ten thousand shops, such growth brings weakness in Starbucks experience, and the main problem lies in Starbucks itself, for it focuses on expansion and abandons customer experience of Starbucks. The result of fast expansion lies in the short distance between two shops, for Starbucks in a same region, it is near, this results ferocious competition in Starbucks. Meanwhile, because of the rapid expansion, it result cost increase, especially the rapid growth in labor cost. Moreover, it increases the quantity of new staff, however, training for these new staff are backward, as a result, Starbucks

experience is hard to copy. In such situation, Starbucks began to add investment on hardware, for instance, install super automatic fresh coffee machine to instead of part of coffee cook, even though coffee machine could achieve standardization in operation, and it does not need extra time and energy to train coffee master, besides, it can reduce costs and man-made mistakes, Starbucks seems to forget that Starbucks provides a kind of experience, and such experience must make use of certain unique manner--to be expressed by the nonstandard man-made process. Once machine substitute man-made coffee, some aspect in Starbucks will disappear for sure. For a time, Starbucks in China trapped into quality case, and this worries customers indeed. Before Middle Autumn Festival in 2005, in the issue meeting of national mooncake quality, national quality supervision master revealed that mooncakes from Starbucks in Tianjin were checked for over ingredients in germs, and the reason is Starbucks entrusts second-class mooncake manufacture to produce mooncakes. In 2012, Starbucks in America was revealed that part of its products used dyestuff which may cause sensitiveness in people. Chinese management newspaper declared in sina official blog: Starbucks stopped the beverage of strawberry icy drink, which was loved by many customers, for the beautiful color was coming from a kind of insect. More than 6500 people fought against this, and as a result, Starbucks had to stop using this insect dyestuff, because no one was willing to eat insects while enjoying their beloved Starbucks product. For another example, Qianjiang news reported Starbucks in Ningbo had used sugar juice which was out of expire date, Starbucks reacted this and proved the fact, and confirmed the mistake of workers.

## **5.2 Solution**

### **5.2.1 Strengthen Localization**

While innovating product, Starbucks shall combine product and culture, and adapt to local culture to integrate culture into experience marketing, and thus shorten its distance between customers, let them have good impression with unforgettable experiences, in this way, it achieves the effect of experience, and find unique Starbucks customer experience back once more, customers' confidence and love in Starbucks would come back again, and they will love Starbucks the second time. Starbucks should invest its energy on the things they are good at--to do the best coffee and try its best to improve customer experience, and let customer find back original romance in Starbucks. Chinese market for Starbucks also possesses its own characteristics. Culture in north of China is different from culture in the east. Mainland consumption also cannot match up with coastal cities. For the sake of solving complex in Chinese market, Starbucks select three regional cooperation partners for its expansion plan. In north of China, Starbucks and Beijing Meida coffee company establishes a capital enterprise. In the east of China, Starbucks cooperates with Taiwan Uni-President Enterprises. In south of China, Starbucks's partner is HK food company. Each partner of Starbucks has different advantages and local knowledge, and this is good for Starbucks to know local Chinese customers' tastes and preferences. To cooperate with correct local partner can effectively know local consumers to achieve rapid development and thus utilize the experience marketing strategy. After entering into China, Starbucks shall adopt dedicated marketing entering strategy, and its advertisement propaganda does not let Chinese feel their tea drinking culture is threatened, on the contrary, it selects places with large amount of population and visibility to establish brand image. Starbucks made full use of Chinese consumers' tea drinking culture, and can implement beverage though using green tea and other native or local popular ingredients, this strategy convert potential barriers into advantage. And Chinese consumers rapidly like

Starbucks coffee. Moreover, Starbucks can grasp the uniqueness of experience marketing strategy, and provide unique decoration inside Starbucks. With unique music, Starbucks strongly attract the young generation.

### **5.2.2 Control Expansion Speed with Reasonable way**

As the introduction of capital, it accelerates the rapid expansion of Starbucks, and let it break away from the original enterprise growth road. The speed of Starbucks unique culture and good service quality transportation is far behind its expansion speed. Service professional decrease gives discount on Starbucks image to a great degree. Naturally, it will influence customers' loyalty in Starbucks brand. Excessive expansion in brand will cause loss in brand individuality and core value weakness of brand. At last, as customers loss loyalty in Starbucks, Starbucks direct motivation should be customer's loyalty. Starbucks does not pursue for its shop quantity but customer quality and certain group's loyalty in Starbucks coffee. Therefore, Starbucks should slow down its expansion speed, adjust its tempo and establish perfect experience marketing system, and cultivate experience marketing talents with high cultivation. An enterprise needs to master the main direction of progress, besides, it shall also pay attention to detail development, in this way, it can guarantee each link of experience marketing to carry on smoothly. Starbucks should continue providing over-all service to improve customer satisfaction and loyalty degree.

## **CONCLUSION**

For the success of Starbucks in China, domestic enterprise shall also make full use of experience marketing strategy, anyway, resent economic mode already transfer from service marketing to experience marketing. Starbucks successfully develops the oldest commodity of the world into a unique and sustainable brand with high additional values, and becomes coffee green giant which covers more than thirty countries and regions. Meanwhile, Starbucks only used ten years to make it into a fashion pronoun in China. Starbucks' enterprise strategy and marketing strategy worth domestic enterprise manager to learn and borrow. However, in China, Starbucks also exists certain restrain factors. This research exists certain limitations, and the biggest limitation lies in that experience marketing is a newly born marketing method, research on theories for experiencing marketing is indeed rare, therefore, mode construction on doing research on experience marketing exists certain difficulty. Meanwhile, the reason for success in Starbucks in China does not lie in customers' satisfaction in experience, even though the satisfied customer experience style is not the only factor for Starbucks success, this paper focuses on the experience marketing's influences on customers in Starbucks, therefore, for success factors in Starbucks in China do not involve in. Moreover, as this research observes Shanghai South station Starbucks, as manager and staff here are not professional enough, they lack of ideas about higher rank in Starbucks and have little knowledge about Starbucks marketing strategy, hence, instruction collection has certain limitation.

China was not a market which was easy to open, it needed long-term efforts indeed. One important strategy of opening a market lied in investing on staff. Starbucks' staff employment and training job did very good, because the staff was the core to provide Starbucks experience to customers, they were best marketing representatives of Starbucks.

## REFERENCES

- Andersson, T. D. (2007). *The tourist in the experience economy*. Scandinavian journal of hospitality and tourism, 7(1), 46-58.
- Pine, B. J., & Gilmore, J. H. (2011). *The experience economy*. Harvard Business Press.
- Zhang, X., & Zhao, L. (2018). Morphology, structure and ultrastructure of staminal nectary in *Lamprocapnos* (Fumarioideae, Papaveraceae). *Flora*, 242, 128-136.
- Liu, X., Wang, X., Zhou, X., He, X., Pan, D., & Feng, L. (2021, June). Analysis of Starbucks' "Third Place" Cultural Experience Marketing Mode. In *2021 International Conference on Enterprise Management and Economic Development (ICEMED 2021)* (pp. 30-37). Atlantis Press.
- Devia, A. N., Aisjah, S., & Puspaningrum, A. (2018). The influence of brand experience and service quality to customer loyalty mediated by customer satisfaction in Starbucks coffee Malang. *MEC-J (Management and Economics Journal)*, 2(2), 161-170.
- Schmitt, B. (2011). *Experience marketing: Concepts, frameworks and consumer insights*. Now Publishers Inc.
- B -Joseph Pine, James.(1999).*Welcome to the Experience Economy*. Harvard Business School Press, Boston, Massachusetts.
- Schmitt, B. (2000).*Experiential Marketing*. New York: The Free Press.
- Zollo, L., Filieri, R., Rialti, R., & Yoon, S. (2020). Unpacking the relationship between social media marketing and brand equity: The mediating role of consumers' benefits and experience. *Journal of Business Research*, 117, 256-267.
- Wiedmann, K. P., Labenz, F., Haase, J., & Hennigs, N. (2018). The power of experiential marketing: exploring the causal relationships among multisensory marketing, brand experience, customer perceived value and brand strength. *Journal of Brand Management*, 25(2), 101-118.
- Grove. Stephen. J.(2009). *The Service experience as theater*. London: Cambridge University Press.
- Sherry J. Advances in consumer research. *Association for Consumer Research*, 1992:138-149.
- Oh, H., Fiore, A. M., & Jeoung, M. (2007). Measuring experience economy concepts: Tourism applications. *Journal of travel research*, 46(2), 119-132.
- Loureiro, S. M. C. (2014). The role of the rural tourism experience economy in place attachment and behavioral intentions. *International Journal of Hospitality Management*, 40, 1-9.
- Chang, S. (2018). Experience economy in hospitality and tourism: Gain and loss values for service and experience. *Tourism Management*, 64, 55-63.
- Xiang, Z. (2018). From digitization to the age of acceleration: On information technology and tourism. *Tourism management perspectives*, 25, 147-150.
- Hurriyati, R., & Sultan, M. A. (2020). Analysis of the Relationship Between Consumer-Based Brand Equity, Experiential Marketing, Customer Satisfaction, and Customer Loyalty at Starbucks Coffee in Karawang. *JRB-Jurnal Riset Bisnis*, 4(1), 58-69.
- Mi, B., Zhang, T., Zhang, J., & Du, H. (2021, June). Research of the Starbucks' Ritual Sense and Strategy of Sales. In *2021 International Conference on Enterprise Management and Economic Development (ICEMED 2021)* (pp. 86-92). Atlantis Press.

- Bertels, H. M., & Desplaces, D. (2021). Starbucks in China: What lessons can Starbucks learn from Luckin?. *The CASE Journal*.
- Rahmawati, D. H., Rachmawati, F., & Saifuddin, W. (2021). Green Integrated Marketing Communication Starbucks: Studi Kasus Pada Program Bring Your Own Tumblr. *JURNAL ILMU KOMUNIKASI*, 4(1), 15-31.
- Senduk, A. T., & Saerang, R. T. (2020). A qualitative study of consumer perception on emotional branding of starbucks Manado Town Square. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 8(1).
- Holbrook, M. B. (2018). Essay on the origins, development and future of the consumption experience as a concept in marketing and consumer research. *Qualitative Market Research: An International Journal*.

# INNOVATIVE MANAGEMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES ON CHINESE CROSS-BORDER E-COMMERCE PLATFORMS

LI YUE

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email: 1194654579@qq.com*

## ABSTRACT

With the continuous deepening of trade cooperation among countries around the world and the rapid development of networked information technology, cross-border Chinese business has become the banner of the progress of the times and the development of economic globalization, and has also become an important component of the Silk Road diplomacy advocated by my country. part. In recent years, under the favorable policies of China, China's cross-border e-commerce industry has developed rapidly, gradually maturing the scope of regulations, strengthening the overall management of China's cross-border e-commerce enterprises, and promoting the sustainable development of cross-border e-commerce and enterprises, which is beneficial to China's economy. The overall improvement of the overall development dimension and level is also conducive to strengthening international economic and trade exchanges and cooperation, and promoting the overall development of e-commerce companies and industries around the world. A series of problems, such as low quality, uneven product quality, lagging talents in the development of cross-border logistics and lack of creative awareness, restrict its rapid development. In this regard, this paper puts forward relevant countermeasures such as improving the enterprise's cross-border e-commerce operation ability, strengthening product quality supervision ability, improving cross-border logistics and distribution speed, enhancing cross-border e-commerce talent training, promoting product innovation and brand development, etc. The innovation and development of small and medium-sized enterprises' business models have contributed positively.

**Keywords:** cross-border e-commerce; small and medium-sized enterprises; innovation management

## INTRODUCTION

### 1. Background and significance of the study

#### 1.1 Background to the selection of the topic

In the late 1990s, with the rapid development of the Internet, consumers' demand for brand awareness and product quality has increased, and with the Internet as a convenient platform, they have gradually moved from shopping in physical shops to online shopping, which is convenient, intelligent and integrated. This new form of cross-border e-commerce has become the main mode

of foreign trade of choice when trading between countries. Especially in the second half of 2020 due to the global epidemic.

### **1.2 Significance of the study**

China's manufacturing and urban management can guarantee the stable output of the supply chain, as the world's factory of China supports the global consumer market demand is huge, so cross-border e-commerce is highly valued by small and medium-sized foreign trade enterprises in China, has become the development trend of China's international trade cross-border e-commerce into a new engine of international trade development. Therefore, it is of practical significance to study the problems and countermeasures existing in the development of cross-border e-commerce for small and medium-sized foreign trade enterprises.

### **1.3 Research question**

Small and medium-sized foreign trade enterprises generally have a series of problems, such as low operational capacity, uneven product quality, lagging talents in cross-border logistics development, and lack of creative awareness, which restrict the rapid development of China's cross-border e-commerce industry.

### **1.4 Research purposes**

This paper analyzes the current situation of China's cross-border e-commerce small and medium-sized enterprises, and proposes to improve the cross-border e-commerce operation capabilities of enterprises, strengthen product quality supervision capabilities, and improve the speed of cross-border logistics and distribution. Strengthen the training of cross-border e-commerce talents, promote product innovation and brand development and other related countermeasures, and make positive contributions to the innovation and development of China's cross-border e-commerce small and medium business models.

## **LITERATURE REVIEW**

### **2. Relevant concepts defined and defined**

#### **2.1 Research review on the necessity of cross-border e-commerce development**

In the late 1990s, with the gradual maturity of Internet technology, e-commerce and international trade began to emerge gradually. Later, e-commerce and Internet technology supported and facilitated the development of international trade (Samiee, 1998). In the research of Yang Jianzheng and Duan Yuanping (2008) and Nuray Terzi (2011), it is also mentioned that e-commerce provides a technical foundation for cross-border international trade to move towards borderless trade, which has brought about great changes in the world economy and trade; under the conditions of the Internet, the economic and trade links and cooperation between countries have been greatly strengthened, and "virtual companies" have emerged among the main entities of international trade, and the strategic alliance of multinational companies is its main form. This strategic alliance can adapt to the needs of consumers. It brings the benefits of division of labor and cooperation, interoperability of resources, complementary advantages and benefit sharing to multinational companies. The financial crisis broke out in 2008, the global economy was sluggish, the demand in the international market was tightened, and foreign trade enterprises were severely impacted. Therefore, the cross-border transaction model of small batches, multiple batches and fast delivery quickly replaced the outdated foreign trade transaction model dominated by "container" large orders (Cao Shuyan and Li Zhenxin,

2013). International trade has brought innovations in trade subjects, carriers, means, and laws and regulations (Zhang Huanyu, 2013). Since then, cross-border e-commerce has gradually entered the field of view of researchers. Li Wang (2015) qualitatively analyzed the reasons for the rise of cross-border e-commerce based on transaction cost theory, and compared the transaction costs of the three main cross-border e-commerce models with traditional cross-border trade, and pointed out that the reduction of transaction costs is the result of cross-border e-commerce. The root cause of e-commerce development. Ren Zhixin and Li Wanxiang (2014) emphasized the increasingly important position and role of e-commerce in international trade, and believed that cross-border e-commerce has promoted the upgrading of professional foreign trade services, the transformation of foreign trade methods to direct sales, the transformation of foreign trade enterprises to small orders and multi-production models, and the transformation of foreign trade enterprises to small orders and multi-production models. The transformation of enterprises to brand and product innovation plays a role in promoting and promoting. Li Zi and Yang Jianzheng (2014) built an international trade market model in the e-commerce environment based on an imperfectly competitive market, and at the same time used co-integration analysis methods to establish ARCH and VAR models. There is a long-term equilibrium relationship between the development of cross-border e-commerce, and the development of cross-border e-commerce can increase the volatility of import and export trade and change in the same direction. Judging from the existing literature, the development of cross-border e-commerce has been widely recognized, and it has also innovated the traditional international trade methods and content, which has brought a relatively obvious impact on it, and also promoted global trade. The growth of China has become the growth engine of new international trade development (Tu Y, Shangguan JZ, 2018).

## **2.1 Small and medium-sized foreign trade enterprises**

Small and medium-sized foreign trade enterprises are generally classified according to two criteria, one being that they have no more than 500 employees or that the annual import and export volume of a foreign trade enterprise does not exceed 150 million yuan. These enterprises are in the relevant areas of state-registered enterprises and have the right to import and export operations for legitimate products. Similarly, small and medium-sized foreign trade enterprises can be divided into production-based and trade-based foreign trade enterprises according to the type of enterprise. Production-oriented foreign trade enterprises are mainly production-oriented, and their main job is to produce products and ensure that the quality and quantity of the products meet

In order to meet the requirements of customers, we have to consider a series of problems in the production process, such as raw material costs and production cycles, and there is a greater risk of backlogs of goods. Trade-oriented foreign trade enterprises are mainly distribution-oriented, typical service-oriented enterprises, focusing on "customer service", the main work is to maintain customer relations, expand the market to develop new customers, sales of products, generally do not consider the problems in the production process. The small and medium-sized foreign trade enterprises mentioned in this article refer to export-oriented small and medium-sized foreign trade enterprises, and most of them refer to production-oriented export foreign trade enterprises according to the type of enterprise.

## **2.2 Cross-border e-commerce**

Cross-border e-commerce refers to a national trade transaction in which two trading entities belonging to different countries carry out transactions and payments online through a third-party e-commerce platform, and deliver them through cross-border logistics. A cross-border e-commerce platform is a third-party platform used by two or even three parties to conduct cross-border trade. Depending on the flow of imported and exported goods, cross-border e-commerce platforms can be divided into B2B for business to business, B2C for business to personal and C2C for personal to personal. in the field of international e-commerce. The business-to-person B2C model accounts for the highest ratio. For example, Dunhuang, Made in China, Amazon, Lanting, Yibei and Alibaba Selling are all leaders in the cross-border e-commerce industry at home and abroad. The fact that they have remained in the e-commerce industry for such a long time is a testament to the fact that cross-border e-commerce is an industry with great foresight.

Zhou Ning and Zhang Linglu pointed out the logistics problems of cross-border e-commerce in "Positioning of Foreign Trade E-commerce: The Way to Success for Online Businesses", and believed that although foreign trade B2C has increasingly shown a strong growth momentum, cross-border logistics has always been a constraint on cross-border e-commerce. key factors in the development of e-commerce. How to formulate a set of complete and feasible logistics supply chain service solutions, realize the "three-in-one" of logistics, information flow and capital flow, and let "Chinese brands" go global, which is unavoidable for cross-border e-commerce practitioners question. Since the beginning of this year, Alibaba has successively reached strategic cooperation with three international logistics companies including Australia Post, Brazil Post, and Singapore Post; "Amazon + SF Express, seven-day direct mail to China", it is not difficult to see that the logistics supply chain system is very important for cross-border e-commerce. strategic significance!

AliExpress University's "Cross-border E-commerce: Alibaba AliExpress Collection" also focused on cross-border logistics issues, believing that fully mastering cross-border logistics knowledge will help sellers choose appropriate logistics methods in a timely manner. On the contrary, if you choose improperly, it is likely to cause the loss of money and goods, and also affect the healthy operation of the account. A good shipping template can attract buyers to purchase and improve store conversion rate; if the shipping template is not set properly, it is likely to make you miss the order, or cause some unnecessary disputes.

## **RESEARCH METHODOLOGY**

### **3. Research Methodology**

Firstly, this paper adopts the literature research method. By reading the current situation of cross-border e-commerce and the development of small and medium-sized foreign trade enterprises in China's large

To understand the current situation of the development of small and medium-sized foreign trade enterprises in the context of cross-border e-commerce in a comprehensive

manner, so as to have an overall understanding of the development of small and medium-sized foreign trade enterprises in China.

It also provides a more accurate understanding and grasp of the problems faced by foreign trade enterprises in conducting cross-border e-commerce, and then proposes countermeasures and recommendations to address the problems.

Thirdly, this paper adopts the aggregation method. On the basis of literature research and survey, this paper analyzes and summarizes a series of problems encountered by small and medium-sized foreign trade enterprises in China in carrying out cross-border e-commerce, and then summarizes and organizes them, so as to make the article have a certain organization.

Thirdly, this paper adopts the data analysis method. In this paper, when discussing the current situation of the development of China's small and medium-sized foreign trade enterprises, the data published by the major domestic platforms of China's cross-border e-commerce are used for analysis, making the discussion of the current situation of China's small and medium-sized foreign trade enterprises in carrying out cross-border e-commerce more convincing.

#### 4. The current state of cross-border e-commerce operations

With the development of information technology, the number of users using the Internet in China has been increasing, and the 47th Statistical Report on the Development of the Internet in China by the China Internet Network Information Centre shows that the number of Internet users in China reached 989 million by December 2020, an increase of 85.4 million compared to the end of March 2020, and the Internet penetration rate reached 70.4%.

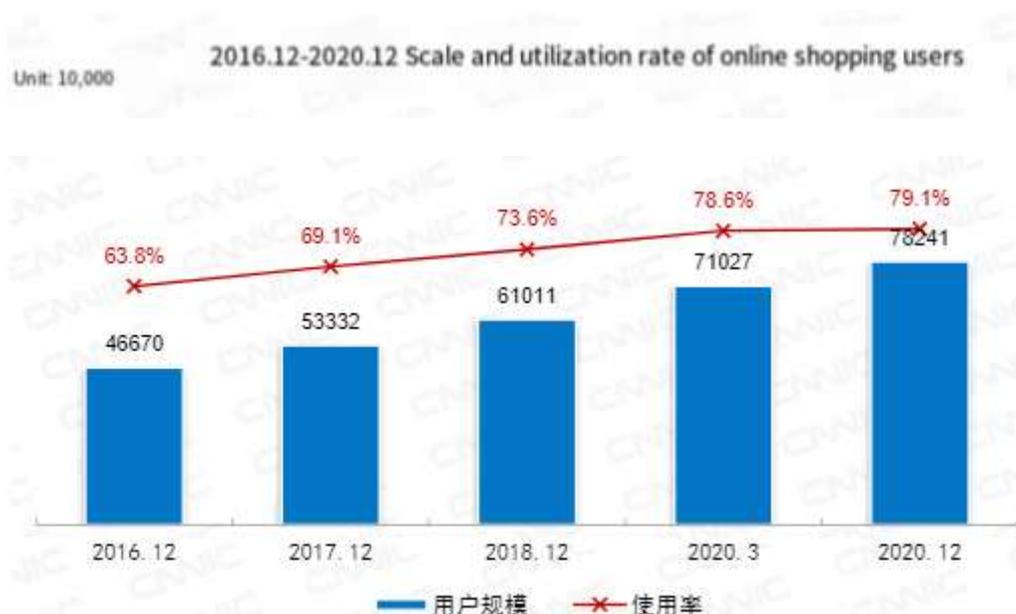


*Size of Internet users*

*Internet penetration rate*

With the increase in the number of Internet users the frequency of Internet mode use has also increased significantly. As of December 2020, the scale of China's online shopping users reached 782 million. Accounting for 79.1% of Internet users as a whole the online shopping market maintained a relatively rapid development of cross-border e-commerce model innovation for the online shopping market to provide a new growth function the popularity of the Internet and related logistics and payment methods and other

aspects of support, favorable policies to promote the rapid development of cross-border e-commerce and become an important means of development of modern international trade.



#### 4.1 Diversity of participants

Compared with traditional international trade, cross-border e-commerce in trade activities from the previous single engaged in foreign trade work of enterprises become diversified, including enterprises and commodity categories of diversification. For sellers, the process is simplified and there is no need to produce various documents and traditional negotiation mode, with the help of the platform to negotiate and complete the transaction, and then choose cross-border logistics to send goods and various after-sales services are also resolved through the cross-border platform. For buyers, they only need to complete the purchase of products and payment on the cross-border e-commerce platform, and then receive the goods and the platform to determine the arrival of either a single consumer or wholesale ordering enterprises, can be purchased on the platform, compared with traditional foreign trade transactions, the main body of buyers to increase the diversification of product categories from tangible products to intangible products can be traded in the cross-border platform, making trade activities diversified.

#### 4.2 Diversification of trading models

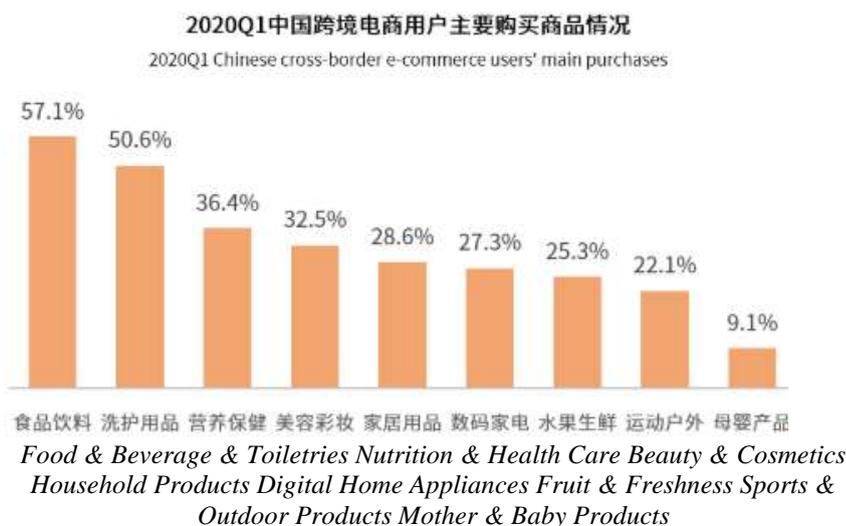
At present, China's cross-border e-commerce transaction mode mainly has the following four kinds: B2B B2C C2C and O2O, B2B mode is the mainstream refers to the business to business transaction mode. In the B2B cross-border platform to wholesale form in the cross-border e-commerce platform to buy or sell goods single transaction amount is larger. B2C mode refers to the business to consumer transaction mode, B2C cross-border platform is divided into comprehensive and vertical self-operated in the comprehensive B2C cross-border platform, to small wholesale and retail, cross-border platform because of the gathering of buyers and sellers, low consultation costs to transaction convenience comprehensive service perfection Small and medium-sized foreign trade enterprises are attracted to publish product information and conduct

transactions with the help of the platform. Such as export enterprises on the platform for the sale of individual goods mainly target foreign consumer groups through a variety of international express and air parcels for the delivery of products. In the vertical self-operated B2C platform to retail-based, specific products as the business object from the manufacturer to buy off the source of goods through the self-operated platform and overseas customers to trade effectively simplify the supply chain, reduce supply costs and enhance product profits. C2C refers to consumer-to-consumer transactions, individual consumer groups can be registered on the cross-border e-commerce platform account to carry out the sale of personal goods to retail-based. O2O is O2O refers to the combination of online and offline methods, with retail as the main focus. Cross-border e-commerce import platforms open physical shops offline to provide consumers with a new cross-border physical retail experience that integrates experience and communication. The 2019 "China Cross-border E-Commerce Development Trend Special Research Report" released by Ai Rui shows that 60% of users have online purchasing habits, and 70% of users believe that offline shops have advantages in quality assurance and shopping experience. The importance of offline channels for cross-border e-commerce has been highlighted. According to iiMedia Research, 55.7% of the users hope that online cross-border e-commerce platforms can provide more adequate guarantee of genuine products, and 51.9% of the users hope to continue to enrich the variety of products.

### 4.3 Concentration of products and companies

Product and enterprise centralization refers to the fact that more and more companies are gradually entering into cross-border e-commerce transactions, and have abandoned the traditional foreign trade model to focus on sales on cross-border e-commerce platforms. Such as Dunhuang.com, Alibaba International Speed Buy, Little Red Book, etc. iiMedia Research data shows that Chinese cross-border e-commerce users prefer to buy goods such as food and beverage (57.1%), toiletries (50.6%) and nutrition and health care (36.4%) in 2020Q1.

#### 2020Q1中国跨境电商用户购买商品数据分析



#### 4.4 Support system perfected

China has initially created a cross-border e-commerce support service system and introduced a series of supporting policies to support the development of cross-border e-commerce and promote the steady development of cross-border e-commerce. At the same time, cross-border e-commerce enterprises continue to extend to other parts of the industry chain and strive for integrated services, making the industry chain and service chain increasingly perfect. Transactions on cross-border e-commerce platforms must be supported and complemented by other industries, with logistics and payment industries being the most prominent and developing rapidly. Cross-border payment security is safeguarded and the user experience is enhanced to improve the adhesion of users to cross-border e-commerce.

#### 4.5 Live streaming with trending goods

According to CNCC survey statistics, as of December 2020, the scale of China's live webcast users reached 617 million, up 57.03 million from March 2020, accounting for 62.4% of the overall netizens. Among them, the scale of live e-commerce users was 3,880 million, up 123 million from March 2020, accounting for 39.2% of Internet users as a whole.



In 2020, because of the epidemic, users do not have to leave home, live broadcast effectively solve the full range of product display, to create a sense of experience for users to see, because the authenticity of the product display, reduce the cost of user shopping decisions, and effectively enhance the rate of online shopping orders. Live streaming is becoming more and more customary for netizens and is becoming a trend for cross-border e-commerce to attract cash.

#### 5. Problems in cross-border e-commerce operations of Chinese small and medium-sized foreign trade enterprises

With the deepening of the global economy, cross-border e-commerce in China's small and medium-sized foreign trade enterprises in the development of increasingly prominent role, but in the process of its development, there are still cross-border e-commerce operation capacity is low, product quality varies cross-border logistics development lags

behind the lack of talent and innovation awareness and a series of problems to limit its rapid development.

### **5.1 Low cross-border e-commerce operational capacity**

Some SMEs are difficult to get recognition from some of their mid to high-end customers due to their short establishment and low international visibility. This directly affects the pricing of their products and services as well as sales; it also affects the return of capital, in the event of an eventuality such as the new crown pneumonia epidemic, also because of the small size of the enterprise, capital is not high factors, unable to obtain financing from financial institutions or financial markets in a timely manner will face the risk of bankruptcy. The integration of traditional international trade with e-commerce is relatively short, and those involved in cross-border e-commerce are mainly small and medium-sized foreign trade enterprises. Due to the relatively weak financial strength of small and medium-sized foreign trade enterprises, the low level of information technology, the lack of cross-border e-commerce knowledge and operational experience, the lack of understanding of cross-border e-commerce platform data, the poor effect of accurate marketing and the weak communication and coordination ability in the supply chain, which makes the process of promoting cross-border e-commerce business reflect the low operational capacity of cross-border e-commerce.

### **5.2 Product quality varies**

Many small and medium-sized foreign trade enterprises join the cross-border e-commerce team product homogeneity and lack of innovation, is a common problem faced by small and medium-sized foreign trade enterprises to provide products. This, coupled with the oversupply of enterprises using low price strategies to attract customers, has ultimately led to a decline in product quality. As a result, the quality of various products in the cross-border e-commerce market varies, and even counterfeiting and infringement problems make cross-border e-commerce product credit continuously reduced.

### **5.3 cross-border logistics development lags behind**

Logistics has always played an important role in cross-border e-commerce transactions, and the service level of logistics directly affects the user's experience of the products. At present, postal express parcel form and overseas warehouse are two important modes of cross-border e-commerce logistics in China. At present, postal express parcels occupy more than 70% of the cross-border logistics, and are the main logistics mode chosen by small and medium-sized foreign trade enterprises in China to carry out cross-border e-commerce.

At present, cross-border logistics has some drawbacks that restrict the development of small and medium-sized foreign trade enterprises in China: First, the delivery time of cross-border logistics is long and unstable. On the one hand, due to the limitations of cross-border transportation itself, it is impossible to be as fast and quick as domestic logistics. According to the survey, the time required for China Post parcels and Hong Kong parcels to Russia is generally 40 to 90 days, while special line logistics also takes 16 to 35 days, and the time required for eBay's self-built platform ePostal to Europe and America is 7 to 12 days. This greatly tests the patience of overseas consumers, and is an important reason that restricts small and medium-sized foreign trade enterprises in China from carrying out cross-border e-commerce. On the other hand, cross-border logistics, while transporting over long distances, have to pass through the customs of the exporting and importing

places respectively, and the efficiency and results of customs inspection of goods are directly related to the arrival time of cross-border logistics. At present, China's Customs has made great efforts in customs clearance supervision and release, requiring Customs to implement a 365-day-a-year service online for cross-border Shenhua export services, and stipulating that goods are cleared within 24 hours of arrival at the customs supervision area. That is, the vast majority of the barriers to customs clearance at this stage lie at the destination. According to the survey, customs clearance barriers at the destination are indeed a cause of the precarious timeliness of cross-border logistics, for example, Brazilian customs checks parcels almost from ticket to ticket, with very specific checks on commercial invoices, inspection documents and other information. Once customs refuse to enter the customs territory, it will inevitably bring delayed effects to the cross-border logistics of transport moreover, it gives the result of direct confiscation or return of goods, which will bring greater losses to SMEs' originally small cross-border transactions.

Parcels cannot be tracked throughout, which can lead to breakages and lost packages. The tracking and enquiry of cross-border logistics is divided into an inbound part and an outbound part. At present, the logistics within China has basically realised real-time tracking and positioning, but after the parcel has left the country, it is difficult to carry out tracking and enquiry of the goods. In the system of cross-border logistics, from the collection of express mail to the delivery of goods, it is necessary to go through several transits, and the breakage and loss of parcels can easily happen. This brings about a bad shopping experience for customers, while small and medium-sized foreign trade enterprises must also bear additional losses.

Cross-border logistics limit the return of goods. Whether online or offline, general merchandise trade supports return and exchange services, however, in cross-border trade, return and exchange services are particularly difficult. Firstly, due to the long and unstable transport time of cross-border logistics, and secondly, the high cost of return logistics, it is possible that the costs incurred for returns and exchanges exceed the value of the goods themselves. This has led to some overseas consumers being discouraged from cross-border e-commerce, and to a certain extent has caused a loss of potential customers.

Fourth, in recent years, the overseas warehouse business is the focus of attention from all walks of life in cross-border e-commerce, with the characteristics of fast speed and low price its mode of operation is very suitable for the product characteristics of some products. However, overseas warehousing means that small and medium-sized foreign trade enterprises will send all their goods to third-party freight forwarders, and face great risks in the case of overseas warehousing business which has not been carried out for a long time.

#### **5.4 Serious lack of professional talents**

Cross-border e-commerce is a new industry full of innovative elements in the context of the rapid development of cross-border e-commerce, small and medium-sized foreign trade enterprises cross-border e-commerce talent supply structural contradictions stand out, turning into a bottleneck in the development of cross-border e-commerce especially high-level innovative, composite talent shortage 2011 e-commerce professionals became a first-level discipline in the discipline of management 2019 cross-border e-commerce professional only by the Ministry of Education included in the in the catalogue of higher education majors. At present, most of the talents from foreign language majors are selected for cross-border e-commerce business training to reach the level of competent positions.

## **5.5 corporate innovation and brand awareness lagging behind**

At the present stage, a considerable part of China's small and medium-sized foreign trade enterprises to carry out cross-border e-commerce still rely on the sales strategy of large quantities and low prices, without focusing on product innovation and brand development. For some products with high sales volume and large profit margins, most small and medium-sized foreign trade enterprises adopt the wholesale resale model. Moreover, the cross-border export products of China's small and medium-sized foreign trade enterprises are often concentrated in labour-intensive products with low added value. These products have a fairly high level of homogeneity among them and are mostly produced under OEM brands with low technical content. This, coupled with the fact that many cross-border e-commerce platforms tacitly allow low-price competition among China's small and medium-sized foreign trade enterprises for homogeneous products out of a desire to capture market share, has led to an improper development model in the cross-border e-commerce market. Chinese enterprises generally lack the awareness of intellectual property protection, have long neglected the value-added brought by innovation, brand building Wen Li, and do not consider brand development strategies. This is what small and medium-sized foreign trade enterprises in China face when carrying out cross-border e-commerce cannot be ignored. On the one hand, although the number of cross-border e-commerce enterprises in China is currently increasing, and there is no shortage of some of their own brands, choosing a low-price strategy to seize the market and customers is currently the preferred marketing scheme of many small and medium-sized cross-border e-commerce enterprises, and they neglect the construction and development of their brands when fighting for market share with low prices. From a demand-oriented perspective, small and medium-sized foreign trade enterprises in China generally lack service quality and service awareness. On the other hand, due to globalised cross-border trade, small and medium-sized foreign trade enterprises need to face target markets in different cultural dimensions and explore characteristic user needs in different market contexts when carrying out cross-border e-commerce. However, at this stage, small and medium-sized foreign trade enterprises in China are often not able to change their mindset and launch marketing activities according to local conditions, and lack the continuous integration with local marketing media and marketing models.

## **CONCLUSION**

At present, China's traditional small and medium-sized foreign trade enterprises are carrying out cross-border e-commerce through various ways, and cross-border e-commerce has become a new means and a new channel for small and medium-sized foreign trade enterprises to develop international markets, reduce enterprise costs and survive and develop. The development of cross-border e-commerce has led to changes in the structure of the main body of international trade, and the central role in traditional trade has been weakened continuously, prompting the transformation of foreign trade methods to direct sales, and at this stage, China's cross-border e-commerce takes small retail as the new entry point, and the transaction mode is changed from the original single.

The B2B model has shifted to a variety of transaction models combining B2B model and B2C, etc. At the same time, due to the awakening of the awareness of personalized needs, customized products and flexible production methods have also become the new

development direction of cross-border e-commerce. According to the smile curve principle, small and medium-sized foreign trade enterprises in China still need to continuously extend to both ends of the industrial chain in order to achieve the transformation to a comprehensive service-oriented enterprise driven by product development and a variety of marketing methods. Cross-border e-commerce is developing at a fast pace, with a rapid change in mindset and business philosophy. This has led to a great deal of uncertainty and blindness among small and medium-sized foreign trade enterprises in the process of carrying out cross-border e-commerce, both in terms of products, marketing and services. At the same time, enterprises still face serious challenges due to their low cross-border e-commerce operation capability, uneven product quality, lagging cross-border logistics development, serious lack of professional talents, and backward corporate innovation and brand awareness. Therefore, for China's small and medium-sized foreign trade enterprises, it is important to strengthen the ability to regulate product quality, improve the speed of cross-border logistics and distribution, enhance the training of cross-border e-commerce talents, promote product innovation and brand development and other relevant countermeasures to break more blind spots affecting their development, provide more professional services to small and medium-sized foreign trade enterprises, and make China's small and medium-sized foreign trade enterprises have a better cross-border e-commerce application environment.

## REFERENCES

- China Internet Network Information Center. The 47th Statistical Report on Internet Development in China [EB/OL].
- Research 2019 China Cross-border E-commerce Development Trend Special Research Report [EB/OL]. [https://www.sohu.com/a/393392429\\_407401.htm](https://www.sohu.com/a/393392429_407401.htm).
- Media. 2020H1 Global and China Cross-border E-commerce Operation Data and Analysis Report on Typical Enterprises [EB/OL]. <http://www.100ec.cn/detail--6560867.html>.
- Xiang Shanru. Discussing the opportunities and countermeasures for small and medium-sized enterprises to develop cross-border e-commerce business. (2022). China Storage and Transportation.
- Ximei Li. Proceedings of 2019 International Conference on Management, Finance and Social Sciences Research (MFSSR 2019) Research on the Problems and Countermeasures of Financial Management in Small and Medium-sized Financial Enterprises.
- Asian Agricultural Research. Study on Electronic Commerce Maturity of Small and Medium-sized Agricultural Enterprises. (2012)
- Annie. Research on Cross-border E-commerce Professional and Training Modes of Talents. ICMETE, 2019.
- Cai Shuxun. Introduction to Electronic Commerce [M]. Shenyang: Northeastern University Press, 2007.
- Yang Jianzheng. The foundation and application of e-commerce [M]. Xi'an: Xidian University Press, 2011.
- Ke Limin, Wang Huaizhou. The foundation, strategy and practice of cross-border e-commerce [M]. Beijing: Electronic Industry Press, 2016.
- Wang Communication. A New Theory of Talent Learning [M]. Blue Sky Publishing House, 2005.

# INNOVATIVE MANAGEMENT OF MANAGEMENT MODE IN THE BIG DATA ERA OF PRIVATE ENTERPRISES

FAN PENGYU

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email:352665268@qq.com*

## ABSTRACT

China's private enterprises is the most active part of the Chinese market, it has developed from scratch, quantity and scale, gradually become an important force to promote the development of socialist market economy and promote supply side structural reform, promote the development of high quality, the important subject of modern economic system, is an important source of tax revenue, and provides a large number of jobs, in China's import and export trade proportion is also more and more large. Therefore, in the era of big data, only by seizing the opportunities of The Times, adapting to the new development situation and constantly innovating the management mode can private enterprises promote the healthy and sustainable development of private enterprises. This paper is divided into five parts: the first part is divided into an introduction, which introduces the background and significance of big data innovation research of private enterprises, as well as the research status and research content and research methods. The second part is the relevant concept and theoretical basis, which expounds the concept of big data, the impact of big data on the management of private enterprises and some management modes adopted by domestic and foreign private enterprises, so as to lay a solid theoretical foundation for the writing of later papers. The third part for the big data era of private enterprise management status and existing problems, analyzes the era of private enterprises, and from the management mode closed backward, low cognitive level of big data, enterprise internal information cannot be effectively sharing, lack of reasonable system constraints, production process lack of scientific as a whole, insufficient enterprise culture construction, lack of data analysis professionals analyzed several aspects of the private enterprise management mode. The fourth is divided into big data era private enterprise management mode innovation strategy, from the big data use consciousness, develop enterprise management strategy, innovative enterprise management mode, improve enterprise management efficiency, reform production implementation process, improve the competitive status of private enterprises, innovative talent management mode, elaborate private enterprise culture, construction supervision feedback system, promote the healthy development of private enterprises, build enterprise big data platform, cultivating quality data management talents for private enterprises put forward the feasible management mode innovation strategy. The fifth part is the conclusion and the outlook. This section summarizes the overall article, points out the shortcomings of the article and prospects future research. We hope to provide some reference and help for private enterprises to optimize the management mode.

**Keywords:** big data, private enterprises, management mode

## INTRODUCTION

### 1.1 Research background.

With the in-depth development of information technology and Internet technology, big data technology based on this has been widely used in all walks of life and become the core competitiveness of national development. Since the fifth Plenary Session of the 18th CPC Central Committee in 2015 wrote the resolution of the plenary session for the first time, big data has risen to a national strategy. The party's 19 big is put forward, to " speed up the construction of manufacturing power, accelerate the development of advanced manufacturing, promote the Internet, big data, artificial intelligence and the real economy depth fusion, in the high-end consumption, innovation lead, green low carbon, sharing economy, modern supply chain, human capital services and other fields to foster new growth point, form new kinetic energy." This draws a blueprint for the future development of enterprises, points out the direction for how traditional industries can integrate with big data, and injects strong confidence and strength to add new drivers to the real economy. With the advent of the era of big data, private enterprises will face more fierce market competition. Only by seizing the opportunities of The Times, adapting to the new development situation and constantly innovating the management mode can they promote the healthy and sustainable development of private enterprises.

### 1.2 Research Significance.

#### 1.2.1 Theoretical Significance.

The advent of the era of big data has brought rare opportunities for the innovation of management mode of private enterprises. As one of the important contents of modern enterprise management, management mode has attracted widespread attention in the business circle of society and academia. Many scholars have conducted in-depth research and put forward a large number of research results. However, due to the current domestic academic research on management mode mainly focused on state-owned large and medium-sized enterprises, for the content of private enterprise management mode research is very limited, but also a lack of empirical research, based on this, this paper chose the private enterprises as the research object, the management mode of such enterprises, to make up for the lack of theoretical research.

#### 1.2.2 Practical Significance.

The symbol of the era of big data is not to master data, but to make full use of data, and make scientific and reasonable decisions through the integration and analysis of existing data, so as to promote new value growth. At present, China's economy has shifted from a stage of high-speed growth to a stage of high-quality development. It is in a critical period of transforming the development mode, optimizing the economic structure and transforming the growth drivers. The private economy will continue to play an important role in it. Therefore, this paper combines the environment of the era of big data to deeply analyze the management mode of private enterprises, discusses the problems and reasons in the management process, and puts forward feasible countermeasures, hoping to play a certain reference role in the innovation of the management mode of private enterprises in China.

### 1.3 Research Objectives.

1.3.1 Investigate the current management mode of domestic and foreign private enterprises.

1.3.2 Study the current situation of domestic and foreign management mode in the case of big data.

1.3.3 Innovative management mode of private enterprises on the basis of the current

situation.

1.3.4 In The era of big data innovation, the management mode of private enterprises has been changed.

#### **1.4 Study hypotheses.**

1.4.1 The management mode of domestic and foreign enterprises is different in management thinking.

1.4.2 Whether the innovative management mode in the era of big data can promote enterprise development.

1.4.3 Will the model of enterprises in the era of big data conform to today's economy.

#### **1.5 Scope of study.**

##### **1.5.1 Content range.**

##### **1.5.2 Population range and sample size.**

This study is a study of 1000 enterprises, and the research tool is a questionnaire survey, used to validate the statistics of different management models of private enterprises.

##### **1.5.2.1 Enterprise Statistics Accessibility Source:**

Step 1: To facilitate sampling, using a population of common sources, For example, in the enterprise check app, large industrial parks, federation of industry and commerce and so on

Step 2: Purpose sampling, 50% innovation model, private enterprises.

##### **1.5.2.2 Sample size and sampling.**

The population used in this study are enterprises living in Beijing, Shanghai and Guangzhou and with innovative enterprise models. However, the researchers do not know the exact population. When determining the sample size, the researchers used the sample size of Yamane (1967) to select samples from a population of more than 100,000 people, assuming that the data were normally distributed and measuring a 95% confidence level. Acceptable tolerances do not exceed 5%, as determined by Eq.

##### **1.5.3 Scope of the variables.**

The study variables include: Innovative management change of enterprise management mode.

#### **1.6 Expected Results.**

1.6.1 Understand the different management modes at home and abroad.

1.6.2 Improve the competitiveness of the effective enterprise model.

1.6.3 According to the innovation mode of the enterprise management, make it more efficient.

1.6.4 The change in the management mode can better accept new customers.

1.6.5 Use this information to plan and develop marketing strategies to effectively meet customer needs and achieve more customer satisfaction. The variable is the effective improvement of the change of enterprise management mode.

## **LITERATURE REVIEW**

### **2.1 Concept definition.**

#### **2.1.1 Concept and characteristics of big Data.**

##### **2.1.1.1 The connotation of big data.**

The term big data comes from Big data, so it is also called "huge data". It is a relatively broad concept. It refers to the data that comes from various places, and cannot afford to capture, collect, save, maintain, manage, integrate, analyze and share with human brain and traditional data processing tools. It can be subdivided into big data technology,

big data application, big data science and big data engineering and other fields. Big data is usually collected in unstructured data, captured by the machine, which does not require human participation, and there is often no connection between the data, which requires professional analysis.

### 2.1.1.2 The characteristics of big data.

The characteristics of big data can be expressed by "5V":

Figure 1 Characteristics of Big Data



**Volume:** is the huge amount of data . Big data, as the name suggests, is composed of a large number of data. In the past, G and T can no longer be used as the units of measurement, including P, E, Z and other units for measurement. These data are too huge to be processed on a single computer, so cloud computing happens together.

**Variety:** is data diversification. There are many types of data, including not only the traditional text-based structured data, but also the unstructured data such as pictures, video and audio information. As the technology continues to evolve, new types will continue to emerge.

**Velocity:** fast processing speed. The transmission speed of data is very fast, the data is explosive, the processing speed also needs to be unusually fast, because the data also has time, some data even only a few seconds of value, improve the speed, to make the maximum value of data.

**Value:** high commercial value. Big data does not bring us a few precise data, but a large number of useful and useless mixed data. Maybe in a certain period of time, there is little valuable data, and the value density is very low. However, big data provides us with a full sample rather than a random sample. By analyzing and processing the whole data, we can find out the tendencies and characteristics of the company or unit needs, so it has high commercial value.

**Veracity:** authenticity. In the era of data explosion, there are diverse information dissemination channels and strong dissemination ability. In the process of distortion in the transmission, and big data technology can effectively control the authenticity of data. False information can be identified by data algorithm and processed information from the source.

### 2.1.2 Private enterprises.

After the reform and opening up, China has established a socialist market economic system, and "private enterprises", as the carrier of the private economy, have also entered

the public attention. However, in the definition of the concept of "private enterprises", there have been disputes and differences in the academic circle, mainly including the following views:

The first point of view is that private enterprises should be defined from the sense of ownership. Private enterprises are enterprises owned by the people, and their essence is private enterprises. The second point of view is that private enterprises are actually different from private enterprises. Private enterprises are only a form of enterprise related to asset management, with more emphasis on operating characteristics and do not involve the ownership of means of production. Its operation mode can be state-owned private, or private private, that is, by the "people" as the business body, engaged in the operation and management activities of the enterprise. The third view is that private enterprises is a temporary and transitional concept. Due to historical and market reasons, it is difficult to clearly divide private enterprises and private enterprises at present. Finally, private enterprises will also turn to corporate system or joint-stock modern enterprises, so there is no need to over-distinguish the concept of private enterprises. The fourth point of view is that private enterprises should be jointly distinguished from the form of ownership and enterprise operation mode. As a form of enterprise, private enterprises not only involves asset management, but also involves the enterprise ownership, private enterprises by "people", "people" is also the property owner of the enterprise, therefore, private enterprises is in addition to take "state-owned" all forms of ownership and management mode, namely "non-state-owned" enterprises.

Combined with the above views, this paper believes that private enterprises should be defined in detail, only the concept, can ensure the practicability and feasibility of the research. The first point of view and the second view while considering the characteristics and category of private enterprises, but not comprehensive, so this paper adopts the fourth view, namely private enterprises refers to the civil code enterprise ownership for independent legal persons, including individual businesses, private enterprises, state-owned private enterprises, urban and rural collective enterprises, but this study of private enterprises do not include foreign enterprises and Hong Kong, Macao and Taiwan enterprises.

### **2.1.3 Enterprise management mode.**

#### **2.1.3.1 Concept of enterprise management mode.**

Management mode refers to the general description of a specific type of management mode and management characteristics. Enterprise management mode is a series of management systems, rules, procedures, structures and methods that are gradually formed and basically fixed in a certain period of time in a long period of practice process, which reflects the unique culture of the enterprise. In order to adapt to the development of economy and society, the management mode of enterprises is also constantly adjusted and changed.

#### **2.1.3.2 The characteristics of the enterprise management mode.**

Enterprise management mode generally has the following characteristics: one is the purpose. The management mode of an enterprise is a purposeful manual management system, which is designed to achieve the business objectives of the enterprise. The business goal of an enterprise is to maximize the profits. Second, integrity. The management mode of an enterprise is formed by the organic combination of many management elements. The establishment of enterprise management mode is not to pursue the optimization of one of the elements, but to pursue the overall optimization. Third, the useability for reference. The management mode of each enterprise is not completely copied, but has its own unique characteristics. Enterprises can learn from the successful mode of similar enterprises in

the development, and learn from each other. Fourth, dynamic. The management mode of enterprises cannot be unchanged, it should constantly change with the development of the market, the change of the external environment and the needs of the enterprise itself.

#### **2.1.3.3 Type of enterprise management mode.**

There are six common enterprise management modes:

##### **2.1.3.3.1 the family love management mode.**

This management mode uses the function in family kinship and cohesion to realize the management of enterprises. This mode can play a good role in the early stage of family enterprises. Out of trust in the family, business owners are more assured to manage their assets to people who are related to them. However, there are too many human factors in this management mode, and with the development of enterprises, it must be replaced by a more scientific and reasonable management mode.

##### **2.1.3.3.2 the friendship management mode.**

This management mode in the partnership stage has a positive significance, it advocates the friendship between friends, but when the enterprise development to a certain scale, especially after the enterprise profit growth to a certain extent, friendship is diluted, if enterprises do not adjust the management mode as soon as possible, then will inevitably lead to enterprise will decline soon.

##### **2.1.3.3.3 the tender management mode.**

This management mode emphasizes that management should be more to mobilize the internal role of human nature, and is also very common in the friend partnership management, and the prominent representative is China's township enterprises. Warm management relies on relationship management, which lays hidden dangers for non-standard management and nepotism.

##### **2.1.3.3.4 the randomized management mode.**

In reality, it is specifically manifested as the autocratic management in private enterprises. Everything is a private business owner said, he can change any rules and regulations at will, his words are principles and rules, unable to form scientific and effective decisions.

##### **2.1.3.3.5 the institutionalized management mode.**

Institutionalized management mode refers to promote the management of enterprises according to certain rules and regulations. This management mode ignores the dynamic role of people, is relatively rigid, and does not consider the interests of employees. The institutionalized management mode is only used in some small and medium-sized technology or manufacturing enterprises. This management mode emphasizes planning, order and logical procedures, with institutional system as the main body, prevention as the feature, and laws and regulations as the core. This management mode has greatly suppressed the spirit of independent innovation and the communication within the organization.

##### **2.1.3.3.6 the humanized management mode.**

Humanized management mode is managed in a systematic, standardized and coordinated way, which is also a relatively reasonable and modern management system. Management is guided by the system, respects the rights of employees, and can take knowledge as the management capital, which is a more reasonable management mode. This management model is mainly applicable in large group companies and joint-stock companies. However, the humanized management mode of China's private enterprises in China is not very perfect.

## **2.2 Theoretical basis.**

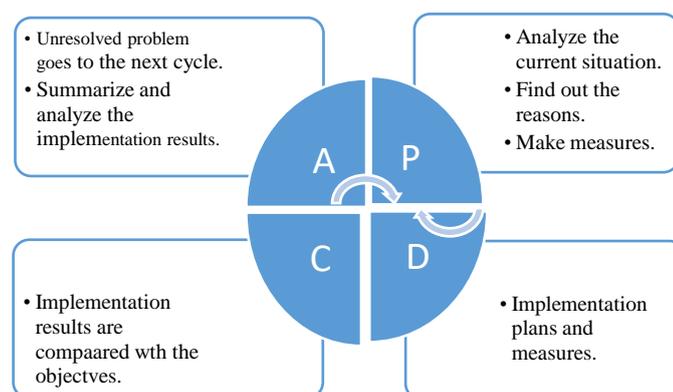
### **2.2.1 Project Management Theory.**

At present, project management is a management form used by most enterprises in China. The theory of project management was produced in the 1950s. After 30 years of development, a systematic theory has been formed by the 1980s and is constantly improved. As the name suggests, project management theory is the project system management method as the object, it through special flexible organization, under the predetermined time and limited resources, using the system method and theoretical guidance, efficient planning, organization, guidance and control, in order to realize the dynamic management and comprehensive coordination and optimization, so as to achieve the final goal. Project management theory integrates multiple disciplines, and according to the content can be divided into project evaluation, project organization and management, project scope management, project time management, project cost control, project quality management, project optimization management, project team and communication management, project risk management and project management software theories and methods. This theory can be applied in most projects, and achieve certain results.

### 2.2.2 Comprehensive Quality Management Theory.

Comprehensive quality management, or TQM (Total Quality Management), refers to an organization that is quality-centered, based on full participation, and aims to achieve long-term success through customer satisfaction and the benefits of all members of the organization and the society. The theory was developed by Dr. Feagenbaum and quality management expert Juran, and was later widely used in modern manufacturing enterprises. Comprehensive quality management is comprehensive, whole process, the whole enterprise and the participation of the whole society. It is a management philosophy driven by customer needs and expectations, emphasizing the importance of responsibility, so it can improve the quality of products, improve product design, improve product production efficiency, improve the quality of after-sales service, reduce business quality costs, reduce liability accidents, and can continuously improve the corporate culture.

Figure 2 Comprehensive Quality Management Process.



### 2.2.3 Constraint theory.

The restraint theory was proposed in the 1980s by Dr. Eli Gaudatt, an Israeli physicist and business management master. This theory aims to help enterprises to identify the bottleneck constraints in the process of achieving the expected goals, and to help enterprises to find improvement measures to eliminate the bottlenecks, and finally achieve the enterprise goals. The constraint theory works through five steps: one is to find out what constraints exist in the production process; the second is to fully exploit the constraints to

maximize the constraint utilization; the third is to make all activities of the enterprise subject to and effectively support the constraints; the fourth is if not fully use the constraint potential, to reduce the constraints to enterprise goals; the first four steps to see whether constraints or constraints into effective manufacturing resources, if not broken or new constraints, back to the first step. Although the constraint theory has not been produced for a long time, it has been extended to project management, supply chain, cost control and other fields.

#### 2.2.4 Lean production theory.

Reviewing the process of industrialization of the world, it has roughly experienced three stages: manual production, mass production and lean production, and lean production was first used by Toyota Motor Company of Japan along with the changes of the economic environment. When the market economy from the seller's market to the seller's market, the demand of buyers presents a trend of diversification, simple mass commodity production can not meet the diversified demand of consumers, cannot stimulate consumption, but cause inventory cost rise, based on this, Japan Toyota according to its own production capacity and social economic form, research and formed the lean production mode. Lean management starts from market demand, and sets up the concept that "only customer needs have value, if not increasing value is waste". Its core is to reduce inventory, reduce the investment of enterprises, meet consumer needs to the maximum extent, improve production efficiency and market response rate, and finally realize value appreciation. The ultimate goal of lean management is "zero waste", the "waste" waste "waste" than ordinary meaning connotation, refers to the minimum use of resources and produce additional value of labor, therefore, who can not create additional value labor is waste for lean management, although created the additional value but excess use of resources labor is also a waste.

Figure 3 Basic Principles of Lean Management.



In parts manufacturing enterprises, there are many kinds of waste, such as scraps waste in the processing process, repair waste of unqualified products, waste of long production cycle, waste of a large amount of inventory, and so on, these wastes are not allowed in lean management. Based on this, once the lean theory was proposed, it was applied by many enterprises, and even became the benchmark of the production mode of

production enterprises.

### **2.3 Management status of private enterprises in the era of big data.**

After the reform and opening up, private enterprises "break out of the cocoon" and gradually grow stronger. At present, many private enterprises in China are derived from the individual private economy, some develop from individual businesses and finally become family enterprises; some are partnerships jointly organized by friends and colleagues; some township or state-owned enterprises are transformed into private enterprises through buyout, leasing and contracting. These private enterprises have a common characteristic is influenced by the entrepreneurial environment and economic and political system, its management and business owners personal ability and wisdom, mostly take entrepreneurs as the center, with family relationship management mode, entrepreneurs personal ability and cohesion is the main driving force of enterprise survival and development, the enterprise production, economic behavior mostly embodies the individual, family, centralized consciousness, enterprise is not completely market-oriented, shows the following situation.

### **2.4 Family-style management mode.**

In the Chinese society that attaches importance to blood ties, it is generally believed that a blood relationship can establish a natural trust relationship to ensure the safety of enterprise assets. Small and medium-sized private enterprises choose the family management mode has the advantages of enhancing internal cohesion and reducing transaction costs, and attach importance to the establishment of external network and maintain good relations with the government. However, when the scale of enterprises expands, such an organizational form has great drawbacks. For example, at present, many private enterprises still use family management, especially small and medium-sized enterprises, with centralized leadership, with family relations to determine important positions, and highly autocratic in decision-making. This high concentration of decision-making power makes the survival of the enterprise to one person, once the decision error, the highest management power by the family, it is difficult to ensure that the inheritance power falls to the most management talent heir, and professional managers have few opportunities to join the enterprise; the internal management is not transparent, correspondingly low social trust, so it is difficult to use more social resources; through blood, geographical and business network, lack of institutional norms, is not conducive to the expansion of enterprise scale. Of course, with the development of private family enterprise innovation, many successors accepted the modern management concept, coupled with the impact of global competition, some private enterprises have begun to update the concept and system, such as the introduction of professional managers, further open the enterprise ownership structure, set up the public image of enterprises, and so on.

#### **2.4.1 High concentration of ownership and management rights.**

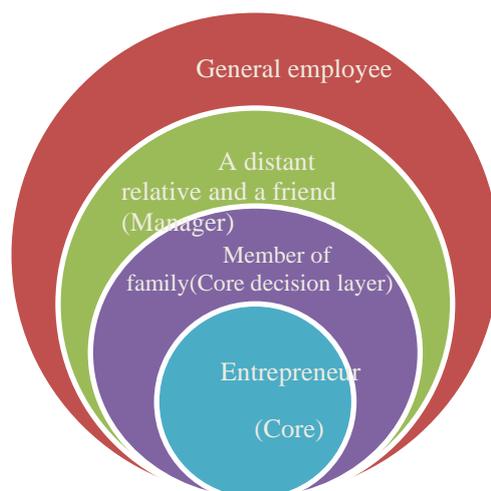
Family big enterprise is usually combining management and management mode, enterprise by a family absolute or relative holdings, chairman of the business parents, the core members of the family, constitute the core of the enterprise decisions, distant relatives and friends manager is responsible for the daily affairs management, to the outside is the general employee, thus forming a "difference order pattern". Moreover, the internal division of labor is vague, "parents" often personally involved; the family of small and medium-sized private enterprises mostly from the accumulation of family property, or through relatives and friends, loans, financing, funding source is very limited, for stability and cost saving, enterprise ownership, management decisions, personnel and financial rights naturally in the hands of major investors and founders. In this way, operators will rely on their own experience and high sense of responsibility, efficient experience

decisions, grasp the market opportunities, and with its flexible, highly unified, efficient and fast characteristics to reduce business risks, to achieve the rapid foothold and rapid growth of the enterprise. At the same time, a high degree of unity and centralization is also convenient for operators to directly grasp the first-hand materials, grasp the overall situation, and is conducive to the formulation, implementation and feedback of enterprise decisions. However, the high concentration of ownership and management rights will also cause a lack of restriction on power. The simplicity and centralization of the management level must require the subordinate to fully obey the orders of the superior, which will lead to the lack of innovation consciousness to a large extent, because the driving force of the enterprise development lies in innovation, and it is difficult to make an innovative enterprise relying solely on the top manager to develop steadily.

#### 2.4.2 Allocation of human resources according to blood, kinship and geography.

Private enterprises for security reasons and strengthen the need of enterprise internal identity, managers will first arrange operators of family, hometown, classmates, etc., especially in entrepreneurial stage, closer to reach trust, tacit understanding and obedience, rely more on blood, kinship and geographical configuration, and show the "difference pattern", with entrepreneurs as the core, the relationship from close to outward extension, the farther from the center, the farther the relationship with entrepreneurs, the lower the trust is. Under the control of the "difference order pattern", the allocation of human resources also exists great randomness, business owners' subjective judgment accounted for many proportion, there are serious family members for people, position is not according to the ability of the importance but according to the relationship of the arrangement, it is also easy to cause "outsiders" and "people" by unequal treatment. However, this family operation is not sustainable. On the one hand, the family relationship over time, the possibility of equity outflow; on the other hand, the expansion requires constant financing, and the need for management socialization and foreign capital. Therefore, after the family private enterprise develops to a certain Chengdu, it must abandon the family management mode and establish a scientific and standardized employment mechanism, so as to form productivity and promote the continuous expansion of enterprise scale.

Figure 4 Structure of "difference pattern" structure of private enterprises.



To sum up, the vast majority of private enterprises adopt the family management mode, which can also play a role in the early stage of entrepreneurship, the market economy order and laws are not perfect, and the resources are extremely limited. When society moves forward, under the background of the era of big data, enterprises have a

certain scale to seek the development of modernization, internationalization and collectivization, family management mode is gradually exposed defects and deficiencies, and become a "bottleneck" restricting the development of enterprises, which requires private enterprises to actively use big data technology, optimize the management mode, adapt to the requirements of economic development.

### **2.5 Influence of big data on the management of private enterprises**

In the traditional management of private enterprises, there are a lot of related data problem is difficult to be effectively solved, such as the past analysis of a product, the analysis of a product target customers need to spend a lot of manpower and material resources, the result is not necessarily accurate, and through big data technology we can capture the user preferences, trajectory attributes, so as to provide accurate advice for private enterprises product production. With the wide application of big data technology, human society has entered the era of big data. The development of The Times has put forward new requirements for enterprise management mode. Data has become a necessary strategic resource in the process of enterprise operation and development. Big data has the following important impact on the management of private enterprises:

#### **2.5.1 Impact on data volume**

In the past, even if private enterprises owned and used data, the analysis of data was not accurate, so in the past, data played a very limited role, and the managers of private enterprises did not pay attention to data. In the era of big data, the huge amount of data is unimaginable by private enterprises in the past, especially when analyzing the management mode, they can even capture the enterprise data under the global management mode and use it for themselves through analysis. In this way, big data is of great value for private enterprises to research decisions and formulate strategies.

#### **2.5.2 Impact on data dimensions**

Enterprises in production or transaction decisions, often can't rely on a single information decision, but need to synthesize each dimensions of information, but in the past because of narrow, single, information collection speed, enterprises can only use a small range of research, or decision makers subjective decision, this way is very not scientific and high risk. After private enterprises apply big data, the dimension of enterprise data analysis has made a qualitative leap. Private enterprises through the application of big data tools at the same time, multidimensional, widely to dig and collect huge amounts of data, with the help of big data technology of the data analysis and comparison, to deepen the understanding of the enterprise industry, deepen the understanding of the current market situation, for the transformation of enterprise management mode, improve the management efficiency, can play a positive role, also can promote the enterprise decision-making work.

#### **2.5.3 Influence on enterprise informatization**

In the era of big data, informatization is the only way for private enterprises to obtain sustainable development, which helps private enterprises to obtain sufficient market information, so as to realize their development and innovation. The realization of the development goals of enterprises requires the organic contact and mutual cooperation of various departments, and the process of the contact between various departments is also the process of information transmission and acceptance. In private enterprises, the direction of information transmission is often a chain of one-way transmission. With the support of big data technology, not only information can it be transparent and fast, but also the efficiency of information communication and feedback is improved, various departments can share information, and data can more truly reflect the current situation of enterprises.

#### **2.5.4 Influence on internal supervision**

Internal supervision is the supervision of the implementation of each link of private enterprises. In the era of big data, private enterprises move from "fuzzy supervision" to "precise supervision". Through full data mining, private enterprises can quickly obtain the required data, so as to effectively supervise various internal departments. The traditional internal supervision method is often post-supervision, and the use of big data technology can transform post-supervision into continuous supervision, so that private enterprises can develop better.

### **RESEARCH METHODOLOGY**

#### **3.1 Population determination and sample selection**

When determining the sample size, the researchers used the sample size of Yamane (1967) to select samples from a population of more than 100,000 people, assuming that the data were normally distributed and measuring a 95% confidence level. Acceptable tolerances do not exceed 5%, as determined by Eq.

#### **3.2 Research tool innovation**

The data source consists of two parts:

Auxiliary data collect information from various related studies and references and create a questionnaire. Main data It is an investigation of the management mode of various private enterprises.

Study text, documents, articles, theories, principles, and related studies to determine the research scope and to create research tools that cover the research objectives. Define the range of questionnaires related to a predetermined conceptual framework, and create a model questionnaire. The demonstration questionnaire must be consistent with the objectives, definitions, and sample groups. The researchers presented the questionnaire to the experts to check the effectiveness and defects of the relevant content in line with the objectives, definitions and sample groups. Opinions of all experts were considered in detail and used to update the questionnaire.

#### **3.3 Problems existing in private enterprise management in the era of big data.**

##### **3.3.1 Management mode is closed and backward**

China's private enterprises generally have the problem of backward management concept and mode, especially for family enterprises, which has a lot to do with the development process of private enterprises in China. Private enterprises were founded at the beginning of China's reform and opening up. At that time, China's economic environment, legal environment and market environment were still not standardized, there were still some ideological shackles, and the development of private enterprises was careful, which could not please the social prejudice against private enterprises. In addition, the long-term shortage economy also provides a huge market for private enterprises with relatively low requirements for product quality. In this case, dare to dare to dare to do, dare to challenge entrepreneurs greatly promoted the development of private economy. And this part of entrepreneurs rely on entrepreneurial passion but no systematic management knowledge, no enterprise management experience. With the growth of people's demand and the relaxation of China's policies, the number of private enterprises is becoming more and more, and the competition is becoming more and more fierce. How to stand out in the competition and improve the sales of products can be solved by enterprises. In order to occupy the market, private enterprises put marketing in an very important position. At this

time, in the process of rapid development, the problem of backward management concept and mode of private enterprises is highlighted. Enterprise management is regarded as dispensable, emphasizing business owners and neglecting management, authoritative management, democratic management, experience management, scientific management, temporary decision-making and management system. Under the guidance of these backward management concepts, most private enterprises adopt the mode of family management, mainly focusing on the rule of people, weak management consciousness, vague enterprise strategy, unclear division of powers, serious abuse of power, and management functions hovering at a low level, and eventually become an obstacle for enterprises to expand the scale of development.

### **3.3.2 Low cognitive level of big data**

With the application and popularization of big data technology, big data has affected all walks of life. All walks of society have a conceptual understanding of big data, and private enterprises are no exception. But even so, most private enterprises do not fully realize what promotion enterprises can bring after the application of big data technology, and their commercial value has not received the attention of private enterprises. These private enterprises only regard big data technology as a tool to analyze and process data, and focus on profit data and loss data, without discovering the real value of big data, which is the hidden information behind the data. In the era of big data, if enterprises only focus on their accounting statements, they cannot grasp the first opportunity of market development and change through the information contained in big data. This is because private enterprises often lead their further development through the management experience of managers. However, under the background of big data, the experience direction of managers is no longer the only reference basis for decision-making. Simply relying on empirical thinking can sometimes even lead to mistakes, resulting in the loss of market advantages in many industry competition, which is not conducive to the development and growth of enterprises.

### **3.3.3 Internal enterprise information cannot be effectively shared**

Under the traditional enterprise management mode, the organizational structure of private enterprises mostly presents the functional organization structure mode. This model brings the production of similar expertise together, each departments are independent, there are big problems in management: first, no functional department is responsible for the global results, each department often ignores the overall interests of the enterprise. 2nd, multiple management is often formed, the lower departments receive too many instructions from different superiors, and the instructions are contradictory to operate. For example, the production workshop received the instruction from the production department, requiring it to complete the production tasks within the prescribed raw materials, construction period, technical indicators and time, and at the same time received the instruction of the financial department to save costs, which is also the superior department of the production workshop, which cannot complete the established tasks according to the requirements. Such contradictory instructions often occur in the management process; third, information communication between departments is not timely. The functional organizational structure causes each department to be separated from each other, only cares about the interests of the department, and does not understand the operation of other departments. The communication mechanism is not smooth, making it difficult to supervise and coordinate each other in the production process. In this way, all the departments of the enterprise will lack of timeliness for the data response and processing speed, which is not conducive to the enterprises' timely response to the difference of the data analysis results. As a result, the data was outdated and companies

had missed development opportunities. The relevant data and information analysis of big data needs to integrate the comprehensive data of the whole enterprise to obtain valuable results after analyzing the data. However, the traditional enterprise management mode is not conducive to the sharing of relevant data and information of enterprises. Due to the rapid development of the Internet and new media, the current market environment of consumer preferences may be rapid and huge change, if the enterprise cannot timely through big data found the change of the market environment, so the enterprise in the industry competition will be in a backward and passive position, big data utilization is not conducive to seize the development opportunities in time, breakthrough development.

### **3.3.4 Lack of reasonable institutional constraints**

In the early stage, private enterprises can develop by relying on the individual ability of business owners. However, with the continuous expansion of enterprise scale and the enhancement of production capacity, simply relying solely on the rule of man can no longer meet the needs of the development of enterprises in the new era. The construction of the system determines the future of the development of enterprises. The system is the guarantee for the smooth development of enterprises. At present, many private enterprises lack a strict management system to restrain the enterprises and personnel, which is mainly manifested in:

First, enterprises lack the correct development strategy. When formulating the management system, private enterprises should take the development strategy as the guidance and tailor it according to their own actual situation, so as to develop a management system in line with the characteristics of the enterprise that makes the enterprise employees convinced. However, most private enterprises do not have a clear strategic goal. Private enterprises in the small scale, the number of employees is small or mainly composed of family members, the coordination of operation can be achieved through tacit understanding. However, after the development of the enterprise, there are a large number of people, in addition to family members and employees from all directions, it is necessary to have a clear business development strategy, so that all the staff are the high school managers will coordinate their efforts to the common goal, so that the enterprise can continue to develop. As Porter said, "Every company that competes has its own explicit or implicit competitive strategy." Otherwise, "if the departments are allowed to do their own way, they will inevitably be driven by the nature of their business and the interests of their principals." Without a scientific and reasonable development strategy, a scientific and reasonable management system inevitably cannot be formulated.

Second, the enterprise lacks a perfect management and organizational structure. The organizational structure of an enterprise is crucial to the development of an enterprise. A well-running organizational structure can bring high cohesion, high efficiency and low consumption to an enterprise. It is under the coordination of the management organizational structure that various elements in the management system can be coordinated and adjusted. However, the current management organization structure of private enterprises is very unreasonable, rigid, conservative, low efficiency in some private enterprises, very random, etc.

Third, enterprises lack of strict production management system. Although at present many private enterprises can meet the conditions of accept orders, but the existing production capacity of production does not match the production plan, cannot guarantee all orders with quality and quantity, the reason is the lack of strict production management system, the production plan control is too weak, lead to problems in the whole production operation system. Firstly, the lack of effective management causes the unreasonable production plan, and the quality, duration and cost seriously affect the production capacity.

Secondly, the lack of effective management causes the low work efficiency, which directly affects the production capacity and future development. Thirdly, the lack of effective management affects the production plan.

### **3.3.5 Lack of scientific coordination of the production process**

In the era of big data, information is exploding every day and is updated rapidly, and the market is also changing rapidly. Only by extensively understanding the latest market dynamics and demand information can private enterprises correctly deal with the development status of market economy. In theory, big data technology can effectively meet the information needs of private enterprises. However, in the practice of the development of private enterprises, most private enterprises do not actively apply this technology. This is because, first of all, the analysis and judgment of big data requires professionals, which takes a long time to analyze, and the enterprise management needs to find the implied value in the data, otherwise the role of big data will not be so obvious. Most managers of private enterprises, especially family private enterprises, lack the ability and level in this aspect, and it is difficult for talents with ability and level to join the core management. Therefore, it is difficult for managers to actively apply big data information in management practice.

Secondly, even if some managers apply the conclusions of big data analysis, they are mostly skeptical in the application process. They are more inclined to use their own years of experience to develop analysis and prediction, and believe in experience rather than data. It is precisely because of the problems in understanding and attitude, it is difficult for them to fully combine the relevant information of big data to actively carry out enterprise management.

Third, enterprises lack scientific coordination in production and are negligent in quality management. General private enterprises are too simple, the management process is too extensive, the production operation process is arbitrary, is not conducive to timely discovery of problems and effective treatment. Moreover, under the concept of extensive management, product quality management also shows a tendency to relax. First, although the enterprise has a series of quality management standards, but these standards are ten or even decades ago, cannot meet the needs of customers pay attention to quality; second, the management in the quality management for some interests, the quality management process is relatively single, can not cover the production field, so that some quality problems can not be found and corrected, affecting the whole production; fourth, the quality management is passive, only to prevent problems, and often cause great losses.

### **3.3.6 Enterprise culture construction is insufficient**

Most private enterprises will ignore the construction of corporate culture in the process of development and management, which will bring many problems. Corporate culture is the spiritual power and cohesion core of the enterprise, reflects the value concept and code of conduct of the enterprise, is the philosophy that guides employees to engage in work, and can help the enterprise to achieve the expected goals smoothly. At present, although some private enterprises have slogans, they have not formed a real corporate culture, have not been widely recognized by employees, and do not coincide with the development of The Times and the strategy of the enterprise. There are two main reasons for this situation: first, the lack of the importance of the enterprise culture and the understanding of the profound connotation of the enterprise culture, which leads to the construction of the enterprise culture does not conform to the enterprise environment and management purpose, thanks to the development of the family management mode, the original culture cannot adapt to the modern development.

### **3.3.7 Lack of data analysis professionals**

Big data technology is not everyone will analyze, in the process of application of data analysis talent has a very high requirement, because with the help of big data technology from the Internet data is very extensive and uneven, most of them are redundant information, need technical personnel to use professional technology and methods to identify data, processing, eliminate invalid information, on this basis, enterprises can effectively apply relevant information, therefore, big data technology content is very high, must be professionals to control, but most private enterprises do not have such talent.

## **RESULT AND FINDINGS**

### **4. Innovation strategies of private enterprise management mode in the era of big data**

#### **4.1 Develop an overall strategy**

Overall strategy is the highest strategy to guide the development of enterprises, that is, the overall strategy of enterprise development. It points out the direction of the optimal allocation of enterprise resources. Enterprises should determine the overall goal of enterprise development through the overall strategy, stipulate the total actions of enterprises, and pursue the total number of enterprise production. Therefore, private enterprises should analyze the market trend with the support of big data technology, investigate and study many factors affecting the change of market supply and demand, analyze and foresee the development trend of the market; and analyze the internal and external environment of enterprises to understand which external factors will affect the future development of the enterprise and which internal factors will affect the future activities of the enterprise. On this basis, the enterprise development strategy is formulated.

#### **4.2 Develop a functional strategy**

The functional strategy is mainly to arrange the work of the functional departments within the enterprise more carefully, so that it can give full play to the management efficiency, collectively referred to as the internal management strategy of the enterprise. Enterprise as an independent market main body, its operation process often includes design, production, sales and other levels of work, in the traditional management mode, the work between these departments, each interference, but such management strategy cannot adapt to the new era of market economy, because it cannot form department force, difficult to play the effect of  $1 + 1 > 2$ . Therefore, private enterprises should widely apply big data technology, integrate and manage the data information of each department, show the connection between various departments at the data level, and integrate the internal resources of enterprises. On this basis, analyze and judge the role and relationship of each functional department, and formulate the internal functional strategy of the enterprise.

#### **4.3 Develop a competitive strategy**

Competitive strategy is a strategy formulated by managers in order to make their products invincible in the fierce market competition, so as to win more market share, also known as business development strategy. Private enterprises should make use of big data to find their own development advantages and formulate feasible development strategies according to their development characteristics. The more commonly used development strategies of private enterprises include joint competition strategy, differential operation strategy and cost leading strategy.

### **4.3.1 Joint competition strategy**

Enterprises can analyze whether the enterprises in the same industry or other industries have development potential and cooperation space with themselves. On the basis of feasible data display, they can formulate joint competitive strategies and cooperate with other enterprises to develop the market, such as establishing industry associations or cross-industry enterprise alliances. Through cooperation, we should learn from each other, jointly resist the pressure of foreign competition, overcome the bottleneck of enterprise development, and seek common development.

### **4.3.2 Different business strategy**

The opening of the market provides more opportunities for enterprises, but also leads to the intensification of homogeneous competition. Now the market has changed from the past of the seller's market to the buyer's market, greatly increased the competitive pressure of private enterprises, how to maintain the advantage in the competition, you need to take the path of differentiation of competition, innovation, provide distinctive products and services to meet the needs of the personalized and diversified users. Differentiation competition path can also be realized by using big data technology. Through the market analysis of big data, we can find opportunities to research and develop different products. Production and develop unique products or similar products can surpass other competitors in the same industry in functionality and service quality, and the enterprises can get premium remuneration and opportunities for sustainable development.

### **4.3.3 Cost-leading strategy**

Cost leading strategy refers to the internal cost reduction of each operating link through the improvement of its own cost control, and finally improve the overall operating conditions of the enterprise, and gradually form a strong competitiveness in the industry. Although the implementation of the cost leading strategy is based on the direction of cost control, but this cost control is by no means the original price reduction competition strategy. Price reduction competition is unprincipled cost reduction, win through the price war, but will eventually cause vicious competition, make the enterprise profit less and less, until the complete physical technology update, or even use cutting corners method to reduce the cost to make the enterprise to survive, the result is that the enterprise is unable to continue to operate. Cost leading strategy is to reduce unit cost through innovative technology under continuous capital investment and technological innovation, which big data technology naturally includes.

## **4.4 Innovate enterprise management mode and improve enterprise management efficiency**

### **4.4.1 Optimize the property right structure**

#### **4.4.1.1 Management and investment**

Management and investment is an important way for private enterprises to realize the diversification of property rights, which will greatly stimulate the enthusiasm of managers to do a good job in operation and management, and is also a capital value embodiment recognized by enterprise management. According to the different operating conditions of different private enterprises, the management has different ways of holding shares, such as direct holding, performance stocks, futures shares, etc. Through these ways, equity distribution, on the one hand, meets the system requirements of modern enterprise development, on the other hand, can effectively financing. So as to realize the close combination of management and business owners closely together, conducive to the construction of management, but also conducive to increase the management's ability to bear the company's risks.

#### 4.4.1.2 Employees shall become a shareholder

Employee shareholding is a form of equity in which internal employees participate in the subscription of some shares of the enterprise, and employee shareholding representatives enter the board of directors to participate in the dividend and voting of the enterprise. And can set up technology stake, management shares, etc., let some technical backbone, managers and has outstanding contribution of enterprise employees hold, promote the separation of ownership and management, and can enhance the sense of responsibility of employees, let employees feel really is part of the enterprise, oneself also in the enterprise, not only share the enterprise risk, improve the enterprise cohesion, and employees' personal interests and corporate interests, make employees on the realization of belonging and life value, so as to promote employees and enterprise growth and development.

#### 4.4.2 Change the centralized mode

For private enterprises, there is a great lag in the management concept, and they mostly adopt the centralized management mode. However, in the era of big data, the centralized management mode can no longer adapt to the development of The Times, and must be changed.

First of all, the enterprise operators should innovate the management concept and establish the modern enterprise management concept. First, operators should establish the concept of the overall situation, not only to value the immediate interests, to consider the long-term, to promote the management innovation of enterprises, change the blind exclusive management concept in the past.

Secondly, enterprise operators should change the leadership mode and establish a new leadership mode in the era of big data. Enterprise management should change from one-way communication to two-way interaction. Management is not just about the uploading and issuing of management commands. Management activity is not a simple one-way activity, but an interactive process of interpersonal relationship. Command issuing is a part of management activities, and another part is feedback effects, which complement each other. If only orders have no feedback, then orders will not be effective in the long run, command execution will be worse and worse; if only feedback, no orders, then enterprise management will be more and more lax.

Third, business operators should learn from the excellent business management experience in China and the West, learn from each other, for their own use. In this way, we can not only learn the advanced management experience, but also reflect on the problems in the existing management mode, solve the problems, and promote the better development of enterprises.

Figure 5 Advanced management experience at home and abroad

Launch projects	Advanced experience
Respect for employees	Wal-Mart: Customer first, employee second
Increase employee sense of engagement	South Korea Precision Machinery: "one-day factory director system"
Employee self-restraint mechanism	Stanley, France: "Workers' self-management"

---

**Democracy in decision-making**

GM: The "full-staff decision-making" management system

**Rotation training mechanism**

China Mobile communication: Staff job rotation training system

**4.5 Improve the organizational structure.****4.5.1 To improve the configuration of management personnel.**

In modern society, human resources are the primary productive force. For private enterprises to achieve their management goals, they need to have qualified managers, give full play to the advantages of talents, and reform the management personnel structure. To abandon the family management mode in the exclusive thought, reduce the proportion of family members in the senior managers, to solve the family members of complex nepotism, make the enterprise wind is, improve the knowledge of the management of structure, stimulate the enthusiasm and initiative of managers and employees, innovative working ideas and working methods, improve the competitiveness of the enterprise.

**4.5.2 The management right should be subdivided, and the department should be moderately refined.**

Private enterprises adopt the functional management mode in the production, that is, the vertical management, superior management and subordinate mode. In the process of instruction transmission, there are often multiple instructions or instructions contradictory problems, resulting in a deviation in the execution of instructions. In order to change the disadvantages of this management mode, it is necessary to implement the management responsibility system, formulate feasible strategic deployment according to the enterprise development plan, clarify the management responsibilities of management personnel, and replace institutionalized management instead of people. Set up executive leaders to conduct unified management and guidance to production, and effectively supervise the implementation of instructions

**4.5.3 Improve the level of management personnel.**

The level of management personnel directly affects the management effectiveness of enterprises. To optimize the organizational structure, private enterprises must improve the level and skills of management personnel. First, managers should establish the awareness of lifelong learning, change the inherent thinking mode, actively accept new knowledge, accept new management ideas suitable for the enterprise, and improve the existing management level. Secondly, managers should not only attend regular training and learning to understand the latest developments and cutting-edge technology in the industry. Third, the enterprise should actively introduce excellent management talents to the management team, bring fresh blood and advanced management methods, and stimulate the vitality of all employees with scientific management means.

**CONCLUSION****5.1 Conclusion**

This paper analyzes the problems existing in the management mode of private enterprises in China in the era of big data, and puts forward feasible suggestions for the problems, and draws the following conclusions:

1st, private enterprises should make full use of big data technology to study the development direction and trend of the industry, take this as a scientific basis, make up for

the lack of development by experience in the past, and formulate long-term enterprise operation and development strategies that can adapt to the changing market environment.

2nd, the enterprise management mode connotation is rich, involves the enterprise production, management, all aspects of its own construction, and build conform to the law of enterprise development, reflect the characteristics of enterprise own management mode is very necessary, is very important, it is the key factor related to the development of private enterprises, is also related to the private enterprises can have market competitiveness.

3rd, the application of big data plays an important role in the sustainable development of enterprises. Through big data technology, private enterprises can optimize the allocation of resources in all aspects, reduce waste, make full use of things, improve revenue, and the work efficiency of various departments is significantly improved, which effectively improve the core competitiveness of enterprises. Therefore, we should truly realize the value-added services of big data on enterprise management.

4th, we should give full play to the advantages of the system, replace the rule of people and manage people rather than human feelings. "Governance of man" has obvious subjectivity and randomness, and a strong governance color, which is often easy to be unfair and easy to cause the tension between managers and employees. In the long run, managers will lose their prestige and the team will lose its cohesion. Therefore, abandon the "rule of people", according to the system, with the system, is the only way out for enterprise development.

5th, the enterprise culture construction is an important guarantee for the normal operation of enterprise management, enterprise culture is not dispensable for enterprises, but to real construction and innovation, reflects the enterprise cohesion, attraction, centripetal force and humanistic care, make employees see their role of enterprise development, enhance its sense of responsibility and mission.

## **5.2 Research deficiencies and outlook.**

Due to the limited resources that the author can grasp, the data access is not detailed, and the research is still defective, which is impossible to form a panorama of the optimized management mode of private enterprises in the era of big data. Due to the limited time and energy, this paper still has many deficiencies. The author will continue to pay attention to the latest research results of private enterprise management mode at home and abroad, continue to pay attention to the development of private enterprises, constantly supplement and improve the research results and actively promote the transformation of the results.

## **REFERENCE**

- Chris A Mattmann Computing: A Vision for Data Science[J]. *Nature*, 2013, 493(7433):473-475.
- Assuncao, Marcos D, Calheiros, Rodrigo N, Bianchi, Silvia, et al. Big Data computing and clouds: Trends and future directions[J], *Journal of Parallel and Distributed Computing*, 2015, 803-15.
- Martin Hilbert. Big Data for Development: A Review of Promises and Challenges[J], *Development Policy Review*, 2016, 34(1): 135-174.
- Li Guojie, Cheng Xueqi. Big data Research: An important strategic field of Future science and technology, Economic and social development: Research status and scientific thinking of big data [J]. *Proceedings of the Chinese Academy of Sciences*, 2012,27(6):647-657.

- Li Jianzhong, LIU Xianmin. An Important Aspect of Big Data: Data Availability [J]. *Computer Research and Development*, 2013 (06) : 1147-1162.
- Zhu Jianping, Zhang Guijun, Liu Xiaowei. Analysis of data analysis concepts in the era of big data [J]. *Statistical Research*, 2014 (02) : 10-19.
- An Mi, GUO Mingjun, Wei Wei et al. Big data governance system: analysis of core concepts, initiatives and implementation paths [J]. *Information and data work*, 2018,39(1):611.
- Peng Zhihui. On the Connotation and Composition of Big data Thinking [J]. *Journal of Information*, 2019 (06) :124-130+123.
- Wang Bo. Research on innovation strategy of enterprise management mode under the background of big data Era [J]. *Modern Economic Information*, 2017 (13) : 123.]
- Weng Kai. Five Ways of Enterprise management mode Innovation in the era of big data [J]. *Enterprise Reform and Management*, 2018 (01) :31+35.
- Dong Ye-hui, Zheng Chun-ying, Zhou Zexi. Research on management mode innovation of small and medium-sized enterprises in the era of big data -- Taking tea enterprise as an example [J]. *Fujian Tea*, 2020 (09) : 55-56.
- Liu Xiantang. *Jilin: Changchun University of Science and Technology*, 2006.
- Jiao Na. Analysis of China's Private Enterprise Management Model [D]. *Heilongjiang: Harbin Institute of Technology*, 2007.
- Huang Ying. Research on the relationship between corporate governance mechanism and earnings management of private listed companies [D]. *Beijing: University of International Business and Economics*, 2011.
- Liu Heping. The theory of enterprise management mode and the direction analysis of Chinese enterprise management mode [J] *Enterprise Vitality*, 2003(1):146-148.
- Meng Xuanyu. Comparative Study on Innovation Management Mode of Domestic and Foreign Smes [D]. *Jilin University*, 2010.
- Wei Chunhai. Innovation exploration of enterprise management mode based on big data era [J]. *China Business Theory*, 2021 (14) : 143-145.
- Hu Ruifeng. Research on innovation of enterprise management mode under the background of big data Era [J]. *Science & Technology Economics Guide*, 2021 (17) : 211-212.
- Zhu Guangchun. The Growth of China's Private Enterprises [M]. *Jinan University Press*, 2004:16.
- Cui Ping. On enterprise innovation management model [J]. *Economist*, 2002 (9) : 26-28.
- Zhang Liqiong. Thinking on the innovation of enterprise management mode in the era of big data [J]. *Enterprise Reform and Management*, 2019(24)
- Porter. Competitive Strategy [M]. *Beijing: Huaxia Publishing House*, 1997:1.
- Liu Heping. The theory of enterprise management mode and the direction analysis of Chinese enterprise management mode [J]. *Enterprise Vitality*, 2003 (01) : 146-148.
- Liu Yingfeng. Research on improvement of Enterprise Management Mode of Mingqi Group [D]. *Dalian University of Technology*, 2016.
- Ma Yinjie. Modern Enterprise Education, 2006 (21) : 57-58.
- Liu B. Improve the effective supervision and restraint mechanism of state-owned enterprises by strengthening enterprise management. *China Business Theory*, 2019 (07) : 153-154.

# AN EMPIRICAL STUDY ON THE RELATIONSHIP BETWEEN TECHNOLOGICAL INNOVATION AND FIRM PERFORMANCE

JINGXUAN SUN

*Suan Sunandha Rajabhat University, Bangkok, Thailand*

*Email:642253648@qq.com*

## ABSTRACT

Since the economic system planning, macroeconomic policies have strongly encouraged the development of scientific and technological innovation enterprises. Strong R & D and innovation capabilities have become a strong driving force for enterprises to achieve sustainable development. Taking the state-owned holding machinery manufacturing enterprises in China's main board market as a sample, this paper makes a multiple regression analysis to test the correlation between enterprise technology R & D and innovation and corporate performance under a certain corporate governance structure, and comes to the conclusion that enterprise technology R & D and innovation have a positive correlation impact on corporate performance. How technological innovation can create value for enterprises and how much value it can bring are still controversial. In the process of enterprise practice in China, whether there is a positive correlation between R & D investment and enterprise performance of high-tech enterprises, and how much role R & D investment plays in improving enterprise performance need to be further discussed.

**Keywords:** technological innovation, Enterprise performance, Corporate governance structure

## INTRODUCTION

### 1.1 Research background.

With the development of Chinese society, the scientific and technological level of Chinese society has gradually improved. The information age has arrived. In the information age, technology level has a very important impact on the development of enterprises, and technological innovation is the foundation and soul of the development of enterprises and even the country. At present, China has become the central leading group of network security and informatization. It has issued a series of policies to support scientific and technological innovation, encourage technological innovation, and is always committed to transforming scientific research achievements into production capacity. As the main body of the national innovation system, modern enterprises are faced with a fundamentally changing competitive environment. The decision-making of the intensity and distribution of technological innovation investment involves the survival and sustainable development of enterprises. Technological innovation refers to the application of innovative knowledge, new technology and new technology, the adoption of new production mode and management mode, the development and production of new products, to provide new services, improve the quality of products and services, so as to occupy the market share. It is very important to improve production efficiency, reduce

production costs, increase market share, and improve the reputation of enterprises in the eyes of consumers.

From the perspective of technological innovation, once the technological innovation project is started, enterprises can make breakthroughs on the basis of the original products or services, whether in the development of new products or the transformation of old processes, so as to obtain their own technological advantages. With the approval of the Patent Office, this technological advantage will become a unique proprietary technology and help enterprises eliminate their competitors. Therefore, enterprises do not need high costs when providing high-quality products and services in their target markets, which helps enterprises to form a strong core competitiveness and obtain monopoly profits. If enterprises lack technological innovation, especially independent innovation, it is difficult to form technical obstacles and long-term competitiveness in the market in the face of competitors. Therefore, if enterprises want to have lasting development power and vitality, they must actively carry out technological innovation.

## **1.2 Research Significance.**

### **1.2.1 Theoretical Significance.**

With the deepening of globalization and the upgrading of technological competition, if enterprises want to survive and develop in the increasingly fierce market competition, they should improve their independent innovation ability and occupy a high competitive advantage through monopoly technology. Due to its inherent advantages, in the face of strong competitors, enterprises must maintain a high sense of innovation and strong technology. To achieve all this, enterprises need to design efficient new technology investment plans, which is obviously inseparable from technological innovation investment and patent protection.

### **1.2.2 Practical Significance.**

By analyzing the technological innovation and enterprise performance of entrepreneurial enterprises, this paper helps to guide managers to better allocate their own resources, find a reasonable competitive focus for enterprises, and help enterprises obtain lasting competitive advantage; At the same time, it also helps investors to deeply understand the technological innovation activities carried out by enterprises and formulate effective investment plans.

## **1.3 Problem statement.**

The vigorous development of technological innovation cannot be separated from scientific performance management. Scientific and effective performance management of enterprise technology innovation, can make enterprise technology innovation has clear strategic objectives and scientific performance index system, combined with technology innovation cost and cycle for detailed analysis, and use the index system of technological innovation progress and scientific evaluation, according to the corresponding strategy and strategy adjustment, to ensure the realization of enterprise technology innovation strategic goals. Enterprise technology innovation performance management for enterprise science understanding of their own technology innovation state, take effective technology innovation strategy, effective technology innovation management, improve the innovation mechanism and culture, and improve the technology innovation ability and competitive advantage, get the best economic and social benefits has important theoretical and practical significance. However, due to the particularity, complexity and uncertainty of technological innovation, there is still no scientific and reasonable performance management system of technological innovation. Therefore, the establishment and improvement of technology innovation performance management system has become an urgent problem to be solved.

#### **1.4 Research questions.**

What are the key factors affecting the enterprise innovation ability?

How to evaluate the level of enterprise innovation performance?

What is the impact of enterprise technological innovation ability on innovation performance?

What are the choices of enterprise technology innovation strategy?

What is the impact of the enterprise's technological innovation ability on the innovation strategic model?

What is the impact of enterprise technology innovation strategy on innovation performance?

#### **1.5 Research objectives.**

To objectively and correctly evaluate the level of enterprise innovation performance.

To choose the right enterprise technology innovation strategy.

To determine the positive impact of enterprise technology innovation strategy on innovation performance.

## **LITERATURE REVIEW**

### **21 Concept definition**

#### **2.1.1 The definition of technology**

The earliest definition of "technology" is the individual skills and skills. Later, many scholars expanded their definition and tended to see "technology" as a system of knowledge, process, or service. Scholars at home and abroad give different definitions of this technology, among which the representative definitions are as follows:

WIPO (World Intellectual Property Organization) defines technology as a systematic knowledge for manufacturing products or providing services, either in the invention or design of shapes or products, or in design, planning, establishment, plant construction or even operational management. As long as it takes a process or provides all the services, it falls within the technical category.

According to Nelson (1992), technology is a collection of all knowledge reserves, consisting of a collection of scientific design and practice. What needs to be understood is world labor law. Basic variables and characteristics that influence performance, and a range of ways to overcome barriers.

De Zeng , and Chang-Rong Chung (1997): technology is a long-term training method with all symbolic requirements for production, scientific experiments, management and service. It is the method and means to form and develop in social stratification, including technology, skills, knowledge, royalties, equipment, rules, etc.

Li Ping (1999) believes that technology is an effective tool for people to participate in various economic activities by combining them in different forms or creating different scarce resources. Through the application of technology, people can realize the production of new products, the improvement of new processes, the management of human resources and evaluation, and the development of market economic activities. He also stressed that to successfully define a technology, we must be aware of the unique characteristics of the technology: maturity, dynamics, importance, environmental characteristics, factor substitution, scope, availability, complexity, centrality, continuity of production, and engineering reversal. Process, products, etc.

This paper selects the World Intellectual Property Organization (WIPO) to define "technology", which is a systematic knowledge for manufacturing products or providing services, whether in the form of product or utility model inventions, information or

technical skills, or in the design, planning, establishment or even operation management of factories. Because this is the most comprehensive and systematic definition of the concept of "technology" in the world so far, and it is also more in line with the research needs of this paper.

### **2.1.2 Technological innovation**

The economic concept of "innovation" was first put forward by Schumpeter, an American economist, in his book economic development theory, and further refined in economic cycle. In addition, according to his definition, technological innovation is to introduce a new set of various production factors and production conditions into the production system, that is, to create a new production function. He pointed out that technological innovation is a creative process that can continuously innovate the economic system from the inside. It breaks the old economic structure and produces a series of new products, new skills, new processes, new production factors and new businesses. The emergence of environment and new forms of organization has promoted the formation of a new economic order.

On this basis, modern technological innovation theory has been deduced and developed. Since then, the academic community has set off a wave of research and technological innovation, and related topics have also attracted the attention of more and more scholars. So, what is technological innovation and what does it include? Scholars, experts and relevant academic research institutions at home and abroad still have many different understandings and understandings on this subject, and have not formed a unified view.

In the early 1950s, R. Solo conducted a more comprehensive study on technological innovation and proposed for the first time that the realization of technological innovation needs two conditions - the source of creativity and the realization and development in the later stage (two-step theory). The research results have laid a solid foundation for defining the concept of technological innovation and have outstanding significance.

In 1962, Jerlino asserted that "technological innovation" was a process of adding multiple actions and achieving results. He from the perspective of collective behavior analyzed a series of processes related to technological innovation, that enterprise technology innovation behavior not only includes the initial stage of invention and design selection, also to ensure the capital investment (capital, manpower, fixed assets, etc.), but also include organization, make plans, market development, and even hire employees.

British scholar C. Freeman (1982) conducted research related to industrial innovation. He defined "technological innovation" as the whole process of technology, process and commercialization, so as to realize new market value of new products and processes. His definition is no longer limited to looking at innovation from the perspective of economic importance. OECD (2000) once pointed out that technological innovation can be divided into two forms: product innovation and process innovation. Among them, product innovation refers to the improvement and improvement of product performance and quality, as well as marketing, such as the research and development of new electronic products such as mobile phones and tablets or the upgrading of original products. Process innovation refers to the improvement of production process or method. Major improvement is mainly related to the change of equipment, human resources, business process or its combination. The research on technological innovation in Chinese academic circles mostly focuses on the end of the 20th century and the beginning of the 21st century. It inherits the research on technological innovation by some foreign scholars and makes a theoretical analysis combined with the development of technological innovation. Liu Xianlin (1993) pointed out that technological innovation refers to a series of design,

testing, production and marketing activities from the generation of creativity, to product design and testing, to the production of new products, new processes or internal applications of equipment, and finally to the first commercial application, including product innovation, process innovation and marketing. Li Xiaozhong and Zhang Xiaodi (2005) have almost the same definition of technological innovation, except that the latter also emphasizes that the whole innovation activity must be related to technology. Fu Jiayi (2001), a professor at Tsinghua University, tends to define technological innovation in a broad sense. He pointed out that technological innovation refers to the comprehensive process of "research and development of —— narrow technology innovation", including a series of activities including science and technology, enterprise management, marketing, investment and financing management. In this process, in order to obtain high market returns, entrepreneurs seize business opportunities, integrate all resources and production conditions, obtain new sources of raw materials or semi-finished products, establish a low-cost and efficient production and management system, explore new markets with new products, new processes or new methods, and occupy the appropriate market position faster. Li Jingwen (2001) believes that technological innovation is a process of R & D, sample production, large-scale production, promotion, marketing and sales from the creation of new products or new process ideas. We should take improving international competitiveness as the goal of market demand orientation.

Generally speaking, in the current increasingly mature IT market environment, academia has a deeper understanding of the meaning of technological innovation, gradually abandoned the traditional view of narrow understanding of technological innovation, and formed a situation of keeping pace with the times. Introduce the "innovation double helix". It is believed that the integration of R & D and technology diffusion is not only a series of economic activities, but also a series of economic and technological diffusion.

## **2.2 Study on Enterprise Performance**

Enterprise performance is a very broad concept. Scholars at home and abroad have different views on the definition of enterprise performance. Campbell (1990) believes that corporate performance is an action or behavior that can be observed and associated with organizational goals. Lebas (1995) believes that "corporate performance" is an effective means to measure whether a company successfully achieves its predetermined goals. Yang Guobin (2001) believes that enterprise performance refers to the operating results of an enterprise within a certain operating period, including operating assets, financial efficiency, preservation and appreciation of capital, etc. Zhang Rui (2002) believes that corporate performance refers to the achievements or achievements made by the organization in relevant business and management activities. Su Wukang (2003) pointed out that enterprise performance refers to operating efficiency, which reflects the company's operating results and the management level of managers.

Broadly speaking, there are three existing concepts in the meaning of corporate performance. One is simply the performance of the company, that is, the performance of the company in a certain operating period. The second is the definition of enterprise performance in the rules for performance evaluation of state-owned capital issued in June 1999: enterprise performance refers to the operating efficiency and performance of managers in a certain operating period. The difference from the first understanding is that the definition includes the performance of the operator into the definition of corporate performance. The third is business performance in a broad sense, that is, company performance is divided into organizational performance and employee performance, including organizational efficiency, efficiency and change performance, as well as

employee efforts, efficiency and characteristics.

### **2.3 Literature review of technological innovation and enterprise performance**

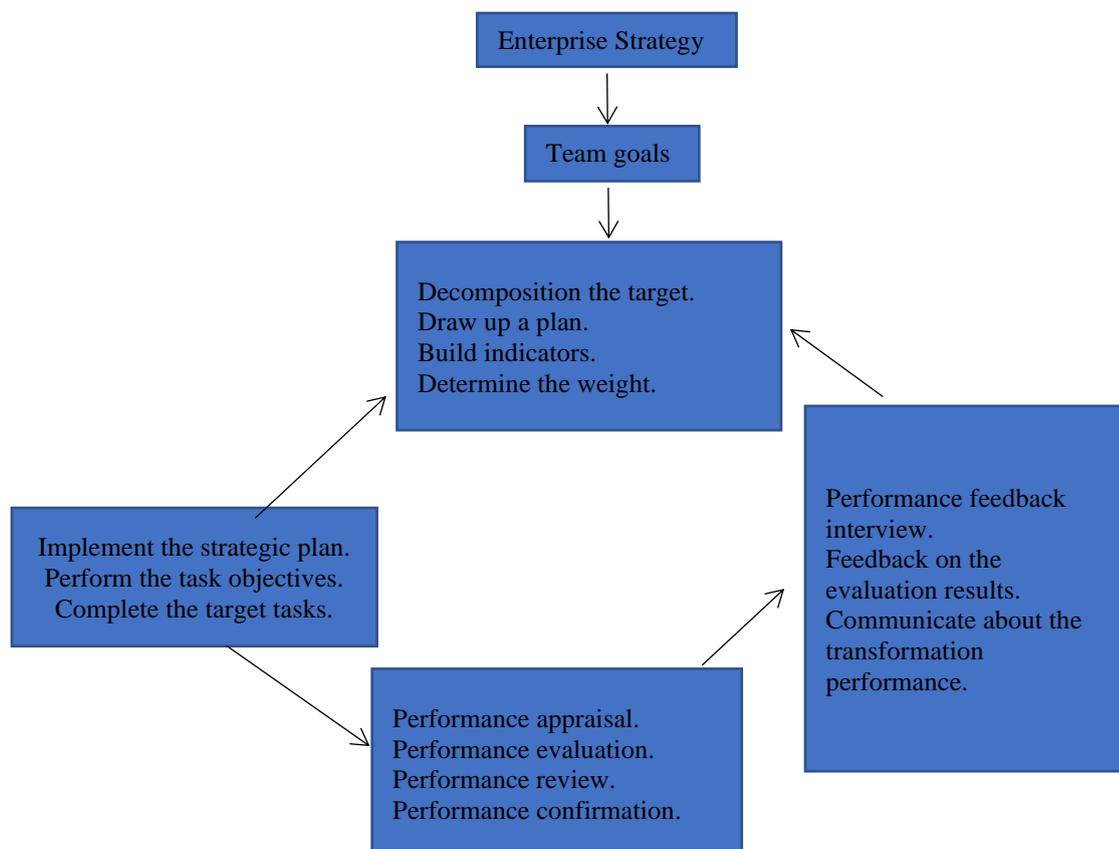
Under the economic model of global competition, innovation activities play an important role in the survival of enterprises. Technological innovation capability is a special resource, including technology, product, process, knowledge, experience and organization (Guan, Ma, 2003). This determines whether enterprises can survive and develop in the fierce technological environment. Lafort (2008) pointed out that innovation is related to the size of enterprises, and small enterprises often have no choice, because the focus is to maintain the current market and position rather than expand their business. Companies with five to 20 employees invest less in systems and technology than companies with more than 200 employees. Domestic and foreign scholars have discussed the relationship between technological innovation and performance from different angles. Although the research results are different, the role of technological innovation in development can not be underestimated.

Enterprises can improve the original mode of production and operation and reduce costs through the implementation of technological innovation activities. Or develop new products and better products to seize the market and obtain excess profits first; It can also obtain monopoly through the application of R & D technology. Competitors seize market share and strengthen market control. These views provide strong theoretical support for exploring the relationship between technological innovation, performance and value (Aboody, 1998). Cheng (2017) studied Chinese enterprises carrying out cross-border M & A and found that technological innovation ability effectively regulates the impact of business relations on M & A performance, and innovation mechanism still plays an important role in emerging markets. Through experiments, it is found that technological innovation investment has a positive impact on the company's performance, but the impact is declining year by year, mainly due to the lack of follow-up investment, which can not continuously improve the company's performance growth. Rafiq (2016) conducted a study of Chinese and American mining companies and found that companies can make higher sales and profits through their research and development activities. Golovko (2011) points out that through innovation, companies can produce more, newer and better products, enter new regional markets, and improve the quality of selling products, thus increasing sales. Xu Xin (2010) discussed the relationship between technology R & D activities and enterprise value and enterprise performance, and concluded that R & D investment can actively improve enterprise value and enterprise performance. At the same time, it is also found that the innovation level of listed companies is low and the capital investment is insufficient. They focus too much on the number of patents and ignore the quality of innovation. The market can effectively deal with the traditional enterprises and enterprises to focus on technological innovation activities. Technological innovation requires certain human resources, assets and capital. Companies can use the temporary reduction in the present value to obtain the future of the company's capital increase, but technological innovation is a long-term task, so it will have a delayed impact on the company's performance. Bowen (2010) noted that previous studies on the relationship between innovation and organizational performance were inconsistent due to the lack of interest in data ranking. Through multiple analysis, there is a positive correlation between innovation and future performance. Innovation allows an organization to acquire specific development strategy resources that give you a competitive advantage, and you can then reinvest in innovation to maintain a competitive advantage. Leonard (1971) found that the relationship between R & D investment and sales growth emerged two years after R & D investment. Lome (2016) has studied 247 factories in Norway. He found that companies

that had invested a lot of resources in their research and development activities performed better than others. The study found a time lag between R & D investment and the return effect of two years. Wang Fengyun (2012) took Fujian listed companies as an example, analyzed the impact of science and technology innovation investment on performance, and believed that science and technology innovation investment can improve the core competitiveness, which is positively related to the profit indicators, and has the characteristics of lag.

The impact of technological innovation activities on organizations varies from industry to industry. Li Yingzhao (2005) compared the regression coefficient of the technological innovation of the electronics industry and the pharmaceutical industry on the enterprise performance, and found that there were significant differences in the business performance of different industries. This has a negative correlation with the pharmaceutical industry. Guo Bin (2006) analyzed the software development industry and believed that the intensity of R & D investment will significantly reduce the operating profits of enterprises. This paper believes that it is not feasible for Chinese software industry to increase financial support to achieve the purpose of innovation. Enterprises must master the real core technology through research and development activities, and have independent intellectual property rights. Simon (2016) believes that it is difficult to determine the economic value of corporate R & D activities in the market. If managers are immoral motivated and in order to get returns in the shortest time, they will be more willing to invest in short-term investment projects than consider research and development from a long-term perspective, which will eventually lead to increased uncertainty.

*Table 1 Strategic performance management system of enterprise technology innovation*



## **2.4 Relevant theoretical basis.**

### **2.4.1 Input-output theory.**

The input-output theory was founded by Wassily Leontief, an American economist and professor of Harvard University in the 1930s. Among them, "input" refers to the allocation of various production resources and the use of production factors in the process of social production. "Output" refers to the redistribution, reuse and final destination of production results. In an economic system, input-output analysis refers to a quantitative economic analysis method that systematically studies the interdependent relationship between input (resources, projects, conditions, etc.) and output (results, benefits, income, etc). The essence of input-output analysis is that when analyzing the dependence between different departments based on input-output relationship, from the perspective of local change leading to the change of the whole system. Since its birth, the theory has been highly valued by the economic circles and governments of various countries. Its scope of application has been expanding and has been extended to all aspects of economic research.

Input-output theory is a quantitative economic analysis method that simultaneously studies the "input" of production factors and the "output" of economic achievements. The equation is used to explore the relationship between various departments of the economic system and study the impact of certain changes on the overall changes of the economic system. A large number of scholars at home and abroad have applied this theory to academic research and achieved good results. Based on the input-output theory, combined with the actual development of domestic enterprises, this paper studies the relationship between the input, intermediate output (product) and the final economic benefit, and puts forward effective suggestions.

### **2.4.2 Technological innovation theory.**

The theory of technological innovation theory was first put forward by Schumpeter, an American economist, in 1900. He believes that independent innovation is the creation of a new production and manufacturing management system, that is, the rearrangement of economies of scale and production and manufacturing standards. After Schumpeter, many experts and scholars have carried out a lot of standardized scientific research and Empirical Analysis on this basic theory, and summarized the two levels of enterprise independent innovation - technological innovation and innovation management. Generally, at the beginning of the establishment of the enterprise, its management scheme has long been produced and gradually improved. In the future development process, it is difficult for enterprises to innovate and improve the management system. Therefore, the key to the innovation of enterprises is the technological innovation of enterprises. It should focus on the whole process of enterprise production and operation. Since then, many experts and scholars have conducted scientific research on the basis of Schumpeter's innovative methods, further developed the basic theory, and put forward relevant ideas.

Mansfield's scientific research on technological innovation focuses on the relationship between imitation and maintenance, that is, to explore the reasonable factors that harm the promotion of new technologies in the same unit of different enterprises. He used the method of technology promotion to prove that after the enterprise first promoted the application of new technology, it can maintain this technology monopoly advantage for a long time, which is not imitated by most target groups in the sales market. Green focuses more on the whole process of technological innovation. He believes that technological innovation gradually relies on the feeling and insight into the potential demand and market value of the sales market. Finally, the whole process of individual behavior applies the commercial effect of technology transformation to realize the market prospect and complete the value. Fu Jaju, a Chinese expert and scholar, also believes that

technological innovation is an investment activity involving financing projects. Comprehensive process of product research and development activity content, management method activity content, network marketing activity content and comprehensive process of a series of organizational activities.

Technological innovation is an important factor for enterprises to establish their core competitiveness and the endless power for their continuous progress. Enterprises can find profit points from technological progress or processing technology improvement, and can also produce significant core competitiveness for enterprises according to innovation and important independent innovation. If the effect of technological innovation is difficult to be imitated by the target group in a short time, the enterprise will have enough time and opportunity to obtain monopoly profits. Due to the relatively limited capital, employees and their disposable income, SMEs were unlikely to compete with steadily growing competitors in the basic industries. The first thing is to survive in the white-hot industry competition. Usually, small and medium-sized enterprises must carry out technological innovation, find vacancies in market prospects, make technological innovation in some industries ignored by competitors, segment the sales market, and obtain market share, so that enterprises can achieve better sales performance.

#### **2.4.3 Core competence theory.**

C.K. Prahalad and Ghemal first mentioned the definition of "core competence", emphasizing that core competence is the common sense and professional skills integrated within the enterprise, especially the common sense and professional skills on how to integrate a variety of production and manufacturing professional skills and different systems, which is the knowledge structure that can give the enterprise long-term core competence. They also stressed that the production of their core competitiveness is slow with the development of their major commodities and key technologies. Key commodities and key technologies can only be created based on long-term understanding and accumulation. Therefore, the core competitiveness is the major with enterprise characteristics accumulated by the past project investment, learning, training and personal behavior of enterprises and enterprises.

The core competitiveness of an enterprise is the professionalism and the working ability that is not easy to be imitated by competitors. It is one of the services that businesses obtain high-quality growth based on the sales market. The core competitiveness of an enterprise is based on long-term capital investment and cultivation and accumulation. Enterprise business must focus on shaping the core competitiveness of the enterprise, so that the enterprise can maintain stable growth. In China, independent start-ups are relatively small and have good growth. Therefore, how can these enterprises cope with the strong market competition, sales market and unpredictable market environment, produce their core competitiveness, and promote their stable growth. Continuous innovation is the core energy of independent entrepreneurial core competitiveness of enterprises. Only on the basis of independent innovation can we maintain differences with our competitors and stand out in the white-hot industry competition.

## **RESEARCH METHODOLOGY**

### **3.1 Research conception and description.**

The purpose of this paper is to grasp the relationship between enterprise technological innovation and enterprise performance. Combined with the research results at home and abroad, combined with the research status in China and the data of gem, and based on the theory of technological innovation, this paper evaluates the relationship between

enterprise technological innovation and enterprise performance from the dimension of technological innovation input and output. In addition, because this paper is based on the relationship between technological innovation and performance of Chinese enterprises, the focus of this paper is to analyze the relationship between technological innovation and performance from the perspective of enterprise technological innovation activities: the relationship between research intensity, the number of technicians, capital expenditure rate, the number of patents and performance.

### **3.2 Data source and sample selection.**

This paper selects the enterprises listed on the gem as the replacement sample to analyze the empirical analysis of the relationship between technological innovation and performance evaluation of independent entrepreneurial enterprises. There are two reasons: on the one hand, gem stock enterprises have the characteristics of good growth, prominent independent innovation ability, short time and fast speed, which is in line with the primary characteristics of independent entrepreneurial enterprises. On the other hand, the relevant information disclosure standards of gem stock enterprises are more detailed. At the same time, by comprehensively considering the lag effect, this paper selects the correlation between technological innovation product R & D density and patent variables and enterprise performance assessment from 2019 to 2020.

Most of the data and information used in this article are collected online and manually, including reading articles, related disciplines of enterprise annual reports, searching for patents one by one, etc. Generally, the R & D expenditure data information for "R & D investment" or "R & D expenditure", the annual report "Employee status" column, asset expenditure amount and financial index analysis considering — return on total assets (ROA) and return on equity (ROE), CSMAR database, patent authorization data information from the patent retrieval database of the National Patent Office. To ensure the accuracy and reliability of the applied data information, samples and data are selected in strict accordance with the following principles:

1. Ensure the sustainability of all sample companies during the operation period, and have complete data on all indicators on a daily basis. The data collected in this paper include R & D expenditure and patent authorization in 2019-2020, technical personnel ratio in 2020 (or the number of technical personnel and the total number of enterprise employees), capital expenditure in 2020, operating revenue in 2019-2020, total assets at the end of 2020, asset liability ratio in 2020, regional information, enterprise growth data in 2020, return on total assets in 2020 and return on net assets in 2020. For the sample companies with incomplete data, as long as one of their data indicators is missing, they will be eliminated.

2. Ensure that the sources of R & D expenditure are comparable. The difference between the old and new accounting standards was not disclosed on the gem until October 2009. However, previous studies have no unified view on the data collection source of R & D expenditure. This paper mainly divides it into five categories: (1) the R & D expenditure is calculated by the sum of the "development expenditure" account in the enterprise annual report and the "R & D expense" account under the management expense. (2) Only the "research and development fee", "technology research and development fee" and "new product development fee" under the management fee are used as the R & D expenditure. (3) The R & D expenditure is calculated in combination with the "R & D expenses", "R & D expenses" under the item "other cash paid related to operating activities" in the notes to the statement and all relevant items under similar names and "management expenses". (4) Adopt China Technology Development expenditure and Technology Statistical Yearbook as R & D expenditure (He Wei, 2003). (5) "R & D

investment" or "R & D expenditure" in the annual R & D investment disclosed by the enterprise. S's annual report is the only source of R & D expenditure data. This paper selects a fifth widely used data collection method, collecting R & D expenditure data in the fixed column of the annual report to meet rigorous data relevance and uniformity.

## CONCLUSION

The research background of this paper has three main lines. The first main line is the impact of corporate governance structure on investment in innovative technologies. The second line discusses the relationship between technological innovation and corporate governance structure. The third line takes corporate governance as the normative variable, whether technological innovation has a significant impact on enterprise performance. The regression results are shown in Table 3 below.

The results from Model 1 show that R & D investment is significantly influenced by ownership concentration, equity checks and balances, and executive pay. After removing the effects of heterosexuality and multidisciplinary, the variance expansion factor of each dependent variable is much less than 10, and the tolerance is much greater than 1. The equations showed good goodness-of-fit by  $r^2$  and F-value tests. The degree of equity checks and balances is negatively related to R & D investment, that is, the higher the degree of equity checks and balances, the lower the R & D investment.

From the results of model 2, the regression coefficients significantly passed the sig hypothesis test. It is confirmed that the company's R & D investment is positively correlated with the company's earnings per share, that is, the higher the company's R & D investment, the higher the company's performance.

As can be seen from the results of model 3, the dependent variable coefficients all passed the sig hypothesis test, and their tolerance rate and variance expansion factor indicated no obvious multiple col-linearity in the multiple regression results. The regression results show that R & D investment, equity concentration, equity checks and balances, and executive compensation are positively correlated with the company's performance.

Through the above analysis, we can see that in the state-owned machinery manufacturing enterprises controlled by China, the investment level of scientific and technological research and development and the company performance has a certain relationship. Under the supervision of corporate governance structure, investment in technology research and development can significantly improve corporate performance. In addition, organizations with high equity concentration and low governance decision-making ability have a high degree of equity research and development investment. Therefore, for the technological research and development and scientific and technological innovation of state-owned machinery manufacturing enterprises, it is more necessary to establish a reasonable governance structure and appropriate resource allocation, so as to maximize the benefits of limited R & D resources.

## REFERENCE

Zhang Liang, Wang Ping, Mao Daowei The impact of equity concentration and equity checks and balances on enterprise performance [J], *Statistics and decision making*, 2010 (7): 151-153

- Jin Yunhui, Li Kecheng An empirical study on the relationship between board structure and corporate performance [J], *Research on quantitative economy and technical economy*, 2002 (8): 79-82
- Hu Yang, Liu Zhiyuan, Ren Meiqin Designing an effective incentive mechanism for managers' shareholding -- An Empirical Study Based on Chinese Listed Companies [J], *Nankai management review*, 2006 (5): 52-58
- Wang Jiahong Analysis of ownership structure of companies listed on GEM [J], *Economic Research Guide*, 2011 (6): 33-36
- Amartya, Sen Look at development with freedom Beijing: *China Renmin University Press*. 2002
- Chen Mingliang, An empirical study on the determinants of customers' repeat purchase intention, *Scientific research management*, 2003,24 (1): 110-115
- Chen Wenbo, Huang Lihua Review on the influencing factors of organizational information technology adoption, *Soft science*, 2006,20 (3), 1-4
- Berlyne, D. E. curiosity and exploration *Science*, 1966,153,25-33.
- Adams, A., Nelson, R. R. & Todd, P. A. Perceived usefulness, ease of use, and usage of information technology: A replication. *MIS Quarterly*, 1992,16(2), 227-247.
- Ajzen, I. & Fishbein, M. Understanding attitudes and predicting social behavior. Inc-Englewood CliffS. NJ: *Prentice-Hall*, 1980.
- Deci, E. L. Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 1971,18(1), 105-115.
- Deci, E. L. Intrinsic motivation, extrinsic reinforcement, and inequity. *Journal of Personality and Social Psychology*, 1972, 22(1), 113-120.
- Anderson, R. E. Consumer Dissatisfaction: The effect of dis-confirmed expectancy on perceived product performance. *Journal of Marketing Research*, 1973,10(1), 38-44.
- Ajzen, I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 1991,50(2), 179-211.
- Barmtt, C. B., Sherlund, S. M., & Adesina, A. A. Shadow wages, locative inefficiency, and labor supply in smallholder agriculture. *Agricultural Economics*, 2008(38), 21--34.
- Biener, C., & Eling, M, Organization and efficiency in the international insurance industry: a cross-frontier analysis. *European Journal of Operational Research*, 2012,221(2), 454-468.



Organized by the College of Innovation and Management, Suan Sunandha Rajabhat University  
1 U\_Thong nok Road, Dusit, Bangkok 10300 Thailand