



# วารสารปัญญาภิวัฒน์

ปีที่ 8 ฉบับ Supplementary ธันวาคม 2559

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ของคุณย์ดับเบิลยูการอ้างอิงวารสารไทย

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สถาบันการจัดการปัญญาภิวัฒน์

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## จัดทำโดย

สถาบันการจัดการปัญญาภิวัฒน์

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## พิมพ์ที่

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# วารสารปัญญาภิวัฒน์

## PANYAPIWAT JOURNAL

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วารสารปัญญาภิวัฒน์ ได้ดำเนินการตีพิมพ์เผยแพร่ย่างต่อเนื่องตั้งแต่ปี พ.ศ. 2552 ปัจจุบันเป็นวารสารที่อยู่ในฐานข้อมูล TCI (Thai-Journal Citation Index Centre) กลุ่มที่ 1 สาขานุชยศาสตร์และสังคมศาสตร์ และเป็นวารสารที่ผ่านการคัดเลือกเข้าสู่ฐานข้อมูล ASEAN Citation Index (ACI) โดยมีนโยบายการจัดพิมพ์ ดังนี้

### วัตถุประสงค์

- เพื่อเป็นเวทีในการเผยแพร่ผลงานวิจัยและวิชาการในสาขาวิชาบริหารธุรกิจ การจัดการธุรกิจอาหาร วิทยาการจัดการ ศิลปศาสตร์ ศึกษาศาสตร์ นิเทศศาสตร์ วิศวกรรมศาสตร์และเทคโนโลยี อุตสาหกรรมเกษตร นวัตกรรมการจัดการเกษตร และสาขาวิชานักศึกษาทั้งในและต่างประเทศ
- เพื่อเป็นแหล่งสารสนเทศและแลกเปลี่ยนองค์ความรู้ในด้านต่างๆ อันจะนำมาสู่ประโยชน์ในการพัฒนาธุรกิจและประเทศต่อไป

### ขอบเขตผลงานที่รับตีพิมพ์

ขอบเขตเนื้อหา ประกอบด้วย สาขาวิชาบริหารธุรกิจ การจัดการธุรกิจอาหาร วิทยาการจัดการ ศิลปศาสตร์ ศึกษาศาสตร์ นิเทศศาสตร์ วิศวกรรมศาสตร์และเทคโนโลยี อุตสาหกรรมเกษตร นวัตกรรมการจัดการเกษตร และสาขาวิชานักศึกษาทั้งในและต่างประเทศ

ประเภทผลงาน ประกอบด้วย บทความวิจัย (Research article) บทความวิชาการ (Academic article) บทวิจารณ์หนังสือ (Book review) และบทความปริทัศน์ (Review article)

### นโยบายการพิจารณากลั่นกรองบทความ

1. บทความที่จะได้รับการตีพิมพ์ ต้องผ่านการพิจารณากลั่นกรองจากผู้ทรงคุณวุฒิ (Peer review) ในสาขาที่เกี่ยวข้อง จำนวนอย่างน้อย 2 ท่านต่อบทความ โดยผู้ทรงคุณวุฒิจะไม่ทราบข้อมูลของผู้ส่งบทความ (Double-Blind Peer review)

2. บทความที่จะได้รับการตีพิมพ์ ต้องไม่เคยตีพิมพ์เผยแพร่ที่ได้มาก่อนและไม่อยู่ในกระบวนการพิจารณาของวารสารหรือสิ่งพิมพ์อื่นใด รวมทั้งผู้เขียนบทความต้องไม่ล่ำเมิดหรือคัดลอกผลงานผู้อื่น

3. บทความ ข้อความ ภาพประกอบ และตารางประกอบ ที่ตีพิมพ์ในวารสารเป็นความคิดเห็นและความรับผิดชอบของผู้เขียนแต่เพียงผู้เดียว ไม่เกี่ยวข้องกับสถาบันการจัดการปัญญาภิวัฒน์แต่อย่างใด

4. กองบรรณาธิการขอสงวนสิทธิ์ในการพิจารณาและตัดสินการตีพิมพ์บทความในวารสาร

### กำหนดพิมพ์เผยแพร่

ปีละ 3 ฉบับ (ฉบับแรก เดือนกรกฎาคมถึงเดือนเมษายน ฉบับที่สอง เดือนพฤษภาคมถึงเดือนสิงหาคม และฉบับที่สาม เดือนกันยายนถึงเดือนธันวาคม)

ติดต่อกองบรรณาธิการ

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จุฬาลงกรณ์มหาวิทยาลัย

## บทบรรณาธิการ

วารสารปัญญาภิวัฒน์ (ฉบับ Supplementary) เป็นพื้นที่ในการเผยแพร่ผลงานวิชาการจากนักวิชาการ ในสาขาวิชาที่หลากหลาย โดยมุ่งเน้นให้เป็นฉบับที่มีภาษาที่ใช้ในการเผยแพร่องค์ความรู้ทั้งภาษาอังกฤษ และภาษาจีน ซึ่งผู้สนใจสามารถได้ความรู้และมุ่งมองของนักวิชาการในลักษณะของนานาชาติ โดยเนื้อหาที่น่าสนใจจากการสารอฉบับนี้ ทางกองบรรณาธิการได้คัดเลือกผลงานวิชาการทั้งหมด 24 บทความ ซึ่งเป็นทุกวิจัย 20 บทความ และบทความวิชาการ 4 บทความ โดยมีการศึกษาด้านการบริหารธุรกิจเกี่ยวกับการบริการ รีไซเคิลในการซื้ออาหารสุนัข การบริหารสปา ตราสินค้า กับสายการบินต้นทุนต่ำ ความภักดีต่อการท่องเที่ยวของกรุงเทพมหานคร และการศึกษาเกี่ยวกับสินค้าลักษ์วิริ สำหรับด้านบัญชี การเงิน และเศรษฐกิจมีการวิจัยเกี่ยวกับความสัมพันธ์ระหว่างผลตอบแทนของธุรกรรม Carry Trade และผลตอบแทนของตลาดตราสารทุน ความเสี่ยงด้านการเงินในการจัดทำเงินทุน ในด้านการศึกษามีงานวิจัยเกี่ยวกับด้านการเรียนการสอนภาษาอังกฤษและภาษาจีน การศึกษาความเป็นอาจารย์ผู้สอน EFL (English as a Foreign Language) ในด้านโลจิสติกส์สนับสนุนการศึกษาผลกระทบจากโครงการสร้างทางการเงินของห่วงโซ่อุปทาน ต่อความร่วมมือระหว่างบริษัทกับลูกค้าและพัฒนาอิเล็กทรอนิกส์ และการพัฒนาวิธีการจัดเส้นทางเดินรถด้วยวิธีการ

เลียนแบบพฤติกรรมของนกกาเหว่า และยังมีบทความวิจัยที่น่าสนใจเกี่ยวกับด้านนิเทศและการท่องเที่ยวให้ผู้สนใจศึกษาอีกด้วย

สำหรับบทความวิชาการที่น่าสนใจฉบับนี้ คือเรื่องภาวะผู้นำและผลการปฏิบัติงานในธุรกิจครอบครัวขนาดเล็กและกลาง เรื่อง RMB Regionalization และความพึงพอใจในการทำงานของสายงานอุตสาหกรรมบริการ

กองบรรณาธิการหวังว่า วารสารฉบับนี้จะได้รับความสนใจจากนักวิชาการ นักวิชาชีพ และผู้สนใจทั่วไป โดยการติดตามผลงานวิชาการและการนำไปสู่การศึกษาค้นคว้าเพิ่มเติม การแลกเปลี่ยนเรียนรู้ในสาขาวิชาต่างๆ ที่สามารถขยายไปในวงกว้างยิ่งขึ้น ซึ่งจะส่งเสริมให้เกิดแนวคิดใหม่ๆ และการสร้างผลงานวิชาการที่มีคุณภาพและการนำไปใช้ประโยชน์มากขึ้นอย่างต่อเนื่อง และในท้ายนี้ขอขอบคุณผู้เขียนทุกท่านนักวิชาการ นักวิชาชีพ ผู้ที่สนใจ และบุคคลที่ให้ความสนับสนุนวารสารปัญญาภิวัฒน์ ด้วยดีเสมอมา

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# สารบัญ

## บทความวิจัย

DETERMINANTS OF A HOUSEHOLD'S WILLINGNESS TO PAY FOR A RECYCLING SERVICE: AN EMPIRICAL STUDY IN BANGKOK, THAILAND	1
Karnjana Songwathana, Suthathip Suanmali	
THE ANALYSIS OF GENDER DIFFERENCES ON INFLUENTIAL FACTORS FOR DOG FOOD PURCHASING	13
Kamonnat Wattanasen, Nuntana Udomkit	
INTEGRATED MANAGEMENT MODEL FOR DAY SPAS BUSINESS IN THAILAND	28
Pornphen Laltnuntikul	
BRAND LOYALTY IN LOW-COST AIRLINE OF THAILAND	40
Patchanee Channoi, Chatchai Pitsaphol, Jirawan Deeprasert	
THE IMPACT OF TRAVEL EXPERIENCE ON DESTINATION LOYALTY TO BANGKOK	51
Aswin Sangpikul	
THE IMPACT OF STORYTELLING ON LUXURY VALUE PERCEPTION OF A BRAND GOYARD CASE STUDY	64
Namoan Jirawongsy	
商业模式创新对创业型企企业绩效的影响研究——以中国新三板挂牌企业为例	74
THE INFLUENCE OF BUSINESS MODEL INNOVATION ON THE PERFORMANCE OF ENTREPRENEURIAL ENTERPRISES: A STUDY OF THE NEW THREE BOARD LISTED COMPANIES IN CHINA	
Jian Su, Jiaojiang Luo	
THE RELATIONSHIP BETWEEN RETURNS OF CARRY TRADE STRATEGIES AND EQUITY MARKETS: THE EVIDENCES FROM DEVELOPED ECONOMIES AND ASEAN-5 EMERGING MARKETS	89
Sitthidej Bamrungsap	
中国上市公司内外部融资约束与并购财务风险研究	103
THE STUDY ON INTERNAL AND EXTERNAL FINANCING CONSTRAINTS AND FINANCIAL RISK OF M&A OF LISTED COMPANIES IN CHINA	
Zhaomei Chi, Qiusheng Zhang	

THE DIFFERENCE IN IMPACTS OF SUPPLY CHAIN CAPITAL STRUCTURES ON CUSTOMER AND SUPPLIER COLLABORATION IN MANUFACTURING FIRMS IN THAILAND	121
<i>Kimseng Tieng, Chawalit Jeenanunta, Nattharika Rittippant, Pornpimol Chongphaisal, Ryoju Hamada, Somrote Komolavanij</i>	
CUCKOO SEARCH ALGORITHM FOR THE VEHICLE ROUTING PROBLEM WITH BACKHAULS AND TIME WINDOWS	136
<i>Tanawat Worawattawechai, Boonyarit Intiyot, Chawalit Jeenanunta</i>	
人—组织匹配对员工创新行为的影响：论创造力自我效能感的中介作用	150
THE EFFECT OF PERSON-ORGANIZATION FIT ON EMPLOYEE'S INNOVATIVE BEHAVIOR: THE MEDIATING ROLE OF CREATIVE SELF-EFFICACY	
<i>Tianyi Wang, Haijun Lu</i>	
基于扎根理论的中国拳击教练员胜任力模型构建研究	162
BASED ON GROUNDED THEORY OF COMPETENCY MODEL TO BUILD THE CHINESE BOXING COACHES	
<i>Xiangui Bu, Chunsheng Liu</i>	
中国制造企业一线技能型员工素质模型的构建研究—以HX钢构股份有限公司为例	177
THE COMPETENCY MODEL BUILDING: A CASE STUDY OF THE FIRST LINE SKILLED EMPLOYEES IN HX STEEL CONSTRUCTION LIMITED COMPANY	
<i>Qizhen Wang, Boxiang Lu</i>	
受众幽默风格与卷入对感觉型低卷入商品广告效果研究	191
THE INFLUENCE OF HUMOROUS STYLE AND DEGREE OF INVOLVEMENT ON EFFECTIVENESS OF SENSATIONAL LOW-INVOLVEMENT PRODUCT ADVERTISING	
<i>Xiaojuan Tong, Shenglong Han</i>	
HOW IS THE THAI RED CROSS SOCIETY PERCEIVED IN THE SIGHT OF EMPLOYEES	205
<i>Thuwaporn Yooyong, Patama Satawedin</i>	
UNIVERSITY STUDENTS' PERCEPTIONS TOWARDS A GOOD UNIVERSITY EFL TEACHER	216
<i>Yanin Saiyood</i>	
THE ENGLISH LISTENING-SPEAKING CORNERSTONES	226
<i>Nutsakolpach Chouvorrasista</i>	
基于自然语料的泰国学生汉语“了”字句习得跟踪研究	237
A LONGITUDINAL STUDY ON ACQUISITION OF “LE” CONSTRUCTION OF THAI STUDENTS BASED ON NATURALISTIC DATA	
<i>Caijun Lin</i>	

**บทความวิชาการ**

人民币区域化研究: 文献回顾 REGIONALIZATION OF RMB: A LITERATURE REVIEW	268
<i>Zhenju Lu, Zhimin Tang</i>	
INVESTIGATING JOB SATISFACTION IN SERVICE INDUSTRY	282
<i>Ning Li, Jiaojiang Luo</i>	
SMALL AND MEDIUM FAMILY ENTREPENEUR LEADERSHIP BEHAVIOR AND ENTERPRISE PERFORMANCE	294
<i>Qing Tang, Long Ye</i>	
人格生态特质与山地旅游消费决策行为的关系: 一个理论分析的思路与框架 THE RELATIONSHIP BETWEEN ECOLOGICAL PERSONALITY TRAITS AND TOURISM AND CONSUMPTION DECISION MAKING BEHAVIOR IN MOUNTAIN ENVIRONMENTS: A THEORETICAL ANALYTICAL THOUGHT	305
<i>Pinyu Chen</i>	

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## DETERMINANTS OF A HOUSEHOLD'S WILLINGNESS TO PAY FOR A RECYCLING SERVICE: AN EMPIRICAL STUDY IN BANGKOK, THAILAND

ปัจจัยที่มีอิทธิพลต่อมูลค่าความเต็มใจที่จ่ายสำหรับการบริการรีไซเคิล:  
การวิจัยเชิงประจักษ์ในกรุงเทพมหานคร

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### Abstract

As urbanization rapidly increases in Thailand, the amount of solid waste is accelerating. However, less than 20 percent of household solid wastes are being recycled each year. This research aims to encourage recycling behaviours by assessing household preferences toward recycling. Factors influencing household recycling behaviour are derived and evaluated. The results show that approximately 58.50 percent of respondents are willing to pay for recycling, and the average of willingness to pay is about 149 Baht/month. The results indicate that age, income, the level of conservation attitude, and the frequency of grocery shopping affect the probability of a person's willingness to pay for recycling. These significant factors give significant insight for the policy makers.

**Keywords:** discriminant analysis, recycling service, sorting, willingness to pay

### บทคัดย่อ

การขยายตัวอย่างรวดเร็วของเขตเมืองในประเทศไทยส่งผลให้ปริมาณขยะเพิ่มขึ้นอย่างน่าตกใจในช่วงที่ผ่านมา อย่างไรก็ได้ไม่เกิน 20% ของขยะเหล่านี้ถูกนำกลับมารีไซเคิลใหม่ในแต่ละปี งานวิจัยนี้จึงจัดทำขึ้นเพื่อส่งเสริมพฤติกรรมการรีไซเคิล และการแยกขยะในครัวเรือน โดยการประเมินค่าความเต็มใจต่อการรีไซเคิลในระดับครัวเรือน ซึ่งปัจจัยต่างๆ ที่ส่งผลต่อพฤติกรรมการรีไซเคิลจะถูกนำมาศึกษาและวิเคราะห์ ผลการวิจัยพบว่า 58.50% ของกลุ่มตัวอย่างยินดีที่จะจ่ายสำหรับการรีไซเคิล โดยมีมูลค่าความเต็มใจที่จะจ่ายเฉลี่ยประมาณ 149 บาทต่อเดือน นอกจากนี้ผลการวิจัยบ่งบอกว่า อายุ รายได้ ทัศนคติต่อการอนุรักษ์ และความตื่นในการซื้อสินค้าอุปโภคบริโภคล้วน

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มีผลต่อความเต็มใจจะจ่ายเพื่อรับบริการรีไซเคิล

**คำสำคัญ:** การจำแนกกลุ่ม การแยกขยะ มูลค่าความเต็มใจที่จะจ่าย การบริการรีไซเคิล

## Introduction

Municipal solid waste (MSW) is the most visible and pernicious by-product of a resource-intensive, consumer-based economic lifestyle. According to the US Environmental Protection Agency (2014), MSW is referred to as trash, everyday items that humans use and dispose of (e.g. grass, clothing, bottles, food scraps, newspapers, etc.). As both economics and urban areas have expanded in the past decades, new consumption patterns have emerged that result in excessive waste. The study of Mavropoulos (2011) indicates that the population in a given area and their consumption patterns are two determinants of the amounts of waste in that area. It is estimated that from the present to 2025, the population of the world will increase by 20 percent and reach 8 billion inhabitants. Waste is still a major problem in many countries around the world because of mass production and consumption of products. The final disposals of these products need to be considered in order to reduce the problems of waste.

According to the Environmental Protection Agency (2014), on average, humans can recycle only 1.53 pounds of waste per person. In Thailand, some of the waste that comes from the community and industry has been separated for recycling such as glass bottles, plastic bottles, or paper. Waste from other parts of

the community, such as organic waste is made into compost or bio gas and used to produce renewable energy. According to the Thailand State of Pollution Report (2015), the total amount of MSW generated across the country in 2014 was 26.19 million tons, which is 10 million tons more than the amount of waste in 2011. Of these amounts, 15 percent of MSW or about 4 million tons are waste from just one city, Bangkok. Only 18 percent of MSW was recycled in 2014 (Pollution Control Department, 2015). The current government of Thailand has put waste disposal high on their list; they recognize that poor planning and inadequate management will push Thailand toward a waste crisis. Opening more dumping sites or landfills are quick and only short-term solutions because severe environmental problems and long-term health issues caused by contaminated water and land remain unsolved. Improving the landfills up to best practice standards is one of the long term solutions, but it is more important to address this issue through recycling and effective waste management. Currently, Thai households pay about 16 baht a month to get rid of their waste (34 Baht is equivalent to \$1US), and waste separation and recycling are not required by law. Nearly half of the daily 1.1 kilograms of household waste produced per person in Thailand is biodegradable (Pollution Control Department, 2015).

Better facilities to compost organic waste is another long term solution, but this is not just a government issue. In fact, it is an individual, household, and community responsibility to tackle garbage problems. Therefore, Thai people should turn to self-segregated recycling or more waste segregation, in order to support sustainable waste management and reduce the amount of improperly disposed waste, and increase the amount of waste that is able to go to recycling. This research aims to encourage recycling behaviours by assessing a household's willingness to pay for recycling service among Thai people.

## Literature Review

Willingness to Pay (WTP) is a concept for determining the price of goods and services. It is the maximum amount that someone is willing to give up or pay to acquire or avoid something. This concept is useful when the price is unknown. It has been used to measure the benefit of publicly provided goods, and most of the time it is employed to determine the amount that people are willing to pay for environmental goods. Increasing environmental concerns are driven by global trends and awareness of pollution. The studies of Awunyo-Vitor, Ishak & Jasaw (2013: 1-8), Hagos, Mekonnen & Gebreegzbher (2012), and Jesdapipat (2012) are to determine a household's willingness to pay for improved solid waste management services and the amount of money they are willing to pay. WTP is affected by various factors, including income, time spent in the area, the

quantity of waste generated, responsibility of solid waste management, education, being the owner of the house, age, and other explanatory variables.

The Contingent Valuation Method (CVM) is applied in this research as a tool to estimate the WTP for recycling service in Bangkok, Thailand. CVM was first introduced by Ciriacy-Wantrup in the 1950s as a questionnaire-based method for measuring the value for different product attributes (Venkatachalam, 2004: 89-124). Boman et al. (2003) presented that CVM is the dominating method for evaluating the value of nonmarket items. The purpose of CVM is to measure the variation of goods and services by a questionnaire based technique with respect to either the compensating or equivalent variation (World Bank Institute, 2002). It can be employed for the measuring of both used and non-used values, and it is accepted as an appropriate technique for evaluating the WTP valuation (Sriwaranun et al., 2015: 480-510) with a straightforward technique, and ease of conduction (Whittington, 1998: 21-30). Moreover, it has been used widely to evaluate the value of all kinds of ecosystem and environmental services (non-market goods and services), including value of climate protection through the WTP of biomass, water and sanitation services, and recycling (Fujita et al., 2005; Solomon & Johnson, 2009: 59-87; Tiller, Jakus & Park, 1997: 310-320; Lake, Bateman & Parfitt, 1995; Menegakia, Hanleya & Tsagarakisb, 2007: 62).

In summary, CVM is an appropriate tool for

evaluating the value of non-market goods and services related to environment. CVM directly asks an individual through a questionnaire on the WTP for the environment attributes.

## Methodology

### 1. Data Collection and Questionnaire Design

In order to examine household recycling behavior, this study uses the concept of willingness to pay for recycling service which is developed from a theoretical framework. The survey aims to investigate a respondent's willingness to pay for their recycling service in Bangkok Metropolitan area, Thailand. Hence, the sample for the study is drawn from a Bangkok city area, which is purposively selected, based on the ten most densely populated districts, and the fact that Bangkok produces about 10,000 tonnes of waste a day, a substantial portion of the waste collected across the country. Two hundred households were randomly selected, and the questionnaire collection is done by the face-to-face interview. This questionnaire is comprised of three sections. The first section asks about demographic characteristics and socioeconomic conditions in the households, such as gender, age, family size, income, and education level. The second section asks about a respondent's green attitude regarding environmental protection. In order to determine a respondent's green attitude or motivation for environmental protection, the study includes questions concerning the point of views toward environmental protection. The respondents are asked if they participate in environmental

friendly activities or a green service or if they are aware and want to contribute to a better environment. In addition, the study also asks respondents whether they think that recycling contributes to a better environment, and if they think that recycling has advantages or disadvantages.

The last section is about a respondent's WTP for recycling household wastes. The questionnaire also proposes a hypothetical recycling condition and asks how each household would pay for the recycling service. The questionnaire starts with a question on whether respondents would be willing to pay for a recycling service. Then, respondents who would be willing to pay are asked the maximum amount that respondents are willing to pay for a recycling service per month.

### 2. Econometric Model Specification

Two main models are estimated in this study in order to estimate determinants of household willingness to pay for recycling in Bangkok. The dependent for the first model is based on whether the household is willing to pay for recycling; while the dependent for the second model is based on the amount of the willingness to pay. The econometrics model shows the role of socioeconomic and demographic factors in explaining household willingness to pay for recycling. The first and second models are estimated in equation (1) and (2), respectively.

$$D_{wtp} = X'\beta + e \quad (1)$$

$$WTP = X'\beta + e \quad (2)$$

$D_{wtp}$  represents a vector of values of a dummy response variable; hence,  $D_{wtp} = 0$  if the respondent is not willing to pay for recycling and  $D_{wtp} = 1$  otherwise. Whereas, WTP represents a vector of amount that a household is willing to pay.  $X$  represents a matrix of values of explanatory variables;  $\beta$  represents a vector of regression coefficients, and  $e$  represents a vector of residuals.

The explanatory variables of willingness to pay ( $X$ ) can be shown as followed.

i. Respondent's age (AGE): Age is assumed to have an influence on the willingness to pay for a recycling service. Many studies showed that the younger generation tends to be more concerned about environmental quality than the older generation (Manning & Ryan, 2004; Mission Australia, 2005). Hence, the younger generation will pay for recycling;

ii. Respondent's education (EDU): Education is also assumed to have an influence on the willingness to pay for recycling service. Higher education is associated with a higher concern of the environment since it is directly related to the access to information on the environment and the ability to process the information into knowledge. Hence, highly educated people will pay for recycling;

iii. Respondent's income (INCOME): A household with higher income is likely to join an environmental program. Hence, higher income people will pay for recycling;

iv. Respondent's gender (GENDER): Willingness to pay for recycling service is proposed to be affected by gender. A female is assumed to be

more willing to pay for recycling than a male;

v. Respondent's period of stay (YEAR):

People who stay for a longer period in an area tend to be attached to the area and are willing to pay for any service that improves the area's ambience;

vi. Respondent's conservation conscious (ATTITUDE): People who feel responsible or concerned about the environment tend to express willingness to pay for a recycling service;

vii. Respondent's number of household member (MEM): It is expected to have a positive effect on the willingness to pay for recycling. The more members in a household, the more people would prefer their members to have a clean environment, which leads to the more willingness to pay for recycling;

viii. Respondent's frequency of grocery shopping (BUY): Frequency of grocery shopping represents the quantity of waste a respondent generates within a week. Hence, people with higher frequencies of grocery shopping tend to express willingness to pay for recycling;

ix. Respondent's frequency of taking trash out (LEAVE): Frequency of taking trash out also represents the quantity of waste a respondent generates. Hence, people with higher frequencies of taking trash out tend to express willingness to pay for recycling;

x. Respondent's perception toward recycling (PER): The positive perception toward recycling contributes to a better environment and is related to willingness to pay for a recycling service.

Hence, the first and second models can be

expressed as indicated in equations (3) and (4).

(3)  $D_{wtp}(0/1) = f(AGE, EDU, INCOME, GENDER, YEAR, ATTITUDE, MEM, BUY, LEAVE, PER)$

(4)  $WTP = f(AGE, EDU, INCOME, GENDER, YEAR, ATTITUDE, MEM, BUY, LEAVE, PER)$

## Results and Discussion

The results show that 58.50 percent of respondents are willing to pay for recycling; while 41.50 percent of respondents are unwilling to pay for recycling. In Table 1, the demographic and socioeconomic of survey respondents are presented. It shows that the average age of the respondents is 38.3 years old with an average income of 34,745 Baht per month. In addition, 76.5 percent of respondents have at least a college education, and 51.50 percent of

respondents have been living in the area about 1-15 years. 50.50 percent of respondents go grocery shopping 1-2 times per week; whereas 34.50 percent of respondents take their trash out every day. About 47.50 percent of respondents believe that recycling is the most important. Respondent's conservation conscious attitudes were measured in four score levels from low to high level (0-3 points). The results indicate that 63.50 percent of respondents achieve the highest level of conservation conscious at 3 points which show that most respondents are extremely concerned about environmental issues and conservation. The average of the amount of money respondents is willing to pay for recycling service is approximately 149 Baht/month.

**Table 1** Demographic and Socioeconomic of Survey Respondents

Variable	Description	% / Mean
<b>Age</b>	The respondent's average age (year)	38.3
<b>Education</b>	Primary school	10.00%
	Secondary school	7.00%
	Vocational school	6.50%
	College graduate	43.50%
	Higher than college graduate	33.00%
<b>Income</b>	The respondent's average income per month (Baht)	34,745
<b>Gender</b>	Male	46.50%
	Female	53.50%
<b>Length of Stay</b>	Less than 1 year	3.00%
	1-5 years	29.00%
	6-15 years	22.50%
	16-20 years	7.00%
	Over 20 years	38.50%

**Table 1** Demographic and Socioeconomic of Survey Respondents (cont.)

Variable	Description	% / Mean
Attitude	0 point	18.50%
	1 point	6.00%
	2 points	12.00%
	3 points	63.50%
Household Member	The average number of household member (people)	3.79
Frequency of Grocery Shopping	1-2 times	50.50%
	3-4 times	25.00%
	5-6 times	7.00%
	everyday	17.50%
Frequency of Taking Trash Out	1-2 times	28.50%
	3-4 times	29.50%
	5-6 times	7.50%
	everyday	34.50%
Perception toward Recycling Service	Somewhat important	2.50%
	Important	11.00%
	Very important	39.00%
	Most important	47.50%
Willingness to Pay	The maximum amount that the respondent is willingness to pay for recycling service	149 (baht)

Table 2 presents the estimated coefficients in the logit regression model and the log-likelihood ratio. The logit regression give a McFadden Squared of about 0.73 whereas the log likelihood ratio (LR) statistic is significant at one percent, which implies that at least one of the independent variables is significant and different from zero. Hence, the logit regression model is appropriate for estimating willingness to pay for recycling. The coefficients of AGE, AGE Squared, INCOME, ATTITUDE, and FREQUENCY OF GROCERY SHOPPING show

significant relationships with the willingness to pay for recycling. Age shows a negative relationship with the willingness to pay; whereas age squared shows a positive relationship with the willingness to pay. This means that the probability of the willingness to pay for recycling service decrease with age at an increasing rate. This may be explained by the fact that the younger generation tends to become concerned with the environment and is most likely to pay for recycling. Income shows a positive relationship with the willingness to pay, as expected.

An additional income increases the likelihood of a person's willingness to pay for recycling by 0.1 percent. The higher level of conservation attitude (ATTITUDE) leads to the higher the probability of the willingness to pay for recycling. Frequency of grocery shopping also has a positive relationship with the willingness to pay for recycling. The marginal effect of ATTITUDE represents that an additional level of conservation attitude would increase the likelihood of a person's willingness to pay for recycling by 1.16 percent whereas the marginal effect of

frequency of grocery shopping represents that an additional level would increase the likelihood of a person's willingness to pay for recycling by 1.08 percent. This confirms the fact that a person who is concerned about the environment tends to express the willingness to pay for recycling. The coefficients of education, gender, length of stay, the number of household members, frequency of taking trash out, and perception toward recycling are not statistically significant.

**Table 2** Logit Regression Results of Determinants Influencing WTP For Recycling Service

Paying/Not Paying	Coefficient	Std. errors	p-values	Marginal effect
AGE	-1.2798 <sup>**</sup>	0.6251	0.04	-0.0237
AGE2	0.0203 <sup>**</sup>	0.0091	0.03	0.0004
EDUCATION	-0.3652	0.3949	0.36	-0.0068
INCOME	0.0002 <sup>*</sup>	0	0	0.0001
GENDER	-0.1561	0.6871	0.82	-0.0029
LENGTH OF STAY	-0.1501	0.2443	0.54	-0.0028
HOUSEHOLD MEMBER	-0.3229	0.2136	0.13	-0.006
ATTITUDE	0.6284 <sup>***</sup>	0.3305	0.06	0.0116
FREQUENCY OF GROCERY SHOPPING	0.5817 <sup>***</sup>	0.3362	0.08	0.0108
FREQUENCY OF TAKING TRASH OUT	-0.2336	0.2959	0.43	-0.0043
PERCEPTION	-0.1152	0.139	0.41	-0.0021
Log Likelihood = -36.3956 and McFadden R-Squared = 0.73				

Note: \* , \*\* and \*\*\* indicate statistical significant at 1%, 5% and 10% respectively

Table 3 shows the results from the second model that shows determinants of the amount of willingness to pay for recycling. The significant determinants that influence the higher amount of money respondents are willing to pay for recycling are income and the level of conservation attitude, as expected; however, the

number of household members has a negative relationship with the amount of money respondents are willing to pay for a recycling service. This could be because a person with many household members may prefer to let other members do recycling activities instead of paying for a recycling service.

**Table 3** Determinants of the Amount of Money Respondents are Willing to Pay for Recycling

Amount of WTP Model	Coefficient	Std. errors	p- values
AGE	17.4694	11.78	0.14
AGE2	-0.1469	0.14	0.28
EDUCATION	-13.0373	16.13	0.42
INCOME	0.0057*	0	0
GENDER	-9.4199	34	0.78
LENGTH OF STAY	-6.725	13.64	0.62
HOUSEHOLD MEMBER	-17.1853***	10.24	0.09
ATTITUDE	45.2834*	14.96	0
FREQUENCY OF GROCERY SHOPPING	23.4354	17.33	0.18
FREQUENCY OF TAKING TRASH OUT	-11.4729	14.85	0.44
PERCEPTION	-2.8466	6.82	0.68

Note: \*, \*\* and \*\*\* indicate statistical significant at 1%, 5% and 10% respectively

### Conclusion and Policy Implication

This paper examines determinants influencing the willingness to pay for recycling in Bangkok, Thailand. Two hundred households were selected for the survey, which was done by face to face interviews based on questionnaires. The results show that age, income, the level of conservation attitude, and frequency of grocery shopping, affect the probability of a person's willingness to pay for recycling. A younger

person will likely pay for recycling; a person with higher income is also likely to pay for recycling. The additional level of conservation attitude and frequency of grocery shopping increases the likelihood of a person's willingness to pay for recycling.

The results show that approximately 58.50 percent of respondents are willing to pay for recycling, and the average of willingness to pay is about 149 Baht/month. The results give

significant insight for policy implications. The level of conservation attitude has a positive impact on the willingness to pay for recycling. Hence, the study recommends for an increase in conservation attitude or an environmental awareness campaign, in order to promote environmental responsibility for people in society, which can lead them to engage more in environmental activities; consequently, increase their willingness to pay for recycling. Income is also another important factor that influences the willingness to pay for recycling.

The results show that respondents with higher income are more likely to pay for recycling, and they are willing to pay more as their income increases. Hence, a flat rate payment for recycling service may not be an effective policy. A policy maker should consider a subsidy or discount for lower income people who would like to participate in recycling in order to encourage them to join recycling activities, which can reduce waste and lead to an environmentally sustainability society.

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**PANYAPIWAT**

INSTITUTE OF MANAGEMENT

## THE ANALYSIS OF GENDER DIFFERENCES ON INFLUENTIAL FACTORS FOR DOG FOOD PURCHASING

การวิเคราะห์ความแตกต่างระหว่างหญิงและชายที่มีต่อปัจจัยที่มีอิทธิพลต่อการตัดสินใจซื้ออาหารสุนัข

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### Abstract

With the rising trend of humanizing pets, especially dogs, and vast market potential for premium dog food, this research explores the demographic characteristics of wet dog food consumers and looks at influential factors that have the impact on dog owners' purchasing decisions. There are two main categories of influential factors that this research looks at. The first group is related to experts that have knowledge or experiences with dog food. This group is comprised of breeders, veterinarians, specialty store staff, online dog forums, and family and friends. The second group is comprised of four marketing mixes – product, price, place, and promotion. For the purpose of segmentation, this research then further explores whether males and females are different in their spending of wet dog food, and whether they are influenced differently by breeders, veterinarians, specialty store staff, online dog forums, family and friends, and the four marketing mixes.

**Keywords:** Dog food, Purchasing Decision, Gender Difference, Thailand

### บทคัดย่อ

สืบเนื่องจากแนวโน้มการเลี้ยงสุนัขที่เพิ่มขึ้น รวมทั้งตลาดอาหารสุนัขระดับพรีเมี่ยมที่มีการขยายตัวอย่างรวดเร็ว งานวิจัยชิ้นนี้มีวัตถุประสงค์เพื่อศึกษาข้อมูลพื้นฐานกลุ่มลูกค้าที่ซื้ออาหารสุนัขแบบเปียก รวมทั้งศึกษาถึงปัจจัยที่มีอิทธิพลต่อการตัดสินใจซื้ออาหารสุนัข โดยได้ศึกษาปัจจัยที่มีอิทธิพลในสองกลุ่ม ได้แก่ กลุ่มผู้เชี่ยวชาญด้านโภชนาการและสุขภาพของสัตว์เลี้ยง อันประกอบด้วยฟาร์มสุนัข สัตวแพทย์ พนักงานประจำร้านเฉพาะทางเกี่ยวกับสุนัข ออนไลน์ฟอร์มเกี่ยวกับสุนัข และครอบครัวและเพื่อน กลุ่มที่สองประกอบด้วยปัจจัยด้านส่วนผสมทางการตลาด ได้แก่ ผลิตภัณฑ์ ราคา สถานที่ และโปรโมชั่น นอกจากนี้งานวิจัยชิ้นนี้ยังได้ทำการวิเคราะห์ต่อไปว่าปัจจัยที่มีอิทธิพล

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ต่อการตัดสินใจซื้ออาหารสุนัข อันได้แก่ พาร์เมสุนัข สัตวแพทย์ พนักงานประจำร้านเฉพาะทางเกี่ยวกับสุนัข ออนไลน์ พ่อรุ่มเกี่ยวกับสุนัข และครอบครัวและเพื่อน ปัจจัยด้านส่วนผสมทางการตลาดทั้งสี่มีความแตกต่างระหว่างกลุ่มผู้ซื้อ เพศหญิงและชายหรือไม่

**คำสำคัญ:** อาหารสุนัข การตัดสินใจซื้อ ความแตกต่างระหว่างเพศ ประเทศไทย

## Introduction

Currently, dogs are no longer viewed as just animals, but are considered as a family member (Nesheim & Nestle, 2010). Health and wellness of dogs have grown to become vital factors to dog owners. Moreover, the phenomenon of pet humanization is considered as one of the aspects that propels growth in the global pet food market, primarily in the premium pet food sector (Euromonitor International, 2011; Kumcu & Woolverton, 2010).

Thailand is following this global trend. Euromonitor International (2011) estimated that approximately 20 percent of households in Thailand own dogs, and the trend has been on the rise, leading to larger dog care market over the past years, of which commercial dog food has the highest value within the dog care market (Euromonitor International, 2011). Research by Anuwong (2012) highlighted the fact that the rise in pet ownership has been increasing simultaneously with the trend of one-child families as well as single member families. Moreover, people have become motivated to purchase higher quality dog that include human-grade ingredients and functional qualities, such as weight control, due to the persuasive marketing of these premium products.

Dog food can be classified into two main

types-non-prepared (a home-cooked meal) and prepared dog food. Prepared dog food sales has had an impressive growth. In 2011, the sales of dog food in Thailand stood at 9,922.5 Million Baht (approximately 277.83 Million USD) while in 2006, the value of sales was 5,256.8 Million Baht (approximately 147.19 Million USD) or an 88.56 percent increase (Euromonitor International, 2011).

Prepared dog food is considered as convenience for dog owners, and is believed to be more nutritious and tasty. Major dog food companies in the industry have attempted to distinguish their products by offering several options for the dog owners. This includes products made specifically for the dog's various life stages as well as products that target health issues like heart diseases and obesity. As for prepared dog food, it can be further classified into three main types – (1) dry, (2) wet, and (3) semi-moist or mixers (Pet University, n.d.). According to Euromonitor International (2011), dry food had a market share of 64.98 percent, followed by semi-moist or mixers at 20.93 percent, and wet food with a market share at 14.09 percent. It is explained that dry dog foods dominate the market due to its value for money, utility, and how it is widely available in the market. On the other hand, the way wet

foods are marketed is primarily focused on the ingredient's quality as well as the positive health benefits and are priced in the premium range.

### Research objectives

Considering the aforementioned potential market space together with a gap in the existing academic literature, which suggests there is currently little information available with regards to Thailand's pet food market, this research aims to

1. Explore the demographic characteristics of wet dog food consumers,
2. Analyse influential factors that impact their purchasing.
3. Explore whether or not males and females are different in their spending of wet dog food and if they are influenced by influential factors differently.

### Literature review

#### 1. Key influencers on dog food purchasing decision

Based on the current literature, extensive research has been conducted to analyze how different influencers in which are valued by the consumer can affect their decision to purchase. However, very few have touched on dog food in particular. The following gives some reviews on influencers that can influence dog owners' buying decisions.

**Breeders:** The dog breeder is in charge of breeding process, initial raising the puppies prior to passing them to the dog owner (Rice, 2008). Pet breeders that are well-trained are

perceived to be an expert as they have been trained to know about the nutrition and how to take care of specific breeds of dogs. Different dogs require certain nutritional needs, hence the choice of food varies for most dogs (Rice, 2008). The dog breeders are the ones who can provide this information to the dog owners such as suggesting suitable brands for the dog. Therefore, since the dog owner will be receiving knowledge from an expert, as a result, this will influence the owner's food choice (Rice, 2008).

**Veterinarians:** Veterinarians offer pet's owners consultations and information about nutrition and dietary advice (Manteca et al., 2008). Veterinarian recommendations are extremely influential in the food choice, especially if it links with pet's health problems such as obesity (Suarez et al., 2012). Since veterinarians are known to be nutrition and health specialists for domestic animals, their opinion is highly valued hence owners are lenient towards following their nutritional recommendations. This is even more common in owners whose pets have serious health issues that can be made better through nutrition.

**Specialty store staff:** Even though pet breeders and veterinarians are experts, their main specialty does not involve the sale of dog food products. However, specialty store staff's role is to recommend and sell dog food, hence they most likely have knowledge in dog food as well. They can provide guidance and be able to recommend the various dog food brands in the store to the dog owners (Lemon, 2007). The staff can also offer suggestions on

special needs that are significant for premium dog food such as suitable food for puppies or old dog (Lemon, 2007).

Online dog forums: Other dog owners that post on online dog forums is yet another reference. Dog owners that read other user's posts on the forums that come in forms of comments, advices, and extended reviews can play a significant role in the decision of other buyers who have similar needs or are in similar circumstances. (Cheong & Morrison, 2008).

Family and friends: One of the very first sources of information people tend to seek is from family and friends. Moreover, the advice given usually affects people's purchasing decisions without much thought (Lee & Kacen, 2008). Research has proven that information obtained from family and friends clearly has a huge impact on pet owners' food option for their pets with special conditions, such as obesity (Suarez et al., 2012). A premium Swedish dog food brand has shown in their case study that family and friends influence brand acceptance as well as the use (Nilsson, Liashchenko & Andreasson, 2010).

## 2. Marketing Input Factors

The marketing mix is one framework to help in the understanding of the means by which marketers choose inputs to be included in the marketing strategies (Lamb, Hair & McDaniel, 2008).

The quality of the products is viewed on the basis of benefits offered to consumers. Quality is considered as one of the most

significant aspects in consumers' decision making as the product is ultimately what the consumer purchases (Lamb, Hair & McDaniel, 2008).

For pet food, the product's quality is comprised of the ingredients, food quality, and the packaging including the given information and how easy it is to open (Dibb, 2005). A world-wide pet food supplier, IAMS, promises to provide high quality ingredients and offer premium scientific formulations to target higher-income consumers. They also promise to come up with products specifically made for different pet needs (Van Gelder, 2004). Therefore, the characteristics of the pet food impacting customers' decisions can be divided into two groups including pet-oriented characteristics (such as nutrition and taste) and owner-oriented characteristics (such as ingredient quality, scientific formulations, packaging, and given information).

A study conducted by Nilsson, Liashchenko & Andreasson (2010) examined the buying behavior of customers in regards to premium dog food. The result has shown that consumers associate premium dog food with premium quality as it reinforces the consumer's purchasing process. Moreover, a study by Tesfom and Birch (2010) has revealed that consumers pay closer attention when purchasing healthy dog food than when purchasing healthy human food.

The concept of price element denotes specific price strategies or price attributes in comparison to other products within the market (Lamb, Hair & McDaniel, 2008). The first pricing strategy is cost leadership which refers to setting the cheapest price in the market. The second

is penetration pricing whereby low prices are set in the beginning to attract market share. The third is premium pricing which is when the price set is higher than the main market price (Lamb, Hair & McDaniel, 2008). Budget on spending as well as psychological assessments of the product's importance are reasons to why consumers may purchase products based on price factors (Lamb, Hair & McDaniel, 2008).

The ideal type of price strategy for dog food has not been researched in depth yet. Although, there is a study suggesting that the demand for pet food is inelastic which means that it is bought without consideration of price (Prasad, 2010). Hence, penetration pricing and premium pricing can be implemented for dog food. The reason behind this is that dog owners have an affective component as they want their pets to have good health. For instance, IAMS uses premium pricing strategy and they assure their consumers that the ingredients used are premium and will improve their pet's health (Van Gelder, 2004).

Another element of the marketing strategy is place and it is concerned with the sales channel options that the products are sold (Lamb, Hair & McDaniel, 2008). Online retailers, general retailers such as supermarkets and convenience stores, and specialty retailers such as pet shops and veterinarian offices are examples of common sales channels for dog food. Although, general retailers are generally not the place for purchasing dog food, especially premium products (Nilsson, Liashchenko & Andreasson, 2010). Evident in a study from Sweden, most of the dog food sales were from

specialty retailers, with only approximately a third from supermarkets. The specialty retailers have added value compared to the other stores as they have the ability to provide professional recommendations which helps customers in their decision making process (Nilsson, Liashchenko & Andreasson, 2010). Therefore, choosing to go to specialist channels is most likely going to increase the customer's chance of buying the product as they will be receiving expert advice from the staff. Although, in the USA, the main dog food sales channels are supermarkets/hypermarkets as well as pet superstores as they have an extensive variety of products to offer their customers. The supermarkets/hypermarkets offer lower prices whereas the pet superstores offer professional recommendations. As for Thailand, department store/supermarket, pet clinics, and animal hospitals are the major sales channels. Dog owners often look to buy their dog food from stores that are closeby in the neighborhood (Euromonitor International, 2011).

Promotion, the last element of the marketing mix, has to do with the tools used in raising consumer awareness about a product and attracting them to try it (Lamb, Hair & McDaniel, 2008). Reduction in price, coupons, samples, and other offers are examples of typical approaches to promotion (Lamb, Hair & McDaniel, 2008). The purpose of promotion is to inform consumers about the product, provide them with information, and to get rid of the hurdles that prevent customers from trying the product.

Social media marketing has recently become a means for product promotions in the pet food

market (Kaplan, 2012). For instance, Kaplan (2012) gave an example of an automated dispenser set up in the sales channel (such as in the aisles of a store), distributing dog food samples when an email address or social media names have been given. Even though most companies have not implemented this strategy yet, it is proven to be extremely effective than the other traditional approaches. A research held by Dawes (2013) in product purchasing discovered that 58% of buyers of products that were offered at discount prices are regular buyers of the products, and most of the others have bought the product in the past year at least one more time.

### 3. Gender Differences

A significant amount of marketing research points out that gender is a factor that affects consumer buying behavior and indicates a gender difference in the consumer decision (Chen & Hu, 2012; Funk & Ndubisi, 2006; Gasiorowska, 2011; Lee & Kacen, 2008; Bakewell & Mitchell, 2006).

Evident in a study by Bakewell & Mitchell (2006), males seek low-prices whereas females seek worthiness and value. Similarly, Chen & Hu (2012) have proven that males are much more sensitive towards price than females. Males tend to look for deals online and concentrate on products with ultra-low prices. Also a number of studies show males and females have differences in the style of shopping. Males tend to shop faster and pay attention on products that they want to buy as they dislike searching and trying things on. On the other hand,

females enjoy shopping more than males and like to wander around and try on products (Gasiorowska, 2011).

Furthermore, the research suggests that males are good at purchasing durable goods and do not enjoy shopping for basic necessities like food and clothes. In contrast, females tend to go shopping for temporary items such as items used for cooking, haircuts, and makeup. Although, other studies have proposed that shopping habits may not be the only influence on consumer decision differences between males and females. Color as well as packaging have been proven to affect both gender's purchase decision differently (Funk & Ndubisi, 2006; Lee & Kacen, 2008).

Based on the above literature review, the conceptual framework in this study is depicted in Figure 1.

**Figure 1** Conceptual Framework - Factors Influencing Buying Decision of Wet Dog Food



## Research methodology

This research employed a questionnaire survey. The respondents of this survey are dog owners who purchase wet dog food in Thailand. The survey was conducted at pet shops and pet hospitals in Bangkok. Due to time and budget constraints, the sampling technique was a convenience sampling methods. A total of 431 sets of questionnaires were collected.

The questionnaire is comprised of three parts. The first part contains questions related to demographic information and expenditure for their dogs. The second part contains questions related to key influencers. The last part contains questions related to factors of marketing mixes. In parts two and three, the five-level Likert scale was adopted. Every applicable data was tested for its reliability using Cronbach's alpha coefficient, and acceptable values were designated as being higher than 0.7 (Nunnally, 1978). The values of Cronbach's alpha in each part of this research ranged from 0.829 to 0.967 (Table 1). All passed the reliability criterion of 0.70.

**Table 1** Variables' the Reliability of Scales

Variables	No. of items	Cronbach' Alpha
Breeder	3	.829
Veterinarian	3	.882
Pet Shop Staff	3	.892
Website	3	.967
Family and Friends	3	.960
Product	3	.919

Variables	No. of items	Cronbach' Alpha
Price	3	.882
Place	3	.839
Promotion	3	.816

Descriptive and inferential statistical tools in SPSS were used in analyzing the data gathered. Descriptive statistic was utilized to scrutinize and exhibit the demographic data whereas inferential statistic was implemented to test the hypotheses and the tool used is Independent t-test.

## Results and discussion

As summarized in Table 2, out of 431 respondents, 328 respondents (76.1%) in this research are female, and 103 respondents (23.9%) are male. 201 respondents (46.6%) are between 20-30 years old, followed by 31-40 years old (158 respondents, 36.7%), 41-50 years old (72 respondents, 16.7%). 258 respondents (59.9%) received master degree, 160 respondents (37.1%) received bachelor degree, and 13 respondents (3%) have the education background lower than bachelor degree.

383 respondents (88.9%) are single. 48 respondents (11.1%) have been married. 291 respondents (67.5%) have no children. 85 respondents (19.7%) have only one child, 47 respondents (10.9%) have two children, and 8 respondents (1.9%) have more than two children.

**Table 2** Summary of Demographic Data of Respondents (total respondents = 431)

		Frequency	Percentage
Gender	Male	103	23.9
	Female	328	76.1
Age	20-30 years old	201	46.6
	31-40 years old	158	36.7
	41-50 years old	72	16.7
Education	Lower than bachelor degree	13	3.0
	Bachelor degree	160	37.1
	Master degree	258	59.9
	Total	431	100.0
Marital Status	Single	383	88.9
	Married	48	11.1
Number of Children	0	291	67.5
	1	85	19.7
	2	47	10.9
	More than 2	8	1.9
Income	Less than 15,000 Baht (approx. 420 USD)	5	1.2
	15,001-25,000 Baht (approx. 420.03-700 USD)	108	25.1
	25,001-35,000 Baht (approx. 700.03-980 USD)	56	13.0
	35,001-50,000 Baht (approx. 980.03-1,400 USD)	121	28.1
	50,001-80,000 Baht (approx. 1,400.03-2,240 USD)	94	21.8
	above 80,000 Baht (more than 2,240 USD)	47	10.9
Place to buy dog food	Pet shop	250	58.00
	Department store/ supermarket	217	50.34
	Clinic or animal hospital	82	19.03
	Online store	2	0.46

Income level of respondents varies. 121 respondents (28.1%) reported an income of 35,001-50,000 Baht per month (approximately 980.03-1,400 USD per month), 108 respondents (25.1%) have income between 15,001-25,000 Baht (approximately 420.03-700 USD per month), 94 respondents (21.8%) have income between 50,001-80,000 Baht (approximately 1,400.03-2,240 USD per month), and 5 respondents (1.2%) have income less than 15,000 Baht (approximately 420 USD per month).

250 respondents (58%) bought dog food from a pet shop, followed by department store (217 respondents, 50.34%), clinic or animal hospital (82 respondents, 19.03%), online store (2 respondents, 0.46%). It is worth noting that most of respondents buy dog food from more than one place.

The respondents were requested to state their expenditures per month on their dogs. It was found that the average spending for their dogs is 3,614.45 Baht/month (approximately 101.20 USD per month). The highest expenditure goes to dry food (1,086.82 Baht/month; approximately 30.43 USD per month), followed by healthcare 1,034.45 Baht/month; approximately 28.96 USD per month), wet food (771.46 Baht/month; approximately 21.60 USD per month), and accessories (721.72 Baht/month; approximately 20.21 USD per month). Regarding

the average spending of wet food, it is interesting to note that although the average spending per month stands at 771.46 Baht, the standard deviation of the wet food spending reaches 1,047.97 Baht. Details are demonstrated in Table 3.

**Table 3** Expenditure for Dogs (Baht per month)

Expenditures	Average (Baht/month)	Percentage	S.D.
Wet food	771.46	21.34	1,047.970
Dry food	1,086.82	30.07	1,081.615
Healthcare	1,034.45	28.62	906.348
Accessories	721.72	19.97	715.485
Total	3,614.45	100.00	

Regarding experts, this research finds that veterinarians are the most influential persons to drive dog food purchasing decision (mean = 3.33, S.D. = 0.77), followed by breeders (mean = 3.16, S.D. = 0.72), pet shop staff (mean = 3.14, S.D. = 0.69), websites (mean = 3.15, S.D. = 1.05), and family and friends (mean = 3.18, S.D. 0.97). For marketing mixes, price is the most influential factor (mean = 3.67, S.D. = 0.95), followed by product factor (mean = 3.59, S.D. = 0.93), place factor (mean = 3.59, S.D. = 0.80), and promotion factor (mean = 3.33, S.D. = 0.71). Details are shown in the following Table 4.

**Table 4** Summary of descriptive analysis for influential factors on wet dog food purchasing decision (N = 431)

Factors		Min	Max	Mean	S.D.
Experts	Breeder	1.00	5.00	3.16	0.72
	Veterinarian	1.00	5.00	3.33	0.77
	Pet Shop Staff	1.00	5.00	3.14	0.69
	Website	1.00	5.00	3.15	1.05
	Family and Friends	1.00	5.00	3.18	0.97
Marketing Mixes	Product	1.00	5.00	3.59	0.93
	Price	1.00	5.00	3.67	0.95
	Place	1.00	5.00	3.59	0.80
	Promotion	1.00	5.00	3.33	0.71

This research further examines whether the spending on wet dog food and key influential factors differ between male and female. The analysis shows that male respondents have the average expenditures on wet food for their dogs of 445.15 Baht per month (approximately 12.35 USD per month), whereas female respondents have the average expenditures of 873.93 Baht per month (approximately 24.47 USD per month), almost two times higher than male's spending. The result of Independent t-test proved that the spending between males and females is significantly different.

Regarding key influencers on wet dog food purchasing, it is found that males and females are influenced significantly differently by veterinarians, online forums/websites, and family and friends. Surprisingly, male respondents are influenced more by veterinarians, online forums/websites, and family and friends. However, the result does

not portray a significant distinction between males and females in being impacted by breeders and pet shop staff.

Moreover, male respondents are significantly more influenced by the factors of the market mix, most specifically price, place, and promotion. This outcome reinforces the previous research about the distinct purchasing behavior in males and females (Gasiorowska, 2011). Interestingly, male respondents have been greatly impacted by price more than females. This also correlates with the previous study explaining how males are more sensitive towards price than females (Chen & Hu, 2012). Accordingly, other research also concluded that males seek low prices whereas females seek value (Bakewell & Mitchell, 2006). This research finds no significant difference between male and female in being influenced by product.

**Table 5** Spending on wet dog food, level of influences by experts and marketing mixes factors: male and female comparison

Factors		Male	Female	F	t	Sig
Wet food Spending (Baht/month)		445.15	873.93	13.797	-3.675	.000*
Experts	Breeder	3.1845	3.1524	.072	.395	.693
	Veterinarian	3.6602	3.2276	35.800	5.086	.000*
	Pet Shop Staff	3.1521	3.1413	2.252	.139	.890
	Website	3.3398	3.0884	27.383	2.612	.010*
	Family and Friends	3.5793	3.0589	37.423	4.878	.000*
Marketing Mixes	Product	3.6731	3.5579	12.064	1.476	.141
	Price	3.8479	3.6199	44.152	3.117	.002*
	Place	3.7573	3.5325	34.608	3.293	.001*
	Promotion	3.5955	3.2449	6.290	4.489	.000*

### Conclusions and recommendations

1. Descriptive statistics of this research show the majority of respondents are single. Although income level varies, 73.78 percent of respondents have an income above 25,000 Baht per month. 60.79 percent of respondents have the income above 35,000 Baht per month. The average spending for their dogs is 3,614.45 Baht/month. This finding suggests that the target customers of wet food for dog are medium to high income group.

Regarding places to buy dog food, it is interesting to find that 58 percent of respondents buy dog food from pet shops, followed by department stores (50.34%), clinics or animal hospitals (19.03%), and online stores (0.46%). This finding gives some useful insights that pet shops are the most effective point of sales in Thailand and dog food companies should place

greater emphasis to stimulate sales through this channel. Department stores are not unimportant. This is a traditional channel and perhaps the most convenient place for to buy food for dogs.

It is found that veterinarian are the most influential of the expert group, followed by breeders, pet shop staff, websites, and family and friends, respectively. A research conducted by Suarez et al. (2012) is evident to be in line with this result as it suggests that veterinarian food recommendations to improve health issues are vital in the consumer's food choice. Since the veterinarians are experts in the field of nutrition and health of domestic animals, consumers are most likely going to listen to their advices, especially consumers whose pets suffer from health problems in which can be made better through certain nutrition. Therefore, veterinarians' recommendations have a firm

impact on the consumer's purchasing decisions.

With this in mind, more sales could be enlarged through partnering with clinics or animal hospitals where the buyers can consult with veterinarians. Moreover, other marketing campaigns should also incorporate veterinarians as brand ambassadors, small talks, or educational programs to give knowledge and understanding on dogs and dog food. More could be done to give additional training for staff of specialty pet shops in order to be able to provide deeper or more information on dog food to customers.

For marketing mixes, price is the most influential factor, followed by product, place, and promotion. The finding that price is the most influential factor on the decision to buy wet food does not correlate with the study indicating how the demand of pet food is inelastic (Prasad, 2010). Pricing strategy has to be carefully drawn and must reflect the value of products.

2. With regards to gender difference, this research finds that males and females are different in their spending of wet dog food and are influenced by certain influential factors differently. Therefore, customized marketing strategies for males and females are necessary. Spending on wet food for dogs between males and females is significantly different. Female respondents' average expenditures on wet food is almost two times higher than male's spending. From a marketing perspective, females are key customers to target. However, more effective marketing strategies could be implemented to

reach male customers, and three points from the research findings are worth further consideration.

Regarding key influencers on wet dog food purchasing, male respondents are influenced significantly more by veterinarians, online dog forums/ websites, and family and friends than females. However, the result shows no significant difference between males and females in terms of being influenced by breeders and pet shop staff. From these findings, more sales can be stipulated to male customers through the channels of veterinarians, online dog forums/ websites, and family and friends.

In terms of marketing mixes, product is a significant element for both males and females. Consumers will choose dog foods that are suitable for their dogs. Moreover, quality of a product cannot be compromised due to the nature of premium food. High quality products will also lead to favorable word-of-mouth referrals, and it will have a domino effect as pointed out in this research that online forums/ pet blogs, and family and friends can influence the purchasing of wet food.

Moreover, male respondents are notably more impacted by the factors of the market mix than females, most specifically price, place, and promotion. Marketers should provide rich information on quality of dog food to increase the perceived benefits and value of the products. This would justify relative high price of premium dog food. Promotional campaigns should be done from time to time to attract price-sensitive customers, especially males.

## Limitation of the Study

Although this research has achieved its objectives and pointed out the potential market space of wet food for dogs, and helps contribute to the practical knowledge of the pet food industry, this research inevitably contains some weaknesses. First, this study was confined to a single city and the sampling method was based on convenient sampling. Therefore, the results may not be generalizable. Moreover, a quantitative design framework was

utilized in conducting this research. Hence, this research did not subsume any further components that could have potentially affected the purchasing decisions of dog owners. Further research could extend towards psychological aspects of humanization of pets by adding factors such as characteristics and personalities of dog's owners and examine correlation between the owner's characteristics and personalities and product's brand personalities.

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INSTITUTE OF MANAGEMENT

## INTEGRATED MANAGEMENT MODEL FOR DAY SPAS BUSINESS IN THAILAND

### รูปแบบการบริหารแบบบูรณาการสำหรับธุรกิจเดย์สปาในประเทศไทย

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#### Abstract

The objectives of this research were to study the contexts and vital elements of day spa management in Thailand in order to develop an integrated management model for day spas business in Thailand. The academic gathered of both qualitative and quantitative research methodologies, through a sample of six individuals' staff involved in the day spa business in Thailand; which are managers, receptionists and therapists, as well as 400 customers using day spas in Thailand. The research tools were an interview script and questionnaires based on theorems and principles regarding value chain management, product management, quality management, human resources management, supply chain management and marketing. The interview results shown that the theories used as the foundation of this research are applicable. Further data from the survey were processed for descriptive statistics which included frequencies, percentage, mean, standard deviation and correlation. The studied results showed that the most concerned element is sales & marketing followed by supply chain management, human resource management, quality management and products management, respectively. The correlation coefficients between all of the studied elements were positive correlation.

**Keywords:** Integrated management model, Day spa management model in Thailand

#### บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาบริบทและองค์ประกอบที่สำคัญของการบริหารธุรกิจเดย์สปาในประเทศไทย ทั้งนี้เพื่อใช้ในการพัฒนารูปแบบการบริหารแบบบูรณาการของธุรกิจเดย์สปาในประเทศไทย ผู้วิจัย รวบรวมข้อมูลโดยใช้ระเบียบวิธีวิจัยเชิงคุณภาพและปริมาณ จากกลุ่มตัวอย่างพนักงานของเดย์สปาในประเทศไทย ในตำแหน่งผู้จัดการ พนักงานต้อนรับ และพนักงานให้บริการนวด จำนวน 6 ท่าน และผู้ใช้บริการเดย์สปาในประเทศไทย จำนวน 400 ราย เครื่องมือวิจัยที่ใช้คือ บทสัมภาษณ์และแบบสอบถามที่ใช้ฐานข้อมูลจากทฤษฎีและหลักการที่เกี่ยวเนื่องกับการบริหารห่วงโซ่คุณค่า การบริหารผลิตภัณฑ์ การบริหารคุณภาพ การบริหารทรัพยากรมนุษย์

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การบริหารห่วงโซ่อุปทานและการตลาด ผลจากการสัมภาษณ์แสดงว่าทุกภูมิภาคต่างๆ ที่ใช้เป็นพื้นฐานในการศึกษา สามารถนำมาปรับใช้ได้ สถิติที่ใช้ในการวิเคราะห์ข้อมูลคือ สถิติเชิงพรรณฯ ประกอบด้วยความถี่ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และสหสมัยพันธ์ ผลการศึกษาพบว่า ผู้ตอบแบบสอบถามให้ความสำคัญกับองค์ประกอบในด้าน การบริหารการตลาดสูงสุด ตามด้วยการบริหารห่วงโซ่อุปทาน การบริหารทรัพยากรม努ชย์ การบริหารคุณภาพ และ การบริหารผลิตภัณฑ์ ตามลำดับ ค่าสัมประสิทธิ์สหสมัยพันธ์ระหว่างทุกองค์ประกอบที่ศึกษาเป็นสหสมัยพันธ์ทางบวก

**คำสำคัญ:** รูปแบบการบริหารแบบบูรณาการ รูปแบบการบริหารธุรกิจเดย์สปาในประเทศไทย

## Introduction

The percentage of Tourism's GDP in Thailand during financial year 1996-2013 represented the continuous growing rate, especially in year 2012 with the growth rate of 44%, in which spa shared this portion of 4% with the revenue achieved at 15,000-16,000 million Thai Baht (Department of Business Development, 2013: 14). Thailand is esteemed as one of the primary countries for spa and wellness tourism in Asia, the Ministry of Public Health (MOPH) worked together with the Ministry of Commerce to inaugurate Thailand as the "Health Tourism Hub of Asia" and the "Wellness Capital of Asia" (Johnston et al., 2011: 9). International Spa Association (ISPA) also reinforced the importance of spa business in Thailand which generated substantial income. In year 2002 this sector produced more than 4,000 employments with revenue of 85 million USD (ISPA, 2006).

Further research stated that since 2002 the total number of spa in Thailand has been increased at a rate of 202% during 2008 of which 46% are day spas and 54% are located in hotels/resorts, destination spas and other type of spas (Cohen & Bodeker, 2008: 23).

Thailand has the uppermost numbers of spas in Asia and this speedy growth rate also created the highly competitive environment in term of management, particularly in the stand-alone or day spas which do not have the same clientele supported as resort or hotel spas.

Additional information from Office of Small and Medium Enterprises Promotion (SMEs, 2015) also stated that spa businesses were lack of capable staff and management skills. Moreover they had limitation of marketing channels and cash flow. While they operated with high cost of payrolls, used low quality of Thai herbal products. In term of cooperation, they neither associated with other health related sectors nor government sectors. As consequence the management model which is specially designed for spa businesses, could be the significant guideline for spa operators to improve overall performance in the competitive environment. Furthermore the management model will also help the entrepreneurs to develop the spas in line with market trend as well as create appropriated profit to the organization in sustainable fashion.

## Literature review

Department of Health and Service Support (Ministry of Public Health, 2012) counsels the 5 standards for spa businesses in Thailand, which cover the major aspects of service quality, staff's skills, product & equipment, organization & management and ambiance. In the correlated theories for integrated management system (IMS) is used by an organization to manage all processes or activities in order to fulfill the business's objectives as well as to satisfy all stakeholders. An integrated management system syndicates all related elements such as human resource, finance, marketing, public relation, safety and environment in relevance to the organization's values, operation and objectives into one system for easier management (SCI QUAL International, 2015: 70). The IMS contributes day spa business to improve overall organization performance.

Another associated model of value chain which is invented by Porter in 1985 also integrated all significant elements of market forecasting, quality management, human resource management, marketing, supply chain management and so on. This model will lead to the decrease of cost/and or the increase of incomes which are considered as the 'added value' (Chain Conveyor Design, 2011: 16). Value chain model assists day spa business to control cost, maintain high standard at the same time create more profit margin to the organization. The management aspects to be deliberated such as product management which Heizer & Render (2010: 90) proposed that the forecasting can

be in the short term, midterm and long term. Short-term forecasting includes the procurement and purchase planning, work force planning and production planning. Medium-term forecasting includes sales planning, finance and alternative production planning. Meanwhile long-term includes new product (service) planning, capital expenditures, facility and location planning and research and development of products (services). Product management aids day spa business to forecast of the tendency of services to be sold, the break-even point, the preparation of finance, the improvement of facilities and products (services).

One of the most vital elements that service providers should focus on, is quality. Hoyle (2007: 69), an expert in quality control, suggested that managers can understand the qualities of their products (services) only when they can understand customer needs. The widely recognized model of service quality called 'SERVQUAL model' (Federoff, 2011) which covers 5 characteristics of tangibles, reliability, responsiveness, assurance, empathy. Service quality theory supports day spa business to ensure the desirable characteristics in all aspects that customers assume to experience.

Human resource management (HRM), compatible employees can be attained when the firm has proper recruitment, selection, knowledge test, interview, training and retain plan (Bateman & Snell, 2007). HRM engages day spa business to hire qualify staff with long term commitment, maintain high service quality and motivate staff to work with extraordinary

productivity.

As for Sales & marketing, Kotler, Bowen & Makens (2006) suggested that the marketing for hospitality businesses should emphasize the creation of direct experiences for customers. Furthermore Drummond & Enson (2005), Kotler & Armstrong (2012) suggested that the organization consider its target customers' gender, ages, socio-economic statuses, educations and characteristics in order to find out which customer groups it should regard as its major targets. The reason is customer groups are affected by different marketing tactics. The marketing influences day spa business to concentrate on the right segmentation as well as create suitable physiognomies of the products (services).

In current competitive environment, the business alliances and collaboration management are very essential. Heizer & Render (2010: 52) stated that supply chain management (SCM) is the managerial scheme that includes all the aspects relevant to the production and distribution of a product and/or service such as product management, quality management, collaboration management and sustainability management. Supply chain management places the main focus on the coordination of all parties related to a company such as its suppliers and distributors in order to influence all of them to perform their task in the way expected by the company. SCM benefits day spa business to create effective buyer-supplier relationship, inaugurate valuable business partners and preserve natural resources.

## Methodology

The samples for this study were divided into 2 groups: the day spa operators and the customers of day spa in Thailand. Statistics obtained from Provincial Public Health Office of Phuket (2012) revealed that the highest number of day spas registered with Ministry of Public Health in the southern part of Thailand were Phuket with 18 day spas. Whereas day spa in Ranong, Krabi and Phang-Nga is 1. Furthermore, in the northern part region; Chiang Mai has 14 day spa whereas, none in Mae Hongson, Lampang and Lamphoon. In reaction to this data, the researcher resolved to use Phuket, Bangkok and Chiang Mai as the sample of the study because the greater number of day spas in these provinces to represent the southern, northern and center parts of Thailand. In order to avoid the discrepancy the researcher merely gathered data from day spas which registered with Ministry of public health.

Concerning the sample technique and size, the convenient sampling technique is suitable for the quantitative research on the customers' expectations and opinion on day spas' management elements. As it allows the researcher to use any respondent whose features fit the attributes of the populations and is willing to participate in the research (Boehnke et al., 2011: 75). Figure from Department of Tourism (2010), there are more than 10 million tourists visiting the three studied province in 2010. In the Japanese maestro in statistics Taro Yamane (1973), Leedy & Ormrod (2005) recommended that the suitable sample size is 400 for the number

of the populations of which is larger than 10,000. Consequently this research population contained of 400 customers using Thai day spas in Bangkok, Phuket and Chiang Mai. The proportional of questionnaires distributed to each province based of the statistics obtained from Ministry of Public Health in Bangkok which shown the number of spa business in Bangkok, southern and norther clusters respectively at 321, 270 and 163.

The questionnaire consists of two main parts. The first part involved with the respondents' demographic data. The second part is indicated level of agreement of the significance of the management elements of day spa. The rating scale used for this part was a 5-point scaled rating system where 5 represented the strongly agree, 4 = agree, 3 = neutrality, 2 = disagree, 1 = strongly disagree (Baxter & Babbie, 2004; Marczyk, De Matteo & Festinger, 2005).

At the same time, purposive sampling is appropriate for the qualitative work as the selected samples have actual experiences and knowledge (Boehnke et al., 2011). The contribution of 6 spa experts from Bangkok, Phuket, Chiang Mai contributed to the completion of the designed management model for day spa. All of experts provided the repeated data of the vital elements of the integrated management model of day spa business in Thailand. The interview script is semi-structured which consist of a list of pre-determined open ended questions that allows the researcher to ask for more in-depth questions during the interview to gain a fuller understanding of the issues under

discussion.

The quality of research tools is important as it lead to the attainment of accurate and useful information. One of the most proficient verifications of validity is the test-retest technique; the questionnaire is used with a small group of participant's structures similar to the research population (Leedy & Ormrod, 2005; Marczyk, De Matteo & Festinger, 2005). The reliability test carried out in Pattaya city , Chonburi province, the completed set of 50 questionnaires were used to calculating the Cronbach's alpha. The outcome is .910 consequently this questionnaire is reliable to use as the tool for this survey.

The qualitative data obtained from the interviews was analyzed with the grounded theory technique, in which similar data are grouped, categorized and compared to the theories (Henwood & Pidgeon, 2006). The quantitative data from the questionnaire was processed for descriptive statistics, means and standard deviations; and Pearson's correlation coefficients.

## Results

The results of essential management elements from both interviews and survey were categorized correspondingly as sales & marketing, supply chain management, human resource management, quality management and product (service) management.

### Sales & Marketing

Spa experts in the level of manager/director, senior receptionist stated that sales & marketing

is very significant factor in the current high competitive environment. They mentioned about 7Ps marketing mix which consists of product (service), place, price, promotion, physical evidence, process and people. Moreover they also mentioned about other vital factors; such as creating different type of products to match with clients' preference of which differ from competitors; allows guests to experience the services in order to ensure of the service quality; using technology to create more convenient process as well as social medias to promote spa; designing service (product) in accordance with market trend and customer segmentation. Significantly in line with the result from the survey for the category of sales & marketing, which get the highest average means at 4.07; representing the respondents agreed that the sales & marketing aspect of day spa management is the most significant. The standard deviations lower than 1 shown that there was no significant variation.

### **Supply Chain Management**

For the category of supply chain management, spa experts in all level specified that in order to ensure the consistency of revenue the business alliances are very important for day spa business especially tour agents both local and overseas as they send the great number of customers. Others such as hotels/resorts, restaurant, taxi, competitors, Thai spa and other related associations as well as the collaboration with suppliers are considered necessary to be well liaised since it can create

more customers sources while decrease the burden stock. It is also essential to focus on the sustainability as the MOPH also concern of waste management, pollution reduction and environment & natural resource conservation meanwhile the energy & water saving helps to reduce the operating cost. Meaningfully the average means of supply chain management in the survey was at 3.90 with the standard deviation lower than 1 which shown that respondents agreed that the supply chain management is important respectively and there was no significant variation in respondents' opinion.

### **Human Resource Management**

Spa experts cited the important of recruitment, training and retain staff processes in order to ensure the efficiency to get the right staff with good attitude and service mind as well as willing to commit to the firm in long term basis. The human resource management involved with many tasks such as recruitment process with job description for all positions in the day spa together with person specification for each level. The selection procedure includes with knowledge test, interviews, attitude test and trial period. In spa business, training is very imperative as all staff need the same standard procedure. Hence consistency the training program will be provided for new comers, in addition to the existing staff who regularly attend the checking standard or retrain program depending on the evaluation platform. One of the attentive factors to run business in the

consistency high standard manner, is to keep the good performance staff in long term based. The career path development program, motivation rewards, social welfare & staff's safety with opportunity to promote to higher level are considered to be good strategy to retain staff with company.

The average means of human resource management in the survey was 3.89 which represented the important and respectively agreed of respondents for this category. Concerning the standard deviation, it was lower than 1 which means that no significant variation.

### Quality Management

Quality management in spa business consisted of quality of products, materials, equipment, facilities, staff and quality improvement. Moreover the service quality also reinforced by spa experts that is necessary to ensure at all services area in both tangible and intangible aspects. The SERVQUAL model is relevant to matters concerned by them such as tangible, responsiveness, reliability, assurance and empathy.

The average means for quality management was 3.86 which indicated the optimistic agreement of the respondents with the standard deviation of one question regarding "The service areas of spa and staff's outfits have to be clean" at 1.02 while those of other questions were lower than 1. From 400 responses of which 31.5% were strongly agreed, 31% agreed, 30.5% neutral and 4% disagreed and 3%

strongly disagreed. It is apparent that the figures of neutral answers, agreed and disagreed with the statement are different from each other thus the opinion (degrees of agreement) of the respondents significant vary.

### Product (service) Management

During the interviews, the spa specialists narrated that currently, planning is one of the major features of day spa operators as it related to gain more profit and good return on investment. Planning contains of break-even analysis which means that the profitability and productivities of cost and staff working hours will be examined in order to proper arrange of man powers and service time slots on daily, weekly, monthly based. Additionally the short term planning of inventory control system (just-in-time) will also help to reduce burden stock. The midterm planning which involved with sales, promotion, finance also important part to run business efficiency. Meanwhile the long-term planning of facilities, product & service development, capital expenditures and return on investment are essential to create the right business direction to the firm.

The average means of product (service) management was at 3.74 which means that this category is respectively important. The standard deviation of 2 questions regarding "The spa should be able to design the products and services that fit the new trend of demand" and "The spa should be able to provide products and services that suit guests' requests all the time" were at 1.08 and 1.02 however; first one

the percentage of strongly agreed at 24.5, agreed at 29.5 and neutral at 34.5 thus the degree of agreement have significant vary. Second one, the strongly agreed was at 27%, agreed at 42% and neutral at 21% hence the degree of agreement have significant vary.

### Correlations among Aspects of Day Spa Management Model

Pearson's correlation coefficients from the analysis discovered that all the studied elements are interrelated to each other in the optimistic directions and with a statistical significance of 0.08-0.77. A positive coefficient shows that the two tested variable rises, the other will rise accordingly. This is an indication that if spa operator manages to drive performance of one element to higher level, the other element will be positively raised as well. The efficient management of day spa services will be raised once all the elements are well-managed. From the interviews with spa experts, they stated that in order to create the smooth operation, all of the management elements have to be well associated. They further explained that it is impossible to promote spa if spa staff are not qualified or meet the standard required by the Ministry of Public Health. Hence sales & marketing and human resource elements have to be well coordinated. Moreover, it is also hard to promote spa if spa does not have good products and steady supplies. Additional, in order to survive in the high competitive environment, the consistency of high service qualities have to be maintained. Consequently,

sales & marketing, supply chain management, human resource management, quality management and product management also need to be well connected. Therefore both content and statistical analysis results are synchronized in the same direction that all elements are significant.

### The Integrated Management Model for Day Spas in Thailand

Figure 1 below shown the integrated management model which incorporated all the studied elements with specific details for day spa business in Thailand; the sales & marketing and supply chain are designated to be more priorities followed by human resource management, quality management and product (service) management. The average mean of each element respectively at 4.07, 3.90, 3.89, 3.86 and 3.74. In liaise to the data from spa experts which mentioned that, in the high competitive situation sales & marketing is the most concerned. As it helps spa to create products, services in accordance with market trend and customers' segmentation as well as differentiate from the competitors. Once the clear direction of sales & marketing has been settled, it leads to an easier interconnected to the business alliances in various sectors in the supply chain management. Accordingly human resource management in related to the concept, proper recruitment, selection and training processes assist spa to get the right qualified personnel in order to achieve company objectives and direction. Then the quality management supports spa to

operate with the high consistency performance. Besides the planning in short term, midterm and long terms in product (service) management benefits the spa to operate with proper planning in both operational and finance. The model suggested that all the management elements have to be integrated in order to boost up customers' satisfaction moreover it leads to the more effective, practical functional, productive and competitive of overall operation and

performance. Correspondingly it is also capable of transforming and repositioning day spa business to reduce cost, maintain high service consistency, surpass competitors, generate sustainable revenue and the same time maintain environment friendly business practices. Additionally as the model is created for day spa business in Thailand, the compliances with standards set by the Ministry of Public Health and Thai law must be carried on.

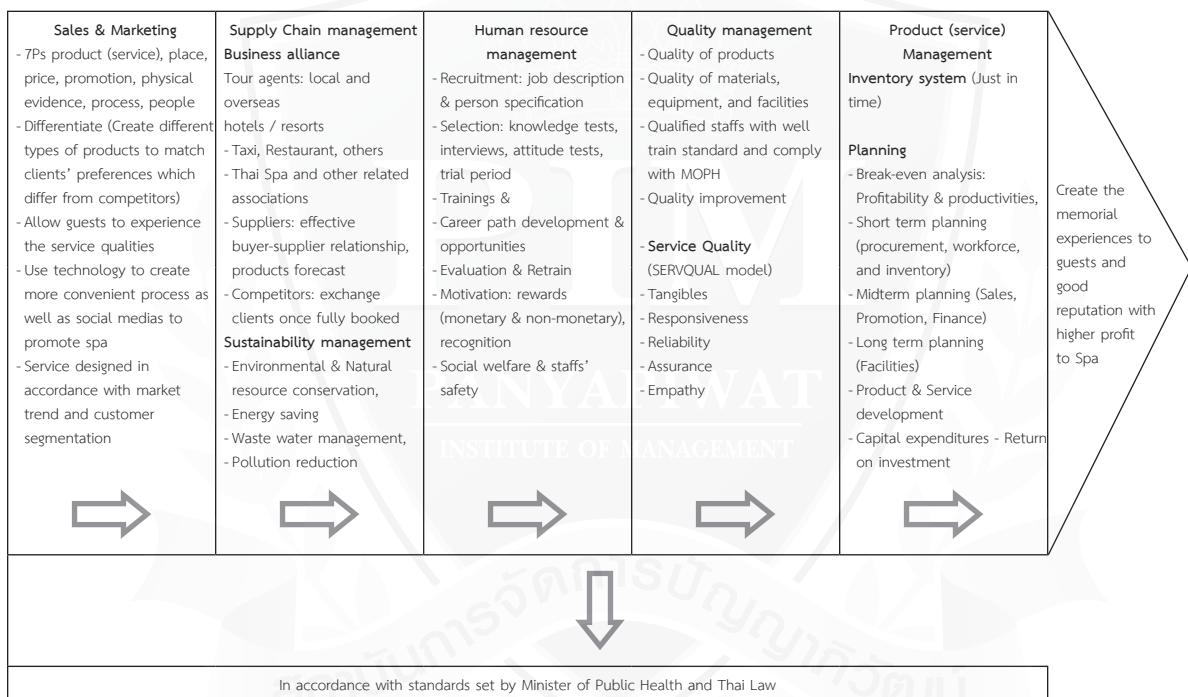


Figure 1 Integrated management model for day spas in Thailand

### Conclusion and suggestions for future study

Spa specialists agreed during the interviews that the integrated management model for day spa in Thailand is proficient and practical. Each element is self-sufficient and worthwhile for spa operators to use and concentrated individually;

however all the elements have to be well connected and synthesized. Sales & marketing helps spa to develop the concept in line with clients' demand and market trends as well as the right strategy to ensure the business survival. Meanwhile supply chain management assists in finding as many alliances as possible for a

better return on investment in sustainable manner that take into consideration of the government, communities and environment conservation. Furthermore, human resource management lead to getting the right personnel with good service minded attitude, as well as training, career path development and mutual benefits to create a long term commitment with the firm. Additionally, quality management focuses on good quality of products, materials, facilities and service quality (SERVQUAL) that help spa operators to ensure a higher services and facilities in all areas are maintained at all time to give the customers a pleasant experience. Also, the product (service) management helps the spa operators to engage in short term, medium term and long term planning especially in term of finance.

In summary, when all the management elements are well integrated, it will positively translate to a higher level of customers' satisfactions, spa operators' satisfaction, environment conservation, increase the profit margin, reduce cost and at the same time practically manage-

ment procedures.

Recommendations for future researchers; the integrated management model for day spa in Thailand incorporates all essential management elements which future researchers can focus deeply on the individual element and also extend to general service industrial sectors. Even this research studied on both qualitative and quantitative research methods, further study can also either focus on data analysis or descriptive statistics. Each element contains necessary factors that spa operators should pay attention to however; other service industries may need a slight change in the content. Therefore, it is advised for further researchers to broaden each element for spa business as well as other businesses in the service sector. Furthermore, this research mainly gathered information from day spa establishments in Thailand thus; further studies can extend to other types of spas such as spa in the hotel/resort, medical spa, destination spa or massage places.

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## BRAND LOYALTY IN LOW-COST AIRLINE OF THAILAND

ความจงรักภักดีของตราสินค้าสายการบินต้นทุนต่ำในประเทศไทย

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### Abstract

The aviation industry situation is quite intense competition. The most of the airline would like to be the leader and the winner in business war which need to increase the highest loyalty of the customer. Especially, the low-cost airline in Thailand should pay attention in behavior of the customer that effect to brand loyalty of the airline. Therefore, this paper aim to analyzed brand loyalty, brand awareness, perceived quality, brand association and marketing campaign of the low-cost airline in Thailand. The sample of this research is 400 passengers of Air Asia, Nok Air and Thai Lion Air. A survey questionnaire was posted on the internet that links with a low-cost airline social media sites.

The findings of correlation and multiple regression analysis showed that perceived quality, brand association and brand awareness were significant statistically associated and influenced on brand loyalty. For the marketing campaign acted as a single mediator variable which it is no evidence of mediation between perceived quality and brand loyalty, also brand association and brand loyalty too. The model of the analysis in this study could suggest the planning of marketing strategies to create a brand loyalty and expand the customer base in Thailand. Thus, the marketers should consider their brand strategy for building a strong brand in the low-cost airline industry in Thailand.

**Keywords:** Brand loyalty, Brand awareness, Brand association, Perceived quality

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## บทคัดย่อ

ในปัจจุบันสถานการณ์อุตสาหกรรมการบินมีการแข่งขันกันค่อนข้างรุนแรง โดยสายการบินส่วนใหญ่ล้วนมีความต้องการเป็นผู้นำและเป็นผู้ชนะในธุรกิจสายการบิน โดยเฉพาะอย่างยิ่งในธุรกิจสายการบินต้นทุนต่ำในประเทศไทย ตราสินค้ามีความสำคัญอย่างยิ่งสำหรับการตัดสินใจใช้บริการสายการบินของลูกค้า ดังนั้นงานวิจัยในครั้งนี้มีวัตถุประสงค์ที่จะตรวจสอบความตระหนักรู้ในตราสินค้า (Brand Awareness) ความเชื่อมโยงตราสินค้า (Brand Association) การรับรู้ถึงคุณภาพ (Perceived Quality) และการส่งเสริมการตลาด (Marketing Campaign) ซึ่งมีผลกระทบต่อความจงรักภักดีในตราสินค้า (Brand Loyalty) ในธุรกิจสายการบินต้นทุนต่ำในประเทศไทย สำหรับกลุ่มตัวอย่างที่ใช้ในการเก็บข้อมูลของงานวิจัยนี้เป็นผู้โดยสารสายการบินแอร์เอเชีย นกแอร์ และไทยแอร์อ่อนแอร์ จำนวน 400 คน โดยใช้แบบสอบถามออนไลน์และทำการเก็บข้อมูลผ่านสื่อโซเชียลมีเดียของสายการบินดังกล่าว

สำหรับผลการวิเคราะห์ความสัมพันธ์ในแต่ละมิติคุณค่าตราสินค้าด้วยเทคนิคการวิเคราะห์สหสัมพันธ์ และการวิเคราะห์การทดสอบพหุคุณ พบว่า การรับรู้ถึงคุณภาพ ความเชื่อมโยงตราสินค้า และความตระหนักรู้ในตราสินค้า มีความสัมพันธ์และมีอิทธิพลต่อความจงรักภักดีในตราสินค้าอย่างมีนัยสำคัญทางสถิติ ส่วนการส่งเสริมการตลาด (Marketing Campaign) ซึ่งเป็นตัวแปรค้นกลางที่ไม่พบหลักฐานการส่งผ่านความสัมพันธ์ระหว่างการรับรู้ถึงคุณภาพ และความเชื่อมโยงตราสินค้าต่อความจงรักภักดีในตราสินค้า ซึ่งตัวแบบ (Model) ของการวิเคราะห์ในงานวิจัยนี้ สามารถนำไปใช้เป็นตัวชี้นำในการวางแผนกลยุทธ์ทางการตลาดที่จะสร้างความจงรักภักดีของตราสินค้า และขยายฐานลูกค้าให้เพิ่มขึ้นได้ ดังนั้นนักการตลาดควรที่จะพิจารณา และให้ความสำคัญในกลยุทธ์ตราสินค้าของสายการบิน เพื่อที่จะสร้างความเข้มแข็งของตราสินค้าในธุรกิจสายการบินต้นทุนต่ำในประเทศไทย

**คำสำคัญ:** ความจงรักภักดีต่อตราสินค้า การตระหนักรู้ตราสินค้า การเชื่อมโยงตราสินค้า การรับรู้คุณภาพ

## Introduction

Nowadays, the world economy rapidly changes that effect to all industries have to adjust the strategies for various situations and competitive advantage. Especially, the business competition of the low-cost airline industry in Thailand uses many business strategies such as cost leadership strategy, differentiation strategy, channel strategy, pricing strategy, etc. but it cannot create the sustainable advantage. In this industry need to develop the marketing strategy which the way to build the competitive advantage as the brand equity strategy that becomes to be the importance of the marketing strategy because the brand equity is the

marketing tools to increase customer loyalty and customer base. The airlines should focus on branding strategies such as brand loyalty, brand association, perceived quality and brand awareness to make a strong brand and highest market share in their industries. It will affect in profitability of the airline. Furthermore, the reputation of a brand name airline represents the quality guarantee of product and service as well as attracting new customers and keeps the old customers too (Keller, 2003).

The branding is the way to make consumers recognize the airline's product or service such as a brand name that consumers can identify the benefit and the quality of product or service.

Brand is a benefit of both consumers and entrepreneurs which it can protect competitors to penetrate in the industry (Kotler, 1997). Brand equity management can measure by consumer behavior in term of loyalty or willingness to pay for the product and service. Thus, the entrepreneurs have to create brand loyalty in consumer's mind which can build a strong brand. Previous research, brand equity measurement is measured by four dimensions such as brand loyalty, perceived quality, brand awareness and brand associations (Aaker, 1991). Thus, in this study is interested in only brand awareness, brand association, perceived quality and marketing campaign affect brand loyalty. The marketing campaign set as the mediator variable which it might have a mediating effect on the relationships between the brand awareness brand association, perceived quality and brand loyalty. Now the most of the low-cost airlines are using a marketing campaign through a promotion strategy that might affect to loyalty behavior of the consumer in this industry. That is the reason to set marketing campaign as the mediator variable in this study.

Brand loyalty defines the satisfaction and repurchase of consumer. Brand loyalty is a key factor to increase the firm's performance when consumers trust the brand; they will repurchase and promote brand benefits that it results in higher market share. Brand loyalty represents a consumer commitment which it likens an intangible asset of the company (Schiffman & Kanuk, 2004). Thus, the marketer should pay more attention about brand loyalty because

it can generate market growth and high profitability (Aaker, 1991).

Brand awareness refers brand recall and brand recognition of product (Aaker, 1991; Keller, 2003) that brand awareness is one component of brand knowledge that is similar the concept of Keller. The brand strength in the minds of consumers is the important benefit of brand awareness that it can use to promote new products or services in the future which the only brand name that consumers can remember will be selected to purchase based on brand recall and brand recognition (Asamoah, 2014).

Brand association links to the image of the brand that the consumer has a feeling and perceptions of the brand. It can be divided into product-related attributes, non-product related attributes and benefit (functional benefit, experiential benefit and symbolic benefit) (Keller, 1998). Aaker & Joachimsthaler (2000) mention that "Brand associations are the category of brand's assets and liabilities that include anything linked in memory to a brand". Moreover, the quality of product can link a good image of the brand which is associated with the consumer perception of product and the brand strength, the brand preference and brand uniqueness. The brand image can help the consumer to evaluate the quality and reduce risks of purchase (Aurier & de Lanauze, 2011).

Marketing campaign explain to the promotion and advertising. (Keller, 1998). The communication activities is used as a tool of promotion to notify to customers which the customer will remind the brand from marketing campaign

(Parsa et al. 2013). In addition, Alamro & Rowley (2011) found the advertising correlated with perceived quality and brand awareness that this correlation can create a strong brand association too. The consumer awareness is encouraged by advertising which relate to the positive attitudes of the benefits of the brand that effect to gain brand equity (Nguyen, Barrett & Miller, 2011). Specially, the effect of promotion and advertising is one of the way to brand success and high equity in the long term (Keller,

2008).

## Objective

The research was intended to determine the relationship of brand awareness, brand association perceived quality and marketing campaign on brand loyalty of low-cost airline. Simultaneously, this study could guide marketer about how to plan the branding strategy to generate profitability and market share based on brand loyalty.

Conceptual Framework

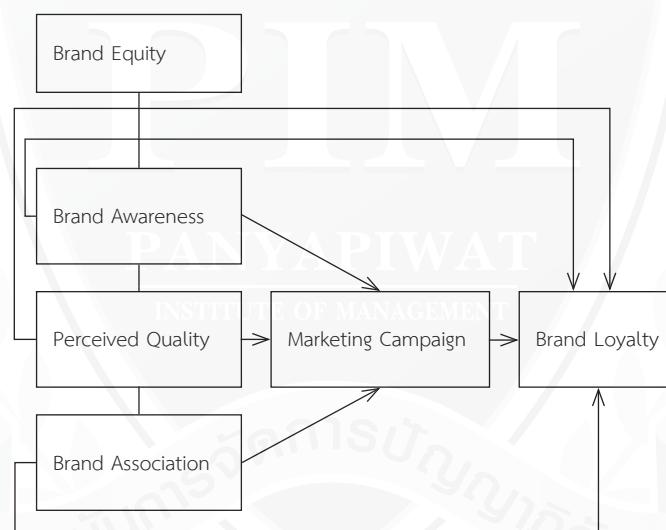


Figure 1 Conceptual framework

This study aims to explore the relationship between brand loyalty, brand awareness, brand association and perceived quality based on the concept of Aaker (1991) and Keller (2008). As shown in figure 1, brand awareness, brand association and perceived quality are considered as independent variable, brand loyalty is taken as the dependent variable and

marketing campaign is taken as mediator variable. Hypothesis developed for this research mentioned as bellow:

H1: Perceived quality has a positive relationship with brand awareness.

H2: Brand association has a positive relationship with brand awareness.

H3: Brand association has a positive rela-

tionship with perceived quality.

H4: Brand loyalty has a positive relationship with brand awareness.

H5: Brand loyalty has a positive relationship with perceived quality.

H6: Brand loyalty has a positive relationship with brand association.

H7: Marketing campaign has a positive relationship with brand awareness.

H8: Marketing campaign has a positive relationship with perceived quality.

H9: Marketing campaign has a positive relationship with brand association.

H10: Marketing campaign has a positive relationship with brand loyalty.

H11: Brand awareness has a positive relationship with brand loyalty through marketing campaign.

H12: Perceived quality has a positive relationship with brand loyalty through marketing campaign.

H13: Brand association has a positive relationship with brand loyalty through marketing campaign.

## Research Methodology

The questionnaire was measured by a five point degree of agreement or disagreement of Likert scale (1 = strongly disagree to 5 = strongly agree) (Likert, 1932). The correlation and multiple regression analysis were analyzed the outcome of the relationship of independent and dependent variable. The results could be guided the low-cost airline industry to increase the customer loyalty in Thailand.

## Research Instruments

The questionnaire was adapted from the concept of Keller (2008) and the work of Yoo & Donthu (2001) and Pitsaphol (2015). The survey questionnaire was designed to measure the respondents' demographic information and the relationship of brand awareness 4 items, brand association 6 items, perceived quality 16 items, marketing campaign 4 items and brand loyalty 8 items. The Cronbach alpha value is tested reliability of the questionnaire that it found the Cronbach's alpha value of brand awareness = 0.718, brand association = 0.749, perceived quality = 0.882, marketing campaign = 0.641 and brand loyalty = 0.866. The overall of Cronbach's alpha value of the questionnaire = 0.922 which it means the questionnaire has a high reliability.

## Data Collection

The sample of this research is the passenger of low-cost airlines in Thailand, which we select Air Asia, Nok Air and Thai Lion Air because the low-cost airline has been authorized by the Thai government to operate the flight in the country. It cannot determine the exact population which can use the theory of Non-Probability sampling to select the sample group. The sample size of an unknown population is used by the formula of Cochran (1963). A sample size is equivalent to 385 samples but we add about 4% to prevent a crash. Therefore, this research uses a sample size 400 samples. We collected the primary data from the closed questionnaire and the secondary

data from the article that published in the journals. Base on internet sampling through online research technique (Shabbir et al. 2015). A survey questionnaire was posted on internet that links with a low-cost airline social media sites such as Air Asia, Nok Air and Thai Lion Air. The data was collected on October 2015 and reposted a link reminder in every week during the survey period.

## Data Analysis

A total of 400 valid respondents were the passengers of Air Asia 216 respondents, Nok Air 125 respondents and Thai Lion Air 59 respondents. Among them, 59.7% of respondents were female while 33.8% of respondents were male and 6.50 % were LGBT (Lesbian, Gay, Bisexual and Transgender). The majority of the age was 41.2% in 25 years to 34 years that the result represented the respondents were young and working age. Moreover, the education of respondents showed that 57.50 % have earned their bachelor degree. The occupation of respondents indicated that 37.50 % was company

employees, which is followed by Government officer with 25% and the monthly income of respondents were ranging 15,001-20,000 Thai Baht.

Following the hypothesis, Pearson's correlation analysis was used to test the hypothesis to find the relationship of all variables (the independent variable: brand awareness, perceived quality, brand association, dependent variable: brand loyalty and mediating variable: marketing campaign) by considering a correlation matrix. The multiple regression analysis was adopted to test the relationship and the influence of the independent variable, the mediator variable and the dependent variable.

## Result

The result of a correlation matrix for hypothesis testing indicates the relationship of brand awareness, perceived quality, brand association, brand loyalty and marketing campaign. The correlation analysis of the independent and dependent variable showing significant values shown as follows:

**Table 1** Correlation among brand awareness, perceived quality, brand association, brand loyalty and marketing campaign.

	Brand awareness	Perceived quality	Brand association	Brand loyalty	Marketing campaign
Brand awareness	1				
Perceived quality	0.32 <sup>**</sup>	1			
Brand association	0.18 <sup>**</sup>	0.63 <sup>**</sup>	1		
Brand loyalty	0.39 <sup>**</sup>	0.63 <sup>**</sup>	0.55 <sup>**</sup>	1	
Marketing campaign	0.14 <sup>**</sup>	0.30 <sup>**</sup>	0.30 <sup>**</sup>	0.23 <sup>**</sup>	1

<sup>\*\*</sup>Significant at the level .01

Inter-relationships reveal significant relationship between brand awareness and perceived quality ( $r = 0.32$ ), brand awareness and brand association ( $r = 0.18$ ), brand awareness and brand loyalty ( $r = 0.39$ ), brand awareness and marketing campaign ( $r = 0.14$ ), perceived quality and brand association ( $r = 0.63$ ), perceived quality and brand loyalty ( $r = 0.63$ ), perceived quality and marketing campaign ( $r = 0.30$ ), brand association and brand loyalty ( $r = 0.55$ ), brand association marketing campaign ( $r = 0.30$ ), brand loyalty and marketing campaign ( $r = 0.23$ ) therefore the hypothesis H1-H10 accepted based on r value and p value as shown in table 1.

From the table 2 was shown the regression analysis in the Enter method which Eigenvalue is less than .023 (critical value $>10.0$ ) and the Condition Index is less than 25.668 (critical

value $>30.0$ ). That mean, the multi-collinearity is not a major concern in this study. When considering the regression data of independent variable, we found that brand awareness ( $B = 0.24$ ,  $S.E.bi = 0.04$ ,  $\beta = 0.21$ ,  $t = 5.55$ ,  $p = 0.00$ ), perceived quality ( $B = 0.48$ ,  $S.E.bi = 0.06$ ,  $\beta = 0.39$ ,  $t = 7.86$ ,  $p = 0.00$ ), brand association ( $B = 0.27$ ,  $S.E.bi = 0.05$ ,  $\beta = 0.26$ ,  $t = 5.48$ ,  $p = 0.00$ ), Marketing campaign ( $B = 0.00$ ,  $S.E.bi = 0.03$ ,  $\beta = 0.00$ ,  $t = 0.23$ ,  $p = 0.82$ ) predicted brand loyalty with a statistically significant at 0.05. The model reveals the following regression equations for analyzing brand loyalty of low-cost airline in Thailand: Un-standardized Score  $Y = -0.17 + 0.24$  (brand awareness) +  $0.48$  (perceived quality) +  $0.27$  (brand association) Standardized Score  $Z$   $r = 0.21$  (brand awareness) +  $0.39$  (perceived quality) +  $0.26$  (brand association)

**Table 2** Regression Analysis of independent variables (brand awareness, perceived quality, brand association, marketing campaign) and dependent variable (brand loyalty)

Model	Unstandardized Coefficients		Standardized Coefficients	t	sig
	B	Std.Error			
(Constant)	-0.17	0.22		-0.78	.43
Brand awareness	0.24	0.04	0.21	5.55	.00**
Perceived quality	0.48	0.06	0.39	7.86	.00**
Brand association	0.27	0.05	0.26	5.48	.00**
Marketing campaign	0.00	0.03	0.00	0.23	.82

$F = 90.08$   $P < .05$   $AdjR^2 = .47$

\*\* at significant level .05

When we tested the mediating effect by the Sobel test that the result found brand awareness had a positive relationship with brand loyalty through marketing campaign. We accepted H11 base on the test statistic of the Sobel test was 2.34 and p-value of 0.01 ( $P<0.05$ ). Moreover we found the Sobel test value of 1.22, p-value of 0.22 ( $P<0.05$ ) for perceived quality and the Sobel test value of 1.72, p-value of 0.08 ( $P<0.05$ ) for brand association. It indicated perceived quality and brand association had not a positive relationship with brand loyalty through marketing campaign which we rejected H12-H13.

## Discussion

The results of Pearson's correlation analysis found the relationship of brand loyalty, brand awareness, brand association, perceived quality and marketing campaign with a statistical significance at  $p<0.05$ . This outcome contributes compatible finding as compared to Zhang, Pitsaphol & shabbier (2014) which studied the customer-based brand equity of smartphone. They found brand awareness, perceived quality and brand image (a set of brand association) was significant statistically associated and influenced with brand loyalty. Moreover, a result of this study was consistent with the research of Severi & Ling (2013), they're found brand association brand loyalty and brand image are the main component of brand equity in a private university in Malaysia.

Furthermore, the result of the multiple regression analysis showed the relationship of

brand equity dimension and marketing campaign which brand awareness, perceived quality and brand association had not a positive relation to brand loyalty through marketing campaign. The result consisted the research of Yaseen et al. (2011), Jung et al. (2014) that concluded perceived quality and brand loyalty were positively related which if brand loyalty increase it will affect to increasing perceived quality too. In the other hand, the result of this study found marketing campaign in term of promotion was not important variable for the relationship of perceived quality and brand association. It contrasted with Pitsaphol (2015) that found marketing campaign in term of promotion and advertising was a model as a dynamic investment in a brand's stock of awareness and perceived quality which the marketing campaign was a significant positive effect of perceived quality.

## Conclusion

From this study, we can develop a customer loyalty in the low-cost airline industry in Thailand. We concluded that perceived quality is the most significant dimension for creating brand loyalty, followed by brand association and brand awareness. The low-cost airline should plan marketing strategies and allocate marketing investments and focusing on perceived quality first and has the highest priority to build the customer loyalty which, it will affect to increasing the profit and market share. It means the brand has a competitive advantage and be the leader in the market. However, the low-cost airline must produce their product and service

with the best quality and make diverse marketing strategies for creating a brand association especially the good image of the airline and consumers recognize the airline' name depends on creating awareness to arise in the consumers' mind. Thus, the airline should always investigate brand equity dimensions for building a strong low-cost airline brand in Thailand market. Further research should focus on other variables such as emotional branding, brand performance, brand preference and brand identity because they might have a significant influence on low-cost airline market share in Thailand.

## Recommendations

This study has not conducted a study on the other dimension of the low-cost airline such as the cost of marketing communications, in-flight service, current economic conditions, etc. All of this may have affected both directly and indirectly to the rise and decline of brand loyalty. For the narrow analysis in future research should use SEM analysis to find the relationship of brand loyalty because it will make to more understand the path of relationship of brand loyalty.

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# THE IMPACT OF TRAVEL EXPERIENCE ON DESTINATION LOYALTY TO BANGKOK

## อิทธิพลของประสบการณ์เดินทางที่มีต่อความภักดีต่อจุดหมายปลายทางการท่องเที่ยว ของกรุงเทพมหานคร

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### Abstract

Travel experience is an important element of tourists' journey, especially overseas travel. However, little effort has been explored on its relationship with destination loyalty. Understanding the impact of the travel experience on destination loyalty will benefit the destination managers in developing appropriate tourism strategy. This study therefore has an objective to examine the impact of travel experience on destination loyalty to Bangkok. Data were collected from 284 international tourists visiting Bangkok through a convenience sampling method, and were analyzed by the multiple regression analysis. The findings revealed that travel experience in relation to tourism resources, local hospitality, and safety were found to affect tourists' destination loyalty to Bangkok. Recommendations are given to promote repeat visitors to Bangkok.

**Keywords:** travel experience, destination loyalty, Bangkok

### บทคัดย่อ

ประสบการณ์เดินทางอาจกล่าวได้ว่าเป็นองค์ประกอบที่สำคัญของการเดินทางท่องเที่ยว โดยเฉพาะอย่างยิ่ง การเดินทางท่องเที่ยวต่างประเทศ อย่างไรก็ตาม การศึกษาในเรื่องความสัมพันธ์ระหว่างประสบการณ์เดินทางที่มีต่อการเดินทางมาท่องเที่ยวขึ้นนักท่องเที่ยวจะเป็นประโยชน์ต่อผู้บริหารด้านการท่องเที่ยวในพื้นที่เพื่อจัดทำกลยุทธ์ การตลาดที่เหมาะสมเพื่อดึงดูดนักท่องเที่ยวให้กลับมาท่องเที่ยวซ้ำ ดังนั้น การวิจัยในครั้นนี้จึงมีวัตถุประสงค์การวิจัย เพื่อศึกษาอิทธิพลของประสบการณ์เดินทางที่มีต่อความภักดีต่อจุดหมายปลายทางของกรุงเทพมหานคร โดยเก็บรวบรวม ข้อมูลจากนักท่องเที่ยวต่างชาติจำนวน 284 คน โดยใช้การเลือกตัวอย่างแบบโควตา และวิเคราะห์ข้อมูลโดยการวิเคราะห์ การ回帰多元 (Multiple regression analysis) ผลการวิจัยพบว่า ประสบการณ์เดินทางในด้านสิ่งดึงดูดใจ ทางการท่องเที่ยว อัธยาศัยไม่ดีในการต้อนรับนักท่องเที่ยว และความปลอดภัย มีอิทธิพลต่อความภักดีต่อจุดหมาย ปลายทางการท่องเที่ยวของกรุงเทพมหานครอย่างมีนัยสำคัญทางสถิติ งานวิจัยในครั้งนี้จึงได้ให้ข้อเสนอแนะเพื่อส่งเสริม

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ให้นักท่องเที่ยกลับมาเยือนกรุงเทพมหานครอีกรัง

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## Introduction

With the rapid growth of tourism industry in Thailand, today tourism has been regarded as one of the most important tools used to boost economies and promote country's development. The growth of tourism in Southeast Asia has developed very fast and each country is attempting to promote tourism to generate revenues to the countries (Marzuki, 2012). Every nation has developed various marketing campaigns to persuade tourists to visit its state by promoting attractive tourist destinations, local culture, food, architecture, folklore and man-made tourist attractions. As tourism industry makes lots of benefits to the country, the Thai government has established various national policies to develop Thailand's tourism continuously. Thailand, the leading tourism state of the ASEAN, has various major tourist attractions located in different parts of the country both natural and cultural heritages. Among the major tourist destinations, Bangkok, the nation's capital, is one of the most famous places among international tourists. With the attractiveness of Bangkok, millions of international tourists visit Bangkok each year.

When tourists visit a destination, they will experience or expose to the destination environment (tourist attractions, people, services, and infrastructure) in different ways. Tourists' travel experience may be both positive and

negative outputs. Given the positive travel experience, tourists may be likely to revisit the destination or share their favorable travel experience to others (Kim & Brown, 2012). However, with the negative travel experience, they may be not satisfied with the destination and would not return (Kim & Brown, 2012). Moreover, they may spread the negative word-of-mouth to other as well. Thus, travel experience is regarded as one of the important elements for the tourism industry and associated with destination loyalty (Mechinda, Serirat & Gulid, 2009; Mohamad & Ghani, 2014). However, there are limited studies exploring tourists' travel experience and destination loyalty in relation to Thailand's tourism industry, particularly their travel experience in Bangkok. This study therefore has an objective to investigate the impact of travel experience on destination loyalty to Bangkok by focusing on international tourists. Understanding the relationship between travel experience and destination loyalty will help the local authorities develop appropriate tourism strategies to attract and increase a number of repeat tourists to Bangkok.

## Literature Review

### Travel experience

According to the literature, travel experience refers to the exposure of tourists to tourism environment (e.g. tourist attractions, local people,

culture) and the interaction between tourists and service providers (tourism business, facilities). Travel experience may occur through tourists' engagement, involvement, perception and participation in events, activities, or tourist attractions of the destinations (Kim & Brown, 2012). In other words, travel experience may relate to what tourists see, feel, meet, or contact with tourism suppliers and destination features. In general, a destination is the location of a cluster of attractions and related tourist facilities/services (Andriotis, Agiomirgianakis & Mihiotis, 2009). It may argue that when tourists visit a particular destination with positive travel experience, they are more likely to be happy or satisfied with their trips, and later they may come back to the same destination. In this sense, tourists with positive experience of products, services, and other resources provided by tourism destinations could produce repeat visits (loyalty) and word-of-mouth effects to their friends or relatives (Chi & Qu, 2008). Hence, assessing tourists' travel experience may help destination authorities/planners in understanding of the destination attributes that may have the impact on tourists' positive experience and their intentions to revisit to the destination.

### Destination loyalty

Destination loyalty refers to tourists' intention to revisit the same destination, and their intention to recommend the destination to their friends/relatives (Toyama & Yamada, 2012). It is also defined as the whole feeling and

attitudes that encourage travelers to revisit a particular destination (Hsu et al., 2008). The concept of destination loyalty has been widely examined among tourism scholars to develop effective ways to attract more tourists to their destinations (Kim & Brown, 2012; Toyama & Yamada, 2012; Mechinda, Serirat & Guild, 2009; Yoon & Uysal, 2005). Destination loyalty is regarded an important indicator used to develop competitive advantages of the destination and effective marketing strategy (Yoon & Uysal, 2005). In general, destination loyalty may be measured through tourist's intention to revisit the same destination, and their intention to recommend the destination to others (Toyama & Yamada, 2012). Of these two measures, repeat visitation is considered as a very strong indicator of future behavior (Mechinda, Serirat & Guild, 2009).

### Related studies on destination loyalty

A review of literature indicates that there are some related studies regarding tourists' destination loyalty to Bangkok. McDowall & Ma (2010), for example, compared international and Thai tourists' intention to revisit Bangkok. The study revealed that both groups differed in their intention to revisit Bangkok due to travel distance and trip price. The study has found that image and tourism attractions in Bangkok contributed to tourist satisfaction, revisit intention, and intention to recommend Bangkok to others. In addition, safety & security also played an important role to tourists' intention for both groups to revisit and recommending Bangkok

to others. Furthermore, McDowall (2010) also compared first-time and repeat international tourists on their satisfaction and destination loyalty in Bangkok. The study disclosed that both groups were satisfied with the beautiful architectural buildings and historical sites, shopping opportunities and cultural sightseeing. First-time and repeat visitors differed in their views of Bangkok as being an amazing place, the hospitality of residents, and the quality of goods/services. Both groups would revisit Bangkok and recommend it to others. A recent study by Thiumsak & Ruangkanjanases (2016) examined the factors influencing international visitors to revisit Bangkok. The findings revealed that accommodation, shopping, and attitude of Thai people positively influenced international tourists' intention to visit Bangkok. In addition, the study found that most respondents were likely to revisit and recommend Bangkok to their families and friends.

In international tourism literature, there are some studies on destination loyalty. For example, Chi & Qu (2008) examined the impact of tourist satisfaction on destination loyalty in Eureka Springs, Arkansas. The study revealed that tourists' destination loyalty was influenced by high satisfaction. The study suggested destination managers focus on establishing a high tourists' satisfaction level so as to create positive post-purchase tourist behavior. Kim & Brown (2012) examined the impact of perceived travel experience on destination loyalty. The findings indicated that discovering new experience, adventure experience, and

geological attractions had the potential to influence return behavior. Another study by Toyama & Yamada (2012) explored the relationships between tourist satisfaction and destination loyalty in Takayama City, Japan. The findings disclosed that the overall satisfaction had a direct influence on destination loyalty. The study suggested that destination authorities reduce the risk of unsatisfactory experience by improving destination's services and quality in order to create tourist satisfaction and destination loyalty.

In sum, although there are some studies investigating Bangkok's destination loyalty, there is a lack of empirical studies examining the impact of tourists' travel experience on destination loyalty to Bangkok. Since travel experience is the important variable associated with destination loyalty, understanding the impact of tourists' travel experience on destination loyalty will assist the local authorities to further develop their policies, plans and strategies to promote tourism and repeat visitors to Bangkok.

## Methodology

The samples in this study were Asian and European tourists (aged 20 years older and over) who traveled independently to Bangkok. This is because Asian and European tourists are the important markets for Bangkok's tourism. Since the number of Asian tourists visiting Bangkok is 2-3 times greater than European tourists (Ministry of Tourism and Sports, 2015), thus, a quota sampling method was employed

in this study on a proportion of 70:30 (Asians: Europeans). Data were collected at major tourist attractions in Bangkok through a closed-ended and self-administered questionnaire. During the survey in January 2016, the respondents were asked if they would be interested to participate in the survey. Once they agreed, questionnaires were distributed on site and collected by researcher team (researcher and college students). All research respondents received small souvenirs for their participation. A total usable of 284 questionnaires were obtained during the survey. The questionnaire for measuring tourists' travel experience was developed from a review of related studies (Kim & Brown; 2012; Thiumsak & Ruangkanjanases, 2016). What to measure on travel experience were adapted in accordance with tourists' exposure to tourism suppliers, destination attributes, and tourism environment. Sampled statement was for example, "I appreciate Thai culture and local way of life". Respondents were asked to rate their agreement on a 5-point likert scale (5=strongly agree to 1=strongly disagree).

With regard to destination loyalty, most prior studies have measured destination loyalty

on two items: (1) the intention to revisit the destination in the future and (2) the likelihood to recommend the destination to other people (Chi & Qu, 2008; Kim & Brown, 2012; Yoon & Uysal, 2005). Following the literature, this study asked the respondents to rate their intention to revisit Bangkok in the near future (1-3 years), and their likelihood to recommend Bangkok to their relatives/friends by using a 5-point Likert scale (1=least likely and 5=most likely).

A reliability analysis (Cronbach's alpha) was performed for tourists' travel experience with a result of 0.85, exceeding the minimum standard (0.80) (Hair et al., 2006). The validity test (face validity) was also undertaken to check the content quality of the questionnaire. Descriptive statistics (percentage, mean, S.D.) were used to describe respondents' profile, mean score of travel experience and destination loyalty while inferential statistics (multiple regression analysis) were used to analyze the impact of travel experience (independent variable) on destination loyalty (dependent variable). All statistical tests were performed at the .05 level of significance.

## Findings

Table 1 Profile of respondents

Characteristics	Descriptions	Number (n=284)	Percent (100%)
Gender	Male	164	58.0%
	Female	120	42.0%
Age	20-30 years	74	26.0%
	31-45 years	108	38.0%
	46-59 years	88	31.0%
	60 years or older	14	5.0%
Marital status	Married	176	62.0%
	Single	88	31.0%
	Divorced/Separated/Widowed	20	7.0%
Education	Bachelor degree	145	51.0%
	Master degree or higher	105	37.0%
	High school or lower	34	12.0%
Occupation	Company employee	72	25.0%
	Business owner	60	21.0%
	Independent/self-employed	42	15.0%
	Government officer	34	12.0%
	University student	28	10.0%
	Housewife	20	7.0%
	Unemployment	17	6.0%
	Retired	11	4.0%
Monthly Income	USD 1,000 or lower	42	15.0%
	USD 1,001-2,500	110	39.0%
	USD 2,501-3,500	104	36.0%
	USD 3,501-or higher	28	10.0%
Number of visit to Bangkok	First time	217	76.0%
	2-3 times	56	20.0%
	4 times and more	11	4.0%
Tourist region base	Asia	198	70%
	Europe	86	30%

According to table 1, most of the respondents (58%) were males and 42% were females. Most of them were in the age group of 31-45 years (38%) and 46-59 years old (31%). More than half were married (62%), and the majority (51%) had education at the college level. The respondents came from different occupations, for example, 25% were company employees, 21% were business owner, 15% were self-

employed, and 12% were government officers. Approximately 39% had monthly income in the range of USD 1,001-2,500 while 36% had income in the range of USD 2,501-3,500. Most of them (76%) were first time visitor, while 20% visited Bangkok 2-3 times, and 4% return to Bangkok 4 times and more. Among 284 respondents, they came from Asia (70%) and Europe (30%).

**Table 2** Mean score of tourists' perception on travel experience in Bangkok

Travel experience in Bangkok	Mean	S.D.
1. I have seen a wide range of tourist attractions.	4.32	0.99
2. I have seen a lot of Thai temples in the city.	4.30	0.61
3. I appreciate Thai culture and local way of life.	4.25	0.75
4. I feel local people are friendly to tourists.	4.21	0.94
5. I experience service staff are nice and helpful.	4.17	0.86
6. I have seen a lot of cultural attractions in the city.	4.09	0.76
7. I enjoy a variety of shopping places and entertainment.	4.05	0.74
8. I enjoy a reasonable price of living in Bangkok.	4.14	0.85
9. I experience a standard service on accommodation.	4.12	0.81
10. I enjoy eating Thai food.	4.08	0.75
11. I experience a standard on food service and restaurants.	3.97	0.78
12. I enjoy night life in Bangkok.	3.85	0.84
13. I feel local vendors are honest and sincere.	3.80	0.77
14. I experience hygienic food.	3.75	0.70
15. I feel safe when traveling within the city.	3.68	0.64
16. I experience easy accessibility/ traveling within the city.	3.48	0.66
17. I experience Bangkok as a clean city.	3.42	0.72

(5 = strongly agree and 1 = strongly disagree)

Table 2 shows the mean score ranking of tourists' opinions on their travel experience in Bangkok. The top three most favorable travel experience in Bangkok were 1) a wide range of tourist attractions (mean = 4.32), 2) a lot of Thai temples (mean = 4.30), and 3) appreciating

Thai culture (mean = 4.25). While the least two favorable travel experience in Bangkok (mean score below 3.50) are 1) transportation system (mean = 3.48) and 2) city cleanliness (mean = 3.42).

**Table 3** Mean score of destination loyalty to Bangkok

Destination loyalty	Mean	S.D.
1. Likelihood to return to Bangkok	4.16	0.77
2. Likelihood to recommend Bangkok to friends, family, relatives	4.11	0.89

Table 3 shows mean score of respondents' opinions on Bangkok's loyalty. Based on the finding, the respondents rated their likelihood to return to Bangkok with an average score of 4.16

while the likelihood to recommend Bangkok to their friends, families, and relative was rated scored at 4.11.

**Table 4** Factor analysis of travel experience

Factor dimensions (Cronbach's alpha)	Factor loading	Eigenvalue	Variance explained	Factor Mean
<b>Factor 1: Tourism attraction (alpha = 0.88)</b>		5.38	32.12	4.20
A wide range of tourist attractions	0.88			
Cultural attractions	0.82			
Thai food	0.75			
Thai culture	0.73			
Temples	0.71			
<b>Factor 2: People &amp; local hospitality (alpha = 0.81)</b>		2.82	15.18	4.06
Friendliness of local people	0.81			
Hospitality of service staff	0.77			
Honesty of local vendors	0.74			
<b>Factor 3: Services and facilities (alpha = 0.78)</b>		1.64	10.26	3.94
Shopping & entertainment	0.88			
Accommodation	0.86			
Food service	0.82			
Night life	0.75			
Local transportation	0.72			
Cost of living	0.61			
<b>Factor 4: Safety &amp; cleanliness (alpha = 0.73)</b>		1.30	8.78	3.62
Tourist safety	0.80			
City cleanliness	0.79			
Food hygiene	0.61			
Total variance explained	66.34%			

According to table 4, a factor analysis with varimax rotation was used to group travel experience items. Five travel experience factors were derived from the factor analysis of 17 travel experience items. They were labeled as 1) tourism attraction 2) people & local hospitality 3) services & facilities, and 4) safety & cleanliness. Among them, tourism attraction was the most favorable travel experience factor (mean=4.20). In this study, all travel experience factors had eigenvalues greater than 1.0, and

the items in each dimension had a factor loading greater than 0.4. In addition, Cronbach's alpha was calculated to test the internal consistency of items within each factor. The test showed that the alpha coefficients for the five factors ranged from 0.73 to 0.88, well above the minimum value of 0.6 as an indication of reliability (Hair et al., 2006). Thus, all five satisfaction factors were retained for the final structure for regression analysis.

**Table 5** Regression analysis of travel experience factors on destination loyalty

Travel experience factors	Beta	t-value	Sig.	Multicollinearity (VIF value)
1. Tourism attraction	0.35	2.28	0.00*	1.28
2. People & local hospitality	0.26	2.31	0.00*	1.42
3. Services and facilities	0.11	0.78	0.68	1.11
4. Safety and cleanliness	0.22	0.82	0.01*	1.34

$R^2 = 0.531$

Adjusted  $R^2 = 0.524$

Table 5 shows the finding of regression analysis and its coefficients (beta) indicating the relationships between independent variables (travel experience factors) and dependent variable (destination loyalty). The finding is expressed in terms of beta coefficient, which is a standardized regression coefficient that allows for a direct comparison between coefficients as to their relative explanatory power of the dependent variable (Hair et al., 2006). The finding indicates that 1) tourism attraction, 2) people & local hospitality, and 3) safety &

cleanliness had the impacts on destination loyalty ( $p<0.05$ ), and their relationships were positive. Among the three values of coefficient, the tourism attraction is a more powerful variable (coefficient = 0.35) than the other two variables in explaining tourist loyalty. This may suggests that tourism attraction is the most important factor influencing tourist loyalty to Bangkok, followed by people & local hospitality (coefficient = 0.26) and safety & cleanliness (coefficient = 0.22). This may imply that the respondents who have positive travel experience

with these three factors are more likely to revisit Bangkok or recommend Bangkok to others. However, the travel experience like services & facilities was not found to be associated with the destination loyalty in this study. This suggests that this factor is not a significant explanatory variable in destination loyalty. Table 5 shows that the VIF values ranging from 1.06 to 1.47 (less than max value of 10) (Hair et al., 2006). This indicates that the regression model used in this study is acceptable to determine the effect of independent variables on the dependent variables.

### Discussion and Recommendation

This study had the objective to investigate the impact of travel experience on destination loyalty in Bangkok by focusing on international tourists. The finding of the study contributes to gaining a better understanding on the determinants of Bangkok loyalty. According to the results, travel experience in relation to tourism attraction, people & local hospitality, and safety & cleanliness were found to have the significant impacts on the destination loyalty in a positive direction. This result is similar to previous studies (McDowall & Ma, 2010; Thiumsak & Ruangkanjanases, 2016) indicating that tourism attraction such as culture, tourist attractions, and temples play an important role in drawing international tourists in visiting Bangkok. In particular, people and local hospitality also were found to have the influence on tourists' intention to revisit Bangkok. This finding corresponds to previous research in Thailand and international

context (Kim & Brown, 2012; Thiumsak & Ruangkanjanases, 2016) revealing that local people is an important factoring influencing tourists' likelihood to revisit the same destination such as Thailand, Malaysia and Australia. For instance, disclosed that the friendliness of local people is the important destination attribute related to destination loyalty in Malaysia. Given past studies on this related topic, they could help justify in that Bangkok is the capital of Kingdom of Thailand. It is one of the oldest capitals in the ASEAN countries. Being the capital and the tourism hub of the country, Bangkok has a wide range of tourist attractions such as the Grand Palace, old temples, cultural/historical attractions, and entertainment activities. Moreover, past research (McDowall & Ma, 2010; Thiumsak & Ruangkanjanases, 2016) has indicated that the friendliness of local people as well as Thai hospitality from tourism services generate high tourist satisfaction. Given a variety of tourist attractions, the friendliness of the Thai people as well as a better tourist security in the current situation (2015 - 2016), it is not surprising that a number of international tourists revisit Bangkok and spread their positive word-of-mouth about Bangkok and Thailand to others.

Based on the current findings, the government and local authorities are therefore the key players in order to promote international tourists' revisit to Bangkok. They may work together to establish Bangkok's tourism plans and strategies in order to manage these attributes (i.e. tourism resources, Thai hospitality, and safety). For instance (for a short plan),

in order to maintain and manage Bangkok's tourism resources (e.g. cultural/historical attractions), protection policy, conservation plan, and legal action should be seriously taken into consideration. These resources should be inspected and monitored to ensure they are well maintained by related parties (McDowall & Ma, 2010). In particular, the sustainable management approach should be emphasized/implemented in the current plan as well. In addition (a long plan), the government and local authorities should build the awareness and campaign for local people (including residents, vendors, service staff) for being the good hosts in welcoming and assisting foreign visitors in Bangkok since the study indicated that people and their hospitality/friendliness had the impact on destination loyalty. Regular campaigns or related activities may be established to build a good relationship between them such as food festival, cultural events or other social events. Also, safety & cleanliness should be attended. For tourist safety, local authorities and tourism polices should closely work together by providing more channels/information for emergency contact and having officials regularly visit the tourism sites throughout the city. City cleanliness is

also a big issue for Bangkok. The major party like Bangkok Metropolitan Administration (BMA) should be a key player to cope with this problem. The city planning for garbage issue should be highlighted in terms of staff and garbage bins in major tourist attractions throughout the city. Furthermore, a concept of "Green Bangkok" or "Keep Bangkok Green" may be campaigned (through various media) and undertaken among local people, business sector and tourists to reduce the garbage problem.

As for the research limitations, this study used a convenience sampling method and the results obtained may not be generalized to the overall international tourists to Bangkok. Future research may compare the result of each major markets visiting Bangkok such as Asia, Europe, Oceania, and North America to increase the generalizability of the finding. In addition, there may be some other factors affecting destination loyalty such as destination image and travel motivation. Thus, it is advisable for future studies to investigate these factors on the relationship with destination loyalty to gain a better understanding on the determinants of destination loyalty in Bangkok.

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## THE IMPACT OF STORYTELLING ON LUXURY VALUE PERCEPTION OF A BRAND GOYARD CASE STUDY

อิทธิพลของการเล่าเรื่องในการตลาดต่อการมองคุณค่าของสินค้าลักชัวรี่ของผู้บริโภคชาวไทย  
กรณีศึกษา แบรนด์ GOYARD

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### Abstract

Luxury brands are gaining wide acceptance and recognition in Thailand. Each brand is competing with each other to strive to be crème de la crème in the market. In order to be on top, luxury brand must create its luxury value. With luxury marketing tools such as storytelling, a brand can increase its luxury value and become more aware, desirable and precious to those who heard a storytelling. A heritage brand is a brand that performs well with storytelling, with its longevity, history, core value, symbol and track record, a brand will be able to generate an effective storytelling. By choosing a low awareness fashion luxury brand with heritage, Goyard to demonstrate a relationship between storytelling and luxury value perception, this research will clarify the impact of storytelling on each dimension of luxury value perception that can enable luxury marketers to utilize their resources and marketing tools in order to create sustainable and desirable luxury brand. This research will help indicate the way luxury marketing should focus on storytelling and how it should be done in Thai luxury market. Result from this study shown value that increases most from storytelling is financial value as well as luxury value regardless to level of brand awareness of consumer. Therefore, local value also plays a critical role in positioning judgment and storytelling must be applied at the right place and in the right time.

**Keywords:** Luxury Value Perception, Storytelling, Value Perception, Luxury Marketing

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## บทคัดย่อ

ในปัจจุบันนับวิธีเสริมได้ว่า สินค้าลักชัวรี่แบรนด์กล้ายเป็นสินค้าที่ผู้บริโภคหลายๆ คนให้ความสนใจมากขึ้น และในตลาดเองก็มีลักชัวรี่แบรนด์มากหลายแบรนด์ให้ผู้บริโภคเลือกใช้ แต่การที่จะทำให้แบรนด์มีความโดดเด่น หรืออยู่ในผู้บริโภคได้นั้น เป็นเรื่องที่ท้าทายพอสมควร เนื่องจากลักชัวรี่แบรนด์นั้นมีราคาสูง ผู้ทำการวิจัยได้สังเกตเห็น การทำการเล่าเรื่องมาใช้ในการตลาดของหลายๆ แบรนด์ จึงเกิดความสงสัยว่าการเล่าเรื่องจะใช่สิ่งที่ทำให้ลักชัวรี่ แบรนด์นั้นๆ มีคุณค่าเพิ่มขึ้นจนทำให้ผู้บริโภคตัดสินใจซื้อหรือไม่ โดยได้เลือกแบรนด์ Goyard ที่ไม่ค่อยมีผู้รู้จักมากนัก มาเป็นกรณีศึกษา ด้วยตัวแบรนด์มีประวัติความเป็นมาและใช้การเล่าเรื่องเป็นส่วนประกอบในการทำการตลาด ผลจากการวิจัยนี้จะช่วยให้นักการตลาดในธุรกิจลักชัวรี่แบรนด์สามารถเพิ่มประสิทธิภาพในการทำการตลาดผ่านการใช้ เครื่องมือ เช่น การเล่าเรื่องมาสอดแทรกในเนื้อหา เพื่อสร้างคุณค่าให้กับแบรนด์ในประเทศไทย โดยจากการวิจัยทำให้ ได้ผลสรุปว่า การนำเรื่องเล่าของแบรนด์มาใช้ทางการตลาดนั้น ทำให้คุณค่าของแบรนด์เพิ่มขึ้นโดยเฉพาะในด้านราคา ทั้งในกลุ่มผู้ที่รู้จักแบรนด์เองหรือเพิ่งรู้จักแบรนด์เองก็ตาม ทั้งนี้การนำเรื่องเล่ามาใช้ในการตลาดควรจะดำเนินกิจกรรมในสังคมนั้นๆ เพื่อค้นหาปัจจัยที่สำคัญที่สุดที่สามารถกระตุ้นมุ่งมองเพื่อเพิ่มคุณค่าของแบรนด์ให้กับผู้บริโภคต่อไป

**คำสำคัญ:** คุณค่าของลักชัวรี่แบรนด์ การเล่าเรื่อง การตลาด สินค้าแบรนด์หรู

## Introduction

Luxury brands are gaining wider recognition and acceptance in Thailand, which can be seen by people carrying luxury bags, wear luxury clothes, shoes or watches on the street or even an appearance of luxury bags in Thai dramas. As the awareness of luxury brands is increasing, and is not considered as something preserved for specific groups anymore. On the other hand, luxury brands are also perceived in different aspect, from the research of Tovikkai and Jirawattananukool in 2010 which study luxury brand consumption of university students and result in different aspect of meaning of luxury as follow: great confort and extravagant items, expensive and unnecessary items but desire, best quality items, very selective and exclusive items and others. Since there are various luxury brands launching their boutiques in Thailand and customers are becoming more

selective which result in an issue of how can luxury brands stay on the top of customers' minds and how to increase their value. There is only one-thing makes luxury brand different from mass brands is its heritage and brand universe (Azam, 2015), which can be expressed through storytelling. Storytelling is the way to differentiate a luxury brand and the best way to stand out in the crowded, competitive marketplace for luxury experiences and goods is to have the best story as story is the tool to show that a brand is authentic, precious and ultimately, human (Abboud, 2015). But how does it affect the brand and in which aspect of luxury value, that is what this study will try to find out.

## Literature Reviews

To be able to demonstrate a relationship between luxury value perception and storytelling,

first must understand the concept of luxury value, which a study of Hennings, Siebels and Wiedmann in 2007 has described the 4 majors dimensions of luxury value which are: financial value, functional value, individual value and social value as shown in figure 1. In each dimension shows small components that help build up each dimension's value which are in different number.

In financial dimension, it addresses mainly about monetary aspect which mostly shown as price. For functional dimension, it seeks for product utility, quality and uniqueness of the product. Next, individual dimension focuses on customers' personal matters that they get when consuming the product such as self-identity, hedonic and materialistic value. Last, social dimension indicates perceived value which

individual acquires from others that include conspicuousness and prestige value (Singh & Sonnenburg, 2012). Storytelling has been a kind of communication for long time and also use as a powerful marketing tool especially for luxury brand. To describe how powerful storytelling is, Barny (2013) has stated out that great storytelling and branded content allows the luxury brand to be seen as individual and confident, sharing the dream of the brand, not aggressively just pushing the product, which allow the brand to be easier to remember and recognize. Therefore to create a great storytelling, one must combine of the follow element from the research of Singh and Sonnenburg in 2012, a good story telling must complete with the following elements: awareness, recall, good feeling, and meaningful.

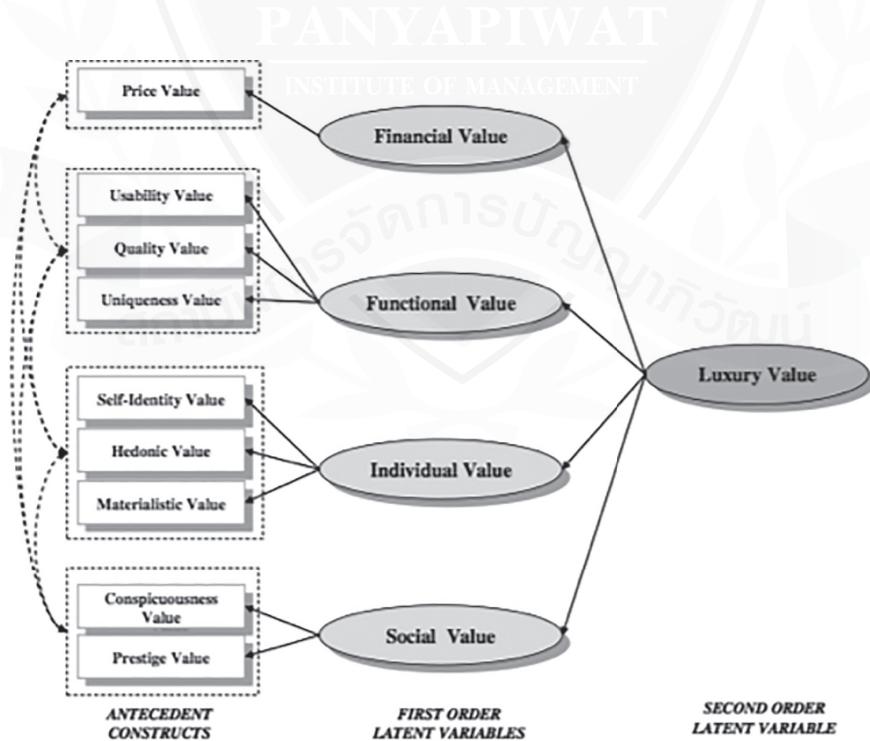


Figure 1 The conceptual Model of Luxury Value Perception

Storytelling can't be told without a story to tell. Therefore, a luxury brand with heritage is very likely to success with their use of storytelling. To diversify a luxury heritage brand from all luxury brands, Urde, Greyser and Balmer (2007) has presented a brand stewardship with elements that heritage brand needs as follow: longevity and consistency, core values, use of symbols, history as an important part of identity and track record of brand activities that lived up to its value and promises over time. An evidence of relationship between luxury value perspective and storytelling has been shown in an example of Chanel's 'Inside Chanel' campaign, with its consistency, core value, use of symbols, history and track record of brand

enable Chanel to create a set of online videos posing consistently on Chanel's website, telling their history and heritage from the story of symbol, their infamous Chanel No. 5 perfume, the black jacket to Coco Chanel's works and design which won Luxury Daily's 2013 Luxury Marketer of the year for the measured attention it paid in multiple consumer segments, strong use of video and advertising flair in luxury publication, all guarantee for Chanel's position at top of the mind of consumer and luxury value its has created. "Each piece of communication and marketing was an another link in the grand construct of the Chanel story said Mickey Alam Khan, editor in chief of Luxury Daily in 2013.

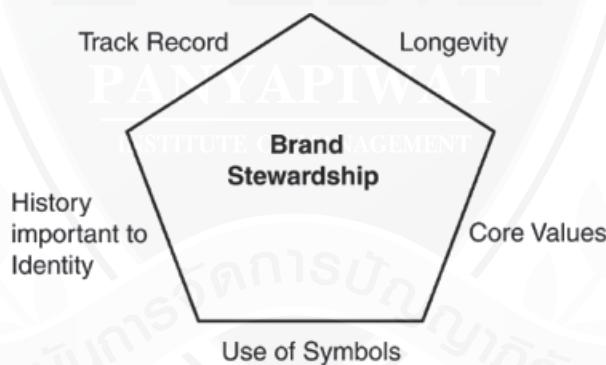


Figure 2 Heritage Brand

## Research Objectives

1. To understand the relationship between storytelling and luxury value perception of Thai customers
2. To identify the strength of storytelling in luxury marketing, especially in Thai market.
3. To utilize luxury marketing tool and create a suitable way of marketing for Thai customers.

## Methodology

Researcher uses heritage brand filter from Urde, Greyser and Balmer's study in 2007 and a storytelling marketing tool available option to choose a case study for this research, which Goyard, a luxury French trunk-maker house is selected. With its heritage, founded in 1837, and always emphasizes in craftsmanship and also

keep the production line in a traditional way, including well use of its symbol, the signature print ‘Goyardine’ which appears on its product and helps the brand stands out from its competitors, and a list of a-list clientele such as Coco Chanel, Pablo Picasso, Edith Piaf, Jean Lanvin to Karl Lagerfeld make Goyard one of luxury heritage brands.

The brand’s storytelling video and information are used to create a set of questionnaire, which divided into 3 sections: general information, which will collect sample information of gender, age, education level, occupation, monthly income and their meaning of luxury; Goyard case study which will be dedicated to Goyard with a set of questions to investigate the pre-storytelling perspective of sample toward the brand itself in the first half and in the second half will help discover luxury value perspective of sample toward Goyard after storytelling by giving a statement sentence that related to each value dimension.

The number of sampling is 100. They are easy samplings and acquired via Facebook and acquaintances. Therefore, the ratio between male and female as well as age range are somehow controllable which is predict to be between 21 – 27 years old as a primary group but researcher can control their nationality as all of them are Thai people. Background such as education, family, economic and taste of samplings are partly alike as some of them may share the same background. Most of

sampling will be those who are in their first job with not too high salary but also spend their money on some luxury product and/or masstige product.

SPSS Program and Gretl are used to analyze data as well as OLS regression to find the most effective storytelling proxy that has an impact on each luxury value perception.

### Research Findings

From the first part of questionnaire, which had collected general information of samples, show that the ratio between men and women is 37:63 with the average age of 28.8 years old. The oldest age of sample is 61 while the youngest is 19 years old. 56 sample are Bachelor degree graduated, 42 are Master degree graduated and 2 are Ph.D. graduated. 26 samples’ monthly income is below 20,000 THB, while the large group belongs to 50,001-80,000 THB and only 13 samples have monthly income of more than 80,001 THB. For meaning of luxury, 36 sample are convinced that luxury is something extravagant, desirable and provides you great comfort but not necessary, follow by 33 samples agree that luxury is something very selective, exclusive, rare and is only preserved for a specific group of people, 16 samples believe that luxury is something expensive with high quality but not very functional and the rest of sample agree on something emotional with history, craftsmanship and heritage.

**Table 1** Cross tabulation, by Brand Awareness Level, Luxury Meaning and Income.

Knowing Goyard			Income				Total
			Below 20k	20k - 50k	50k - 80k	Above 80k	
Yes	Luxury	Extravagant not necessary	0	4	1	2	7
		High quality not functional	2	1	0	0	3
		Emotional with heritage	0	5	1	1	7
		Selective for specific group	1	7	4	1	13
		Total	3	17	6	4	30
No	Luxury	Extravagant not necessary	8	16	1	4	29
		High quality not functional	7	4	1	1	13
		Emotional with heritage	3	4	1	0	8
		Selective for specific group	5	11	1	3	20
		Total	23	35	4	8	70

While looking to second part of questionnaire, researcher asked if sample aware of the brand or not and shows that only 30 samples know Goyard and 70 samples never heard of it. With a picture of Goyard trunk given in the questionnaire, sample are questioned their thoughts about the luxury aspect of the trunk. The result shown that the group that know Goyard gives a very high score at 4.8 from 5 while another 70 sample gave out an average score of 4.08. And when ask if samples want to know more about Goyard brand after seeing the Goyard trunk photo, an aware sample gave out 4.13 while an unaware sample gave out 3.57 from 5.

In the questionnaire, researcher has put a little brief history of Goyard brand to test if

telling story directly affects sample's interest in the brand or not which is separated into 5 questions: Goyard's origin, Goyard's achievement, Goyard's clientele and Goyard's exclusivity. The result shown that Goyard's clientele made the highest average score with 4.27 from 6 from all samples while the lowest score belongs to Goyard's French origin.

From above question, researcher suspects a similarity of given score between 2 groups that an unaware group always give out lower score than an aware group.

In the next part, researcher let samples watch the storytelling video of Goyard that emphasized heritage and craftsmanship of the brand. With luxury value perspective proxies and storytelling element proxies, researcher

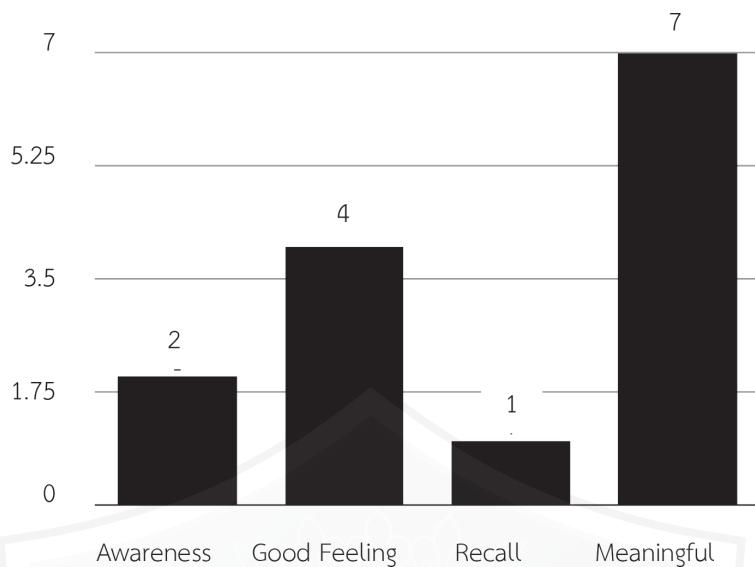
finds the relevant between them which shown in table 1. The most recognized value overall samples got after the storytelling is price value which scored 4.67 from 5 and follow by quality value at 4.45 while the least score goes to self-identity value at 3.78.

While separating sample in to an aware group and an unaware group, an aware group always gives out a higher score than an unaware group except for price value, which is 0.14 higher, and also the highest score an unaware group gave out at 4.94. The highest score an aware group gave out. On the other hand, the lowest score from an aware group goes to individual value (Own Goyard bag is always in style) and from an unaware group goes to individual value (Own Goyard bag is satisfying). When combining all score of statement of each value into price value, financial value, individual value and social value, the highest mean belongs to price value at 4.7 and 4.66 from an aware group and an unaware group and the lowest goes to individual value at 4.22 and 3.88 as follow.

With a question given to sample both pre and post video viewing of luxurious of Goyard, the result shows that both aware group and unaware group luxury value scores are increasing dramatically, especially with unaware group

that went up from 4.09 to 4.6, to summarized, storytelling affected customer's luxury value perspective toward Goyard. To find out what is the most effective storytelling proxy on luxury value perception, OSL Regression is involved. When run overall luxury value against each element of storytelling, the result shown as feel good, recall and good meaning is what that affect luxury value most.

After finding all the significant factors of storytelling proxies toward luxury value perception in each aspect as well as overall. The most repeated significant factor is meaningful which impacts 7 luxury value perceptions include: price value, utility value, quality value, hedonic value, materialistic value, conspicuousness value and prestige value as well as the overall luxury value. Follow by good feeling as the second most repeated significant factor with 4 luxury value perceptions include: utility value, uniqueness value, self-identity value, hedonic value and overall luxury value. The third most repeat significant factor is awareness which impact to 2 luxury value perceptions: self-identity value and conspicuousness value and lastly, recall which is significant only to 1 luxury value perception, which is price value as shows in the figure 3.



**Figure 3** Count the Repeat of Significant Factors to enhance Luxury Value Perception

## Conclusion

Knowing Goyard and not knowing Goyard brand has a relationship with increasing of luxury value perception of the brand as before watching storytelling, the first group who know Goyard scores 4.8, while the second group who doesn't know Goyard scores 4.09 and both score of luxury value perception of both group also increase after storytelling by the first group has increased 0.07 to 4.87, while the second group has increased dramatically from 4.09 to 4.5. This can concluded that storytelling does have an effect on luxury value perception of customer.

When focus on which luxury value perception aspect that is affected most by storytelling, the result show on both groups to be price value as well as the overall score of all 100 samples give the most agree statement to price value, while the least affect luxury value perception is self-identity value.

In order to increase price value of Goyard brand by using storytelling, brand must strengthen their storytelling's recall and meaningful element as price value is the most affected luxury value perception which brand should focus on in order to be more valuable toward luxury consumers. In the other hand, the brand can also adopt the result to improve their weakness of luxury value perception, which is self-identity value by focusing on awareness and feel good element to boost self-identity value level.

To be concluded, storytelling in luxury marketing has a positive impact on luxury value perception of luxury consumer. Luxury marketer can adopt their storytelling campaign from this research from the discovered data such as the most impacted luxury value perception by designing the right element of storytelling and the right content of luxury value perception.

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## 商业模式创新的特点对创业型企绩效的影响研究 ——以中国新三板挂牌企业为例

### THE INFLUENCE OF BUSINESS MODEL INNOVATION ON THE PERFORMANCE OF ENTREPRENEURIAL ENTERPRISES: A STUDY OF THE NEW THIRD BOARD LISTED COMPANIES IN CHINA

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#### 摘要

通过定量分析, 本研究在互联网和大数据发展背景下, 选择中国新三板创业型企业为样本, 以问卷调查和企业年报数据相结合, 通过多元回归分析方法, 对创业型企业商业模式创新与企业绩效的关系进行实证检验。结果表明: 商业模式创新能提升创业型企绩效。并提出了积极实施商业模式创新, 拓宽市场占有率, 完善企业盈利模式, 是创业型企业能够持续稳定发展的建议。

**关键词:** 商业模式创新, 创业型, 企业绩效

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#### Abstract

This research, in the context of Internet and development of big data, is sampled on Chinese NEEQ-listed enterprises, and carries out empirical test on the relation between the business model innovation of entrepreneurial enterprises and enterprise performance by combining questionnaire and annual statements and employing the multivariate regression analysis. The results indicates that innovation of business model contributes to the performance of entrepreneurial enterprises. The research proposes that the sustained and stable development of entrepreneurial enterprises depends on innovating business model, expanding market share and improving business profit model.

**Keywords:** Innovation of Business Model, Characteristics, Performance of Entrepreneurial Enterprise

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## 一、引言

中国新三板即中小企业股份转让系统 (NEEQ) 是中国资本市场改革的重要举措, 是中国现阶段最主要、最规范的场外交易市场。它不仅是一个全国性的 P2P 市场, 而且能够为创业期、成长期的中小企业提供直接融资服务的平台。由于新三板对挂牌企业要求门槛比较低, 采用备案制而不是核准制; 企业挂牌后可通过实施定向增发股份等形式, 不仅可以帮助企业快速融资, 而且能够有效提高公司信用等级。新三板市场另一个特点是形成一个较为透明的估价平台, 企业挂牌后, 即使不转让股份, 资本市场也会对挂牌公司进行重新估价, 而挂牌企业则可以根据估值价格进行内部融资或者内部做股权激励, 以提升公司的融资绩效。

为加快经济转型, 加大对创业型企业的扶持力度, 2012 年后, 中国政府加大新三板市场改革力度, 在将新三板扩容至全国并成为第三家全国性证券交易场所之后, 又分别推出了新三板成指、做市两套指数, 激发了创业型企业的创新活力, 促使在新三板挂牌的企业实现了爆发式增长, 而同期新三板指数涨幅也明显超过了沪深主板市场, 新三板市场挂牌企业数量、融资规模、交易规模和并购数量等都实现了急速增长。截止到 2015 年底, 新三板挂牌公司一共有 5129 家, 总股本 2959.51 亿股, 流通股本 1023.63 亿股, 总市值 84.42 亿元, 市盈率 47.23 倍。

从融资角度看, 新三板市场主要是为创业型中小企业解决融资难的问题, 同时也是为了活跃民间投资, 为广大投资者提供了一条新的投资渠道。而从行业结构看, 新三板挂牌企业包括智能制造、新一代信息技术、新材料、新能源、生物产业、节能环保等战略性新兴产业, 覆盖 WIND 里所有 10 个一级行业, 其中工业、信息技术两个板块总数占比达 60%, 集中度较高; 同时, 高新技术企业占比约 77%, 符合新三板服务创新创业型企业的定位。

通过文献检索和阅读发现, 对新三板企业的研究大多集中在产品研发、智力资本、团队特征和融资绩效等方面的研究, 而对商业模式及创新与企业绩效之间的关系研究较少。对于创业型企业来说, 决定企业能否发展的因素可能很多, 如企业的产品优势、技术优势或服务优势等因素, 但核心因素则取决于是否有好的商业模式来获得较好盈利, 以保障企业的生存发展。新三板挂牌企业是中国创业型企业中较为成功的代表, 而且在创业导向、产品研发、商业模式创新、企业管理等方面都敢于大胆改革, 在不断提升企业绩效等方面都有较好成效, 有着较大地社会影响力。研究这些企业在商业模式创新方面对提升创业型企业绩效的影响作用, 有利于更好地指导创业型企业的发展。

## 二、研究目的及研究方法

研究目的是实证检验商业模式创新是否能提升创业型企业绩效。随着互联网技术和大数据思维的快速发展, 新兴产业、新的技术和新的消费行为等因素已突破传统模式, 在给新创企业带来新商机同时, 也带来了更严峻的困难和挑战。在新业态发展环境下, 各国学者开始关注对商业模式创新与创业型企业绩效之间关系的研究, 并取得一定的研究成果。然而在中国, 随着移动通讯网络环境的不断完善以及智能手机的进一步普及, 移动互联网应用已深入渗透政府、社会、企业和个人的工作和生活需求之中, 这也为创业型企业开展商业模式创新提供了可能。实际上, 中国创业型企业开展商业模式创新已取得了较大突破, 有的模式甚至还引起国外企业的模仿。但是中国在研究商业模式创新能否提升创业型企业绩效方面的理论成果不多, 系统性还不够完整, 无法较好地分析本国创业型企业的商业模式创新的特点和企业绩效之间的关系, 因此对如何引导本国创业型企业更好发展也存在一定不足。本研究将采用问卷调查、

统计分析和多元回归分析等方法分析商业模式创新与创业型企业绩效之间的关系。

## 二、文献综述

### (一) 商业模式创新的概念

商业模式 (Business Model, BM) 能受到学术界和企业界广泛关注并得到深入研究 (George & Chapman, 2006; Teece, 2010), 是跟随以互联网为基础的新经济迅速崛起而产生的。1998 年, Timmers (1998) 首次正式提出商业模式概念并进行了系统定义, 他认为商业模式是一个有机系统和结构框架, 集中反映了企业的产品、服务、信息、合作者、利益相关者的价值。根据不同研究角度, 也有学者是从企业获取利润视角定义商业模式, 把商业模式理解成企业获取利润的经济逻辑, 以此来研究企业成长。Sterwart & Zhao 等 (2000) 认为, 商业模式是企业的特定经济逻辑, 目的在于持续提高企业经营收入和利润。Rappa (2003) 从收入视角来研究商业模式, 将如何获得持续收入作为检验企业发展的依据, 这是企业明确自身在价值链中间的定位, 并发挥自身竞争优势, 推动企业成长的手段。Osterwalder & Pigneur (2005) 认为, 商业模式是一种商业逻辑, 主要描述了企业的客户价值主张、顾客价值创造与传递以及企业的价值获取过程。刘艳巧 (2008) 认为, 商业模式是指完成企业盈利和良性发展的目标的一个系统。原磊 (2007) 从动态视角研究, 认为商业模式是一个概念性工具, 反映的是企业在对内部关联性变量经济逻辑、运营结构和战略方向等进行如何定位和整合的过程, 体现企业对价值主张、价值网络、价值维护和价值实现四个方面的因素特别规划, 并在确保创造顾客价值的基础上, 也能保证为股东和其他利益相关者创造价值。

创新是推动社会发展的核心要素。近年来, 随着互联网技术和大数据的飞速发展, 相关学者对

商业模式的研究逐步开始从对商业模式定义、构成要素、分类体系等问题转向对商业模式创新问题的研究, 并在商业模式创新动力、创新途径、创新实施和创新阻力等方面形成了一定研究成果。“创新”概念最早由 Schumpeter (1934) 提出, 并从技术视角把创新分为产品创新、技术创新、市场创新、资源配置创新、组织创新等五种创新。但创新并不一定创造价值, Chesbrough & Rosenbloom (2002) 等技术创新研究学者, 逐渐认识到技术的潜在经济价值必须通过商业模式创新来实现, 于是把注意力从技术创新转向对商业模式创新的研究。Hamel (2000) 认为商业模式创新是企业层面的一种战略行为, 企业之间的竞争体现的是商业模式竞争, 不同企业循环发展的创造性破坏和激烈的商业模式创新, 是推动行业发展的重要动力之一。Markides & Sosa (2013) 指出, 商业模式创新是“为了引入可盈利商业模式而打破既有游戏规则”。Zott & Amit (2010) 从资源整合角度理解商业模式创新, 认为这种创新就是企业通过重组资源和合作伙伴, 重新设计新的运营系统或改良原有营运系统, 以新的规则来占有市场和获得利润。

有关学者虽然对商业模式创新的概念、构成要素、创新动力、创新途径、创新阻力等问题进行了广泛研究, 但仍然没有形成较为系统的理论。虽然有的学者认为商业模式已是一门融合了技术创新学、战略学、营销学等不同学科内容的一个新兴管理学独立交叉学科 (王雪冬, 董大海, 2012), 但这个观点仍旧处于探讨阶段, 也缺乏对在中国情境下商业模式创新的研究和思考。而同时, 技术创新学、战略学、营销学等各个学科的学者则又从自身学科背景出发, 对商业模式创新研究提出了不同研究思路 (Aspara, 2010), 分析这些研究成果, 可以发现商业模式创新存在一些特点: ①“商业模式创新”是一种全新类别的创新, 它不同于技术创新、产品创新、流程创新等传统创新, 这既是思

维范式创新和理念创新，又是企业内部一种非常规的长期性特殊战略变革行为，“创新”则是它的本质属性。②商业模式创新不是某种产品和服务层面的简单改良，而应该理解为针对企业整体发展一种战略变革态势，需要企业科学谋划和精心组织。③商业模式创新既可理解为极具颠覆性的创新，也可以理解为破坏程度较大的侵入式创新。这类创新往往以激进式的方式颠覆传统行业的基本假设和竞争规则，建立起有利于自身发展的新竞争规则。而一旦这种激进的冒险取得成功，创新企业便有可能获得快速成长。④商业模式创新是一种动态发展的创新，它不仅是商业模式内部构成要素各个环节的系统创新和重新组合的过程，而且也会发生在企业发展不同过程中的创新。根据中国情境和新三板创业型企业发展情况，在文献梳理和分析基础上，本研究借鉴 Osterwalder & Pigneur (2005) 在商业模式创新方面的研究成果，将客户价值主张、顾客价值创造与传递以及企业的价值获取作为测量的三个维度进行研究，以探讨商业模式创新不同维度对创业型企业绩效的影响。

## （二）创业型企业绩效的概念

企业绩效是学术界和企业界长期关注和共同研究的重要内容，关系到每个企业的发展和成长。管理学大师彼得德鲁克在《卓有成效的管理者》一书中认为绩效是“直接成果”。Thomas & Pollock (1999) 提出理解和控制绩效是战略管理领域区别于其它组织科学的主要方式。Meyer (1991) 认为，在战略管理研究中，企业绩效是绝对的因变量，如果我们研究的问题没有明确指出它与企业绩效的关系，那么它就不具研究意义或者根本不重要。Hovakimian & Kane (2000) 认为，绩效是与工作目的相对存在的工作成果，这个成果是可以测量的。

对创业型企业的研究，由于思考的角度不同，所以不同学者对其概念的界定仍旧存在不同看法。从现有研究成果分析，对创业型企业的研究主要

关注企业的创业过程、时间年限以及在不同阶段表现出来的特点，并形成相关定义。Miller (2001) 从企业创业风险和产品创新关系给创业型企业定义，认为高风险创业的重要特征，也是决定企业是否为创业型企业的主要依据，这是其它类型企业无法比较的。Shane & Venkataraman (2000) 将企业生命周期和规模效应纳入研究视角，将创业型企业定义为如何在竞争市场上及时做出与其发展匹配的战略对策。王书卿 (2007) 认为创业型企业是不断在市场环境寻求突破自我、追寻更大效率的愿景，以及自身运作实际能达到什么程度的竞争水平，这企业在市场运作中树立竞争力的过程。贺小刚和沈瑜 (2008) 从企业寿命年限角度研究，认为创业型企业存在一个分界点，在分界点以内企业能获得突破发展机遇，一旦越过分界点，企业因追求稳定而趋向保守。丁岳枫 (2006) 从企业创业精神角度入手，认为创业精神上的差异是区别创业企业与传统企业主要依据，这可以从企业面对市场竞争时的风险承担性和快速灵活性等方面得到反映。

对绩效的研究有不同角度，从管理学角度研究，绩效是组织为实现其目标而追求的有效输出，涵盖个人绩效和组织绩效。从经济学角度研究，绩效主要探讨员工和组织之间的对等承诺关系能否通过绩效与薪酬实现。从社会学角度研究，绩效则体现社会成员如何按照分工所确定的角色去承担相应的职责。对于绩效，有的认为是结果，有的认为是行为，有的认为是能力，也有的认为是一个动态的发展过程。

而企业绩效是指一个多层次的概念，不同的研究视角会提出不同的测量方式。绩效测量指标主要运用的是财务指标和非财务指标。财务指标侧重于对企业财务报表或会计结算中相关指标进行测量，这些指标主要是销售额增长率、利润率、资产回报率等，在测量中经常使用的 TobinQ (Miller

& Breton-Miller, 2011) 就是这样的指标; 非财务指标测量内容主要包括从市场份额、顾客满意度、总体目标实现程度、以及企业社会责任等内容。

从企业发展生命周期理论看, 创业型企业(也称新创企业) 处于企业发展生命周期早期阶段, 创业绩效就是衡量创业型企业发展状态的一个重要指标。Venkatraman (1986) 认为, 创业绩效是指由众多的相关性影响因子构造而成的复杂生态系统。大多数学者从管理学视角研究创业绩效, 从创业绩效的战略性、评价方法的选择性和绩效指标的构造性通去研究系统的内在发展逻辑, 以确保评价的可行性和科学性。Ruekert & Walker 等 (1985) 认为, 效能 (Effectiveness)、效率 (Efficiency) 及适应能力 (Adaptability) 是测量创新型企业绩效的基本评价指标。张玉利 (2010) 等人认为, 绩效作为核心衡量标准, 是衡量创业型企业成功与否的重要依据, 在企业内, 不仅要依据新创企业自身的财务数据, 合算投资回报率等财务指标, 而且还要通过对企业外竞争对手的微观比较, 寻找差距, 才能有效判断创业新企业绩效, 并对企业所处行业的位置及水平有客观的评价。结合学者研究结果分析, 多数学者常使用销售增长率、投资收益率和获利率等财务指标研究创业绩效, 有的学者则在非财务指标方面, 将员工满意度、员工数增长速度和顾客忠诚度等用来测量创业型企业绩效。

互联网和大数据的发展, 使越来越多学者开始关注到商业模式创新会给创业型企业绩效或竞争带来一定优势, 也认为创业型企业要持续改善绩效, 采取商业模式创新就是其关键因素之一, 这对于帮助创业型企业明确市场定位、降低生产成本、避免生存困境、实现企业稳定发展具有重要的意义。Magretta (2002) 认为, 商业模式创新是融入在企业绩效中的重要环节, 也会对创业型企业绩效产生显著影响。对比传统企业经营方式, 商业模式创新会打破原有规则和边界, 形成新企业间竞

争标准, 会对创业型企业竞争优势产生明显影响。王伟毅和李乾文 (2005) 认为, 商业模式的结构具有系统性, 这个特点创业型企业可以通过分析和诊断自身商业行为中存在的问题或缺陷, 进而以新的商业模式有效地加以解决或完善, 这一方面可以提高创业活动的成功率, 另一方面也可以提升创业型企业绩效。

根据以往研究成果, 对于创业型企业绩效的概念, 主要是从企业生命周期发展的角度, 在企业发展的各个环节关系中, 去研究这些过程对创业型企业成长的影响, 还缺少统一的认识, 也缺少统一的标准。根据研究, 多数学者也认为商业模式创新会对创业型企业绩效产生显著影响, 但对这种影响的研究, 也因为不同学者采用不同的视角而带来一定的研究差异和不同的认识。商业模式创新能够影响企业间的绩效差异, 而这些企业绩效会在盈利能力、成长性和运营效率等方面反映出来, 这基本得到学者们共识。然而, 对商业模式创新如何影响企业绩效? 如何评价和测量商业模式创新与创业型企业绩效之间的关系等问题的研究仍旧处在探索阶段, 要认真研究这样的变化, 既需要不同的视角, 也需要融合不同学科知识和研究方法, 综合运用财务指标和非财务指标等指标, 深入分析商业模式创新和创业绩效间的关系, 为中国创业型企业发展提出一些合理建议。本研究拟将财务和非财务测量指标综合运用于研究之中, 对创业型企业绩效的两个维度: 财务绩效和成长绩效进行实证分析和验证。

### 三、研究假设

互联网技术和大数据运用是创业型企业开展商业模式创新一个有力推手。为了便于研究, 本研究将互联网技术和大数据运用纳入到创业型企业的创业环境之内, 并与企业年龄、企业规模等同时设置为控制变量, 为的是重点研究商业模式创新

对创业型企业绩效的影响。

本研究拟采用多元回归分析重点考察被解释变量——企业绩效与解释变量——商业模式创新之间的关系，并建立模型如图 1 所示：

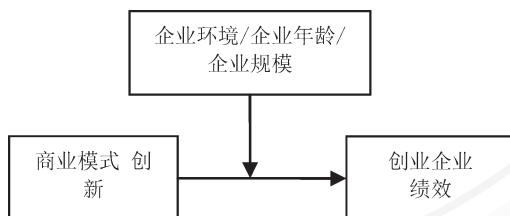


图 1 研究模型

本研究提出假设：商业模式创新能提升创业型企业绩效。

#### 四、数据来源与变量处理

本研究数据一部分来源于调查问卷，另一部分关于企业绩效的数据则来源于挂牌新三板企业 2015 年年报。

(一) 问卷调查获得的数据主要是对商业模式创新维度的测量。根据研究的主体构思，本次调查问卷主要是针对商业模式创新与创业型企业绩效的相关内容进行设计。

问卷主体包括两个部分：第一部分是关于问卷填写者的个人信息及其所在公司的基本信息，用于收集被调查对象及其所在公司的基本信息；第二部分是关于商业模式创新的测量量表。在根据前期理论分析基础上，决定问卷测量量表主要采用客户价值主张创新、价值创造与传递创新以及企业价值获取创新这三个维度，共用 9 个题目来测量商业模式创新；并对量表中的 9 个题目采用 Likert 5 级打分法，得分越高，表明新创企业的商业模式创新程度越高，旨在收集被调查对象对其所在公司的商业模式创新的相关感知数据。

为确保问卷内容能够客观反映实际，与 10 位

创业研究领域的学者进行多次交流与讨论后，对问卷初稿中量表的部分题目表述方式进行了适当修改和优化，使问卷能够较好地反映所要研究的问题。在此基础上，选取了广西区内 5 家创业型企业进行小样本测试，并将测试的结果整理后，与 5 家企业的中高层管理者进行交流和讨论，征求他们对问卷设计的意见和建议，同时再次对问卷量表的题目内容进行适当调整、修改和优化，修正了一些过于理论化的问题，以避免在问卷调查时因被调查者对问题理解不清而造成测量结果不准确。通过以上步骤，在确定调查问卷设计达到预想条件后，决定开始发放调查问卷，为研究进行数据收集。考虑到方便问卷回收，本次问卷调查的区域集中在广西和广东两省区。截止 2015 年底，两广共有 715 家挂牌新三板企业，从中随机抽取 106 家中小创业型企业开展问卷调查。

问卷发放的企业必须是新三板企业，需满足以下三个条件：(1) 由个人或团队创立的，并正常运营达 3 年以上；(2) 截止到 2015 年 12 月，正式成立时间不超过 5 年；(3) 独立经营实体，而非分公司或者子公司。

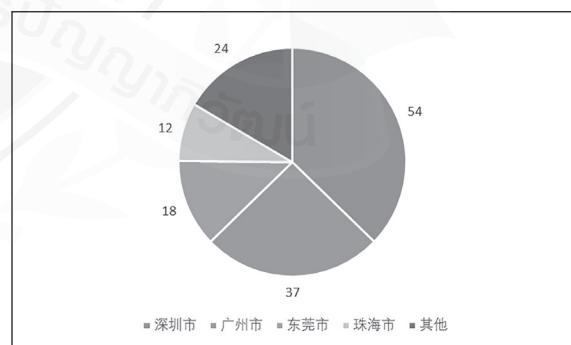


图 2 调研样本城市分布

由于新三板企业的成立年限较短、企业规模普遍较小、管理模式相对单一、中高层管理者的人数也相对较少，他们对企业的创业导向、商业模式创

新和企业绩效方面的了解也更为具体，因此本次问卷的最佳填写对象就是新三板企业的创始人或中高层管理者。因此，本次调研期间拟对每家新三板企业发放四至五份纸质问卷或电子问卷。本次调研从 2015 年 8 月初到 2015 年 12 月底结束，调研期间共发放问卷 500 份，实际回收了 371 份。

在对回收问卷进行整理中发现，由于部分问卷

存在填写人不符合最初设计要求、填写问卷存在漏填或多填问题，因此必须剔除这部分不合格问卷。剔除掉 47 份不合格问卷后，最终获得有效问卷 324 份，共涉及到 106 家新三板企业的，并对调查问卷进行了规范整理。以表 1 为例，这是本研究拟订的商业模式创新测量量表。

表 1 商业模式创新测量表

	题项	非常不同意	不同意	不确定	同意	非常同意
BM1	贵公司能精心研究区域细分市场，对目标顾客有清晰的定位和基础	1	2	3	4	5
BM2	贵公司对于目标顾客的当前需求和潜在需求一直予以关注并长期研究	1	2	3	4	5
BM3	贵公司提供的创新性产品、服务或整体解决方案，能够满足顾客特定需求	1	2	3	4	5
BM4	贵公司能精准定位业务活动在行业价值链中地位，处于价值链的核心环节	1	2	3	4	5
BM5	基于合作共赢愿景，贵公司注重价值网络构建，是价值网络中的核心成员，并创新性地建设合作平台。	1	2	3	4	5
BM6	贵公司注重互联网和大数据的运用，创新创新渠道分销模式，顾客价值得到更有效、及时地传递	1	2	3	4	5
BM7	贵公司积极改革创新，优化管理模式和成本结构，总成本显著降低	1	2	3	4	5
BM8	贵公司努力推进商业模式创新，不断开发新的收入来源，总收入显著提高	1	2	3	4	5
BM9	贵公司勇于改革，努力创新盈利模式，净利润显著提高	1	2	3	4	5

(二) 根据研究需要, 本研究将商业模式创新设为解释变量, 从商业模式创新中的客户价值主张创新、价值创造与传递创新以及企业价值获取创新三个重要维度设置出发, 分别探讨其对创业型企业绩效的影响。

(三) 创业型企业绩效的数据获取, 考虑到能否客观真实反映挂牌新三板创业型企业的运营情况, 决定采用二手数据来研究企业绩效。主要企业绩效数据均来自随机抽取的 106 家新三板企业 2015 年年报中相关绩效的表述, 并从盈利能力、营运能力、现金偿债能力和成长能力四个维度进行测量, 同时将该指标作为被解释变量。

(四) 考虑到创业型企业成长的特点, 本研究将创业型企业面临的环境、年龄、企业规模设置为控制变量, 以更好研究商业模式创新对创业型企业绩效的影响, 避免受其他因素对企业绩效的干扰。

#### 五、实证研究与分析

(一) 描述性统计分析。以有效样本数据为基础, 对问卷的测量量表做描述性统计分析, 主要包括均值统计和标准差统计, 详细结果见表 2。

表 2 商业模式创新的描述性统计分析

维度	题项代码	均值	标准差
客户价值主张创新	BM1	3.88	.928
	BM2	3.85	1.016
	BM3	3.89	.934
价值创造与传递创新	BM4	3.83	.968
	BM5	3.85	1.002
	BM6	3.79	.988
企业价值获取创新	BM7	3.83	1.015
	BM8	3.90	.991
	BM9	3.92	.984

在表 2 中, 商业模式创新的 9 个测量题目均采用简写形式, BM1、BM2、BM3 代表客户价值主张创新的 3 个测量题目; BM4、BM5、BM6 代表价值创造与传递创新的 3 个测量题目; BM7、BM8、BM9 代表企业价值获取创新的 3 个测量题目。表 4-1 中的均值结果显示, 9 个题目的均值位于中等水平, 这就说明新三板创业企业在实际经营过程中比较重视商业模式创新。

表 3 新三板创业企业绩效的描述性统计分析

维度	题项代码	均值	标准差
盈利能力	P1	1.45	27.211
	P2	21.30	57.006
	P3	.36	.820
营运能力	P4	1.48	1.014
现金偿债能力	P5	-1195.71	11543.326
成长能力	P6	10076.17	13773.135
	P7	1956.64	6634.447

从表 3 可以看出, 创业企业绩效 7 个测量题目均采用简写形式, P1、P2、P3 代表盈利能力的 3 个测量题目; P4 代表营运能力的 1 个测量题目; P5 代表现金偿债能力的 1 个测量题目; P6、P7 代表成长能力的 2 个测量题目。表 3 显示, 新三板创业企业绩效在现金偿债能力方面明显较差。

#### (二) 相关数据分析

##### 1、信度检验

采用 Cronbach's  $\alpha$  信度系数法来检验问卷的信度, 通过计算量表中所有题目的 Cronbach's  $\alpha$  系数值来判断其信度, 测量的信度系数越大表明量表的信度水平越高, 如表 4 所示。

表 4 变量信度检验结果

变量	测量题项个数	Cronbach's $\alpha$
商业模式创新量表总体	9	0.826
客户价值主张创新	3	0.735
价值创造与传递创新	3	0.780
企业价值获取创新	3	0.744
创业绩效量表总体	6	0.819
财务绩效	3	0.785
成长绩效	3	0.827

Cronbach's  $\alpha$  系数均大于 0.700, 说明各变量测量的总量表信度较高; 并且变量不同的各维度的 Cronbach's  $\alpha$  系数也大于 0.70, 说明各测量题目内部一致性程度也较高。

## 2. 效度检验

检验问卷效度的指标主要包括内容效度和结构效度。一般来说, 在做结构效度检验之前, 需要先对变量做 KMO 样本测度与 Bartlett 球形检验, 目的就在于考察变量的 KMO 统计值是否大于或等于 0.70, 并且 Bartlett 球形检验的 2 值是否具有显著性。如果 KMO 统计值小于 0.70 或者 Bartlett 球形检验的 2 值没有显著性, 则没有做因子分析的必要。

### (1) 商业模式创新的效度检验

首先, 对商业模式创新做 KMO 样本测度与 Bartlett 球形检验, SPSS 检验结果如表 5 所示。

表 5 商业模式创新的 KMO 样本测度和 Bartlett 球形检验

取样足够度的 Kaiser-Meyer-Olkin 度量。	.710
Bartlett 的球形度检验	近似卡方
	df
	Sig.

从表 5 中不难看出, 商业模式创新的 KMO 值大于 0.7, Bartlett 球形检验的卡方值具有统计意义上的显著性。因此, 可以采用因子分析法来检验商业模式创新的结构效度。接下来, 对商业模式创新的九个测量题目进行因子分析, 当特征值大于 1 时, 该因子可以被提取出来; 对于提取出来的因子, 要看其方差解释率的大小, 是否能够解释变量; 最后对因子实行方差最大正交旋转, 得到旋转后的因子载荷阵, SPSS 分析结果如表 6 和表 7 可知, 有三个特征值明显大于 1。

表 6 商业模式创新的解释总变异量

成份	初始特征值			提取平方和载入		
	合计	方差的%	累积%	合计	方差的%	累积%
1	4.014	30.591	30.591	4.014	30.591	30.591
2	2.148	27.498	58.089	2.148	27.498	58.089
3	1.145	17.141	75.230	1.145	17.141	75.230
4	0.755	9.217	84.447			
5	0.697	6.987	91.434			
6	0.558	3.221	94.655			
7	0.531	3.141	97.796			
8	0.463	1.478	99.274			
9	0.357	0.726	100.000			

从表 6 所知, 有三个特征值明显大于 1。具体来说, 特征值 4.014 所对应的方差解释率为 30.591%, 特征值 2.148 所对应的方差解释率为 27.498%, 特征值 1.145 所对应方差解释率为 17.141%, 由此说明, 可以提取出三个因子, 并且这三个因子的累计方差解释率达 75.230%。因此, 分析的结果一方面比较符合笔者的预先设计; 另一方面较好地解释了商业模式创新对企业发展的影响。

表 7 商业模式创新的探索性因子分析结果

题项代码	成份		
	1	2	3
BM1	.729		
BM2	.695		
BM3	.600		
BM4		.751	
BM5		.761	
BM6		.838	
BM7			.558
BM8			.666
BM9			.731

从表 7 可知, 共有三个因子被识别出来, 因为它们的最大因子载荷均大于 0.5。其中, BM1、BM2、BM3 代表了因子 1, 将其命名为客户价值主张创新; BM4、BM5、BM6 代表了因子 2, 将其命名为价值创造与传递创新; BM7、BM8、BM9 代表了因子 3, 将其命名为企业价值获取创新。综上可知, 本研究的商业模式创新测量量表具有较好的结构效度。

## (2) 创业绩效的效度检验

首先, 对创业绩效做 KMO 样本测度与 Bartlett 球形检验, SPSS 16.0 检验结果如表 8 所示。

表 8 创业绩效的 KMO 样本测度和 Bartlett 球形检验

取样足够度的 Kaiser-Meyer-Olkin 度量。	.801	
Bartlett 的球形度检验	近似卡方	627.148
	df	10
	Sig.	.000

从表中不难看出, 商业模式创新的 KMO 值大于 0.7, Bartlett 球形检验的 2 值具有统计意义上的显著性。因此, 可以采用因子分析法来检验创业绩效的结构效度。接下来, 对创业绩效的 6 个

测量题目进行因子分析, 当特征值大于 1 时, 该因子可以被提取出来; 对于提取出来的因子, 要看其方差解释率的大小, 是否能够解释变量; 最后对因子实行方差最大正交旋转, 得到旋转后的因子载荷阵, SPSS 分析结果如表 9 和表 10 所示。

表 9 创业绩效的解释总变异量

成份	初始特征值			提取平方和载入		
	合计	方差的%	累积%	合计	方差的%	累积%
1	3.214	65.789	65.789	3.214	65.789	65.789
2	1.278	11.330	77.119	1.278	11.330	77.119
3	0.651	6.479	83.598			
4	0.498	4.899	88.497			
5	0.373	3.921	92.418			
6	0.285	0.000	100.000			

从表 9 可知, 有两个特征值明显大于 1。具体来说, 特征值 3.214 所对应的方差解释率为 65.789%, 特征值 1.278 所对应的方差解释率为 11.320%, 由此说明, 可以提取出两个因子, 并且这两个因子的累计方差解释率达 77.119%。因此, 分析结果一方面比较符合预先设计; 另一方面较好地解释了创业绩效反映的实际水平。

表 10 创业绩效的探索性因子分析结果

题项代码	成份	
	1	2
P1	.730	
P2	.678	
P3	.780	
P4	.870	
P5	863	
P6		0.562
P7		.811

从表 10 可知, 共有两个因子被识别出来, 因为它们的最大因子载荷均大于 0.5。其中, P1、P2、P3、P4、P5 代表了因子 1, 可将其命名为财务绩效; P6、P7 代表了因子 2, 将其命名为成长绩效。这与 Covin & Slevin (1991) 的观点一致。可见, 本研究的创业绩效测量量表具有较好的结构效度。

### 3、相关分析

本研究利用 SPSS 16.0 软件对创业绩效、创业导向、商业模式创新、企业年龄和企业规模进行相关性分析, 探讨变量间的相关性及其方向与程度, 是正相关还是负相关, 相关性是否显著等。所得出的 Pearson (皮尔逊) 简单相关系数的结果如表 11 所示。

表 11 相关系数矩阵

变量	新创企业绩效	创新性	风险承担性	超前行动性	商业模式创新	企业年龄	企业规模
新创企业绩效	1.000						
创新性	.345*	1.000					
风险承担性	.451*	.378	1.000				
超前行动性	.378*	.438	.425	1.000			
商业模式创新	.418*	.522*	.397*	.457*	1.000		
企业年龄	.025	-.013	-.011	-.012	-.014	1.000	
企业规模	.013	.030	.019	.012	.029	.021	1.000

从表 11 可以看出, 商业模式创新与创业绩效有显著的正相关关系。正是上述两两变量之间存在线性相关性, 这就为进一步的研究提供了前提

条件, 接下来将对上述变量进行多元线性回归分析, 以探讨相关变量间的因果关系。

### 4、假设检验

本研究采用多元线性回归分析来探讨变量间的因果关系。商业模式创新与创业绩效的多元线性回归分析结果如表 12 所示, 在模型 1 和模型 2 中, 创业绩效都是被解释变量。在模型 1 中, 控制变量可看作解释变量, 旨在检验企业年龄、企业规模对创业绩效的影响。在模型 2 中, 追加了解释变量商业模式创新, 探讨商业模式创新对创业绩效的影响。

从表 5-11 可以看出, 商业模式创新与创业绩效显著正相关 ( $\beta = 0.515, p \leq 0.01$ ), 说明商业模式创新程度越高, 创业绩效水平越高。同时还可以发现, 模型 2 在模型 1 的基础上追加了解释变量商业模式创新, 调整后的  $R^2$  从 0.021 上升到 0.395, 增加了 0.374, 这就意味着商业模式创新能对创业型企业绩效产生积极正向影响, 因而假设: 商业模式创新能提升创业型企业绩效得到支持。

表 12 商业模式创新与创业绩效多元回归分析注: 表中的\*表示显著性水平  $p < 0.05$ , \*\*表示显著性水平  $p < 0.01$ , \*\*\*表示显著性水平  $p < 0.001$ 。

变量		被解释变量: 创业绩效	
		模型 1	模型 2
控制变量	企业年龄	.016	.003
	企业规模	.037	.010
解释变量	商业模式创新	-	.515**
	$R^2$	.039	.352
模型统计量	调整后的 $R^2$	.021	.395
	$R^2$ 变化		.374
	F 值	1.647*	17.367*

## 5、结果分析

本研究是为了重点分析商业模式创新与创业型企业绩效之间的关系, 所以将创业型企业的创业导向、企业融资、产品研发、团队影响、智力因素、互联网技术、大数据运用等内外部因素归入创业的内外部环境因素, 并与挂牌新三板的创业型企业成立年限较短、发展规模较小等因素纳入控制变量进行考虑。通过检验, 商业模式创新能提升创业型企业绩效。这证明, 创业型企业在发展过程中, 不仅要考虑创业导向、注重产品研发、提高专利水平、提高管理水平、完善服务体系、扩大融资渠道等各种因素对企业绩效的影响, 而且要注重对商业模式创新的研究和实践, 才能更好地抢占市场发展先机, 获得足够市场份额, 获取消费者认同, 完善盈利模式, 这是创业型企业能否提高企业绩效, 获得稳定发展一个非常重要的因素。

## 六、结论与建议

### (一) 主要研究结论与讨论

本文运用调查问卷和中国新三板挂牌企业2015年年报数据, 通过多元回归分析商业模式创新能提升创业型企业绩效的研究假设, 并通过检验, 论证了结果的有效性, 其研究结论对创业型企业发展有一定的指导作用。

1、商业模式创新能提升新三板挂牌企业的企业绩效。一个重要原因在于, 虽然中小企业的发展固然受到创业导向、产品优势、融资能力、消费需求等因素影响, 会面临各种挑战, 有时甚至会面临资金链断裂的危机, 但归根到底能促进企业稳定发展的是企业绩效的持续提升能力。而企业绩效提升除了受产品研发、技术创新或服务创新等因素影响之外, 必然要依托一定的商业模式去实现企业价值, 因为这是企业能否真正创造价值的一个重要环节。互联网技术创新和大数据运用的快速发展, 为中国企业开展商业模式创新提供了条

件, 以往传统的商业模式将无法适应现代经济和技术的发展需求, 而组织的扁平化、销售渠道的缩短、消费方式的改变、支付方式的创新, 都需要创业型企业必须在快速变化的时代中抓住商业模式创新的支撑点, 打破时间和空间的局限, 迅速占领市场, 获得更多的市场资源。

2、本研究只是一个阶段研究成果, 由于对研究中的一些变量进行了控制, 加上受到样本数量的限制, 研究结论有一定的局限性。商业模式创新与创业导向、团队建设、产品研发、完善服务和企业绩效等因素是一个完整的价值链条, 这些是今后的研究思路和方向。如何将企业的产品、技术和服务的潜在价值转变为实际价值, 商业模式的创新就是重要的一个环节, 这需要创业型企业在发展过程中做出合理规划和科学管理, 以保证企业能始终在价值转换中获得一定的竞争优势。本研究将商业模式创新分为客户价值主张创新、价值创造与传递创新、企业价值获取创新等三个维度进行测量和评价, 验证了这些价值创新能提升创业型企业绩效。如果创业型企业不能认识到开展商业模式创新的积极作用, 仍旧用传统模式经营企业, 就有可能在激烈的竞争环境下逐步失去市场规模, 最终也会影响企业绩效。没有稳定的企业绩效, 创业型企业要想通过新三板获得更多融资并推动企业发展就会变得更困难, 由此形成的恶性循环会容易摧毁创业型企业的创新创业活力。

### (二) 有关建议

根据以上研究, 笔者认为, 对于新三板挂牌企业如何做好商业模式创新, 推动企业绩效提升提出一些更为科学合理的建议。

一是整合资源, 抢占差异化发展先机。根据创业型企业的性质、特点和发展思路, 努力做好创业型企业商业模式创新的谋划和布局。创业型企业由于处于企业生命发展周期的初期阶段, 受企业规模小、资金少、技术弱、抗风险能力弱等因素制

约，很难在产品研发和技术创新上获得竞争优势，但也存在经营灵活、适应市场能力强、易于创新等特点。因此创业型企业要善于运用逆向思维、跳跃思维、发散思维和痛点思维等方式，结合自身发展优势，敏锐把握社会经济的发展脉搏，善于整合资源，抢占差异化发展先机，力争在商业模式创新上获得竞争优势，打好企业竞争基础。尤其是在技术更新快、产品同质化、服务透明化、功能趋同化、渠道缩短化等激烈的市场竞争中，商业模式创新能为创新型企业带来一定的差异化发展优势，从而推动企业绩效稳定增长。

二、科学规划，精准创新是创业型企业从弱做强的一个有效途径。中国在互联网和大数据的运用方面已取得巨大发展，2015年底，中国在网活跃智能设备数量达到8.99亿，全球互联网公司十强中，中国占了4家。数字化变革将成为未来社会、经济、教育和商业等领域发展的趋势。商业模式创新在数字化变革中已经运用到各个领域之内，同时也处于不断变化和创新之中。创业型企业的要善于根据自身企业的特点，及时研究社会的发

展变化，及时把握技术变革的趋势，及时了解消费需求变化特点，精准实施商业模式创新，才有可能为创业型企业发展持续带来稳定的利润增长点，才可能逐渐完善企业盈利模式，稳步提升企业绩效。另外，由于现代社会信息技术的高度发达和信息传播的“秒杀”效应，一些好的商业模式创新刚刚产生效益，就会迅速被跟随者模仿，有可能迅速形成“搭便车”的联动性，影响商业模式创新的效果。因此，商业模式创新并能促进创业型企业绩效提升的另一个关键因素，就是中小企业必须牢牢把握自己的核心技术，这也是企业获得持续发展的动力所在。

总之，研究表明，由于新三板挂牌创业型企业在发展中仍会受制于规模较小、技术瓶颈、融资困难等各种因素影响，为了企业的持续发展需要，在积极做好资源整合、产品研发和服务创新等工作的基础上，开始更多地重视开展商业模式创新，以此逐步完善企业盈利模式，推动企业绩效稳步提升。

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# THE RELATIONSHIP BETWEEN RETURNS OF CARRY TRADE STRATEGIES AND EQUITY MARKETS: THE EVIDENCE FROM DEVELOPED ECONOMIES AND ASEAN-5 EMERGING MARKETS

ความสัมพันธ์ระหว่างผลตอบแทนของธุรกรรม CARRY TRADE และผลตอบแทนของตลาดตราสารทุน: ผลการทดสอบในกลุ่มประเทศพัฒนาและกลุ่มประเทศเกิดใหม่ 5 ประเทศอาเซียน

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## Abstract

This paper investigates the Granger causality relationship between returns of carry trade strategies and equity markets in developed economies and ASEAN-5 emerging markets. The Granger causality test under the Vector Autoregressive (VAR) model is employed using daily data from August 2006 to March 2015. The empirical results show that carry trade portfolio returns of G10 currencies strongly Granger cause returns of equity markets in all developed economies and ASEAN-5 emerging markets. Higher carry trade portfolio returns significantly lead to greater returns in most stock markets regardless of the environments they operate in. The implication of this study is that the US dollar has been more popular in funding for carry trade strategies than the Japanese yen. Conversely the currencies of all ASEAN-5 emerging markets have been used for investment purposes. For the case that excess returns of individual currency pairs are proxies for carry trade returns, both directions of the Granger causality relationship exist in most equity markets. Moreover, the results indicate that the yen is no longer a funding currency for carry trades.

**Keywords:** Carry Trade, Uncovered Interest Rate Parity (UIP), Granger Causality test, Vector Autoregressive model (VAR)

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## บทคัดย่อ

งานวิจัยฉบับนี้ทำการตรวจสอบความสัมพันธ์แบบ Granger causality ระหว่างผลตอบแทนของธุรกรรม carry trade และผลตอบแทนของตลาดตราสารทุนในกลุ่มประเทศที่พัฒนาและกลุ่มประเทศเกิดใหม่ 5 ประเทศอาเซียน การศึกษาอาศัยการทดสอบ Granger causality ภายใต้ตัวแบบ Vector Autoregressive (VAR) โดยใช้ข้อมูลรายวัน ตั้งแต่เดือนสิงหาคม 2549 ถึงเดือนมีนาคม 2558 ผลการทดสอบแสดงให้เห็นว่า ผลตอบแทนจากพอร์ตการลงทุนธุรกรรม carry trade ที่ลงทุนในสกุลเงินของประเทศในกลุ่ม G10 ส่งผลกระทบต่อผลตอบแทนของตลาดตราสารทุนทั้งหมดในประเทศที่พัฒนาและกลุ่มประเทศเกิดใหม่ 5 ประเทศอาเซียน ผลตอบแทนจากพอร์ตการลงทุนธุรกรรม carry trade ที่สูงขึ้นส่งผลให้ผลตอบแทนของตลาดตราสารทุนส่วนใหญ่สูงขึ้นด้วยไม่ว่าจะอยู่ในกลุ่มประเทศใด ผลการทดสอบนี้ให้ความหมายโดยนัยที่แสดงให้เห็นว่ามีความนิยมกู้ยืมเงินดอลลาร์สหรัฐฯ ในฐานะสกุลเงินที่มีอตราดอกเบี้ยต่ำเพื่อทำธุรกรรม carry trade มากว่าเงินเยน ในทางกลับกันสกุลเงินของกลุ่มประเทศเกิดใหม่ 5 ประเทศอาเซียนทั้งหมดเป็นสกุลเงินที่ใช้สำหรับลงทุน สำหรับกรณีที่ใช้สกุลเงินคู่เดียวกันการลงทุน เป็นตัวแทนการวัดผลตอบแทนของธุรกรรม carry trade นั้น ความสัมพันธ์แบบ Granger causality ทั้ง 2 ทิศทางเกิดขึ้นในตลาดตราสารทุนส่วนใหญ่ นอกจากนี้ผลการทดสอบได้ยืนยันว่าเงินเยนไม่ใช่สกุลเงินที่มีการกู้ยืมเพื่อทำธุรกรรม carry trade

**คำสำคัญ:** ธุรกรรม Carry Trade ทฤษฎี Uncovered Interest Rate Parity (UIP) การทดสอบ Granger Causality ตัวแบบ Vector Autoregressive (VAR)

## Introduction

Currency carry trades have been tempting strategies for foreign exchange (FX) traders and speculators over the last decade. For example the well-known international fund Deutsch Bank invested in carry trades, namely Power Shares DB G10 Currency Harvest Fund. Currency carry trade strategies proceed with borrowing low interest rate currencies (funding currencies) then converting these into currencies of countries that offer high-yielding assets to invest (investment currencies). The interest rate differential creates profits for carry trades. Additional carry trade profits are made when investment currencies rise against funding currencies. However, the returns on carry trades raise the puzzle of uncovered interest rate parity (UIP). This states that returns on interest rate differentials between

countries should be offset by changes in their pairs of foreign exchange rates. Particularly, the funding currencies should be appreciating against the investment currencies to eliminate the attractive interest rate gap.

According to previous studies, there is a close relationship between foreign exchange rates and equity markets, but not much consistent evidence has emerged to confirm this. This paper proposes to study the Granger causality relationship between the daily returns of currency carry trade strategies and equity markets. Specifically, the paper analyses whether the previous values of carry trades improve the prediction of future changes in stock prices, or in the opposite direction. To extend the literature on the subject, this paper examines the Granger causality relationship in

different economies. It focuses on five major emerging markets in Southeast Asia (ASEAN-5), namely Indonesia, Malaysia, the Philippines, Singapore and Thailand, along with countries of G10 currencies. In addition, the excess returns of individual currency pairs are created to proxy for ASEAN-5 currency carry trades due to a small number of ASEAN-5 carry trade portfolios provided. Hence, this empirical examination using evidence from those markets and additional proxy of currencies will contribute to updating our knowledge of this subject.

The empirical results in this paper indicate that carry trade portfolio returns help to forecast equity markets returns regardless of environments. The additional proxy of individual currency pairs add up to both causality directions (i.e. the causality from carry trade returns to equity market returns and vice-versa). The results also imply that the Japanese yen is no longer a funding currency because the US dollar is now more popular in funding for carry trade strategies.

## Literature Review

Carry trade profits violate uncovered interest rate parity (UIP) theory because the interest rate differential between countries is not equal to the change in corresponding foreign exchange rates. An excess return above what UIP predicts in equation 1 should not exist.

(eq.1)

$$r = \Delta i - \Delta s$$

$r$  represents an excess return from borrowing a low yielding currency and investing in a high

yielding currency.  $\Delta i$  is the interest rate differential between countries, while  $\Delta s$  represents the change in spot exchange rate of funding currency against investment currency.

There is evidence explaining the UIP puzzle (e.g. Fama, 1984; Froot & Thaler, 1991; Burnside, Eichenbaum & Rebelo, 2007). These have explored carry trades performance associated with risks (see Plantin & Shin, 2008; Ichiiue & Koyama, 2008; Brunnermeier, Nagel & Pedersen, 2009). Much research has revealed the relationship of excess FX returns to risk factors like stock and bond market returns by applying: firstly, an asset pricing approach; and secondly, nonlinear modeling to account for time-varying risk premium (e.g. Lustig, Roussanov & Verdelhan, 2011; Menkhoff et al., 2011; Christiansen, Ranaldo & Söderlind, 2011; Bakshi & Panayotov, 2013; Atanasov & Nitschka, 2014). Christiansen, Ranaldo & Söderlind (2011) found that carry trades were priced by stock returns and its exposure to stock factor was regime-dependent, which became greater during turbulent periods.

Capital flows from where returns are low to where they are high or from where capital is abundant to where it is scarce. In practice this means they from developed to developing countries. Emerging markets have made it possible for foreign investors to access domestic stock markets. Market valuations grow due to these examples of liberalization, which cause the cost of capital to fall (Eichengreen, Hausmann & Panizza, 2007).

As capital flows to countries with high-yielding assets such as stocks (Fung, Tse & Zhao

(2013), some scholars studied the connections between the currencies and equity returns in terms of correlations and causality (e.g. Melvin & Taylor, 2009; Tse & Zhao, 2011) showed that causality from carry trades to the US stock market does not exist but there is a volatility spillover effect from US stocks to carry trades. Later, in 2013 they found the causality in returns from carry trades to stock markets in Japan, Australia, and India, and bi-directional volatility spillover effects between these markets. Kumar (2013) also reported the bi-directional volatility spillover in other emerging markets using multivariate GARCH.

These theoretical and literature reviews on UIP and efficient allocation of capital motivate this paper to investigate how funds flow and also to indirectly provide an answer to the UIP puzzle. The Granger causality test is used to describe relationships between carry trades and equity markets in developed and emerging countries.

### Objective of the study

As funds transfer across international financial markets affecting exchange rate and stock price movements, previous studies reported a close relationship between currencies and stock markets. Empirical results revealed an inconsistent relationship in different environments. Thus, this study tries to examine the causal relationship between carry trade portfolio returns of G10 currencies and equity market returns in developed economies and emerging markets by employing the Granger causality test under

Vector Autoregressive (VAR) system. In other words, the research tests whether previous currencies values forecast future values of stock prices (and vice-versa) in those markets. Moreover, in the test, this research proposes to represent the excess returns of individual currency as another proxy for ASEAN-5 currency carry trades. It does this in order to more properly analyze the relationships between FX and stocks in ASEAN-5 emerging markets.

### Methodology and Data

The methodology in this paper is established to determine the Granger causality relationship between the daily returns of currency carry trade strategies and equity markets. The Granger causality is estimated under the two-equation vector autoregressive (VAR) system with lag length  $p$  as follows:

(eq.2)

$$ET_t = \alpha_1 + \sum_{i=1}^p \beta_{1i} CT_{t-i} + \sum_{i=1}^p \gamma_{1i} ET_{t-i} + \delta_1 DM_t + \varepsilon_{1t}$$

(eq.3)

$$CT_t = \alpha_2 + \sum_{i=1}^p \beta_{2i} CT_{t-i} + \sum_{i=1}^p \gamma_{2i} ET_{t-i} + \delta_2 DM_t + \varepsilon_{2t}$$

where the daily log carry trade returns and the lagged values are denoted as  $CT_t$  and  $CT_{t-i}$ , while  $ET_t$  and  $ET_{t-i}$  are the daily log returns of an equity index in period  $t$  and its past values, respectively. A dummy variable for financial crisis ( $DM_t$ ) is equal to 1 during a crisis period or 0 if otherwise. The terms  $\varepsilon_{1t}$  and  $\varepsilon_{2t}$  are respectively shocks in  $ET_t$  and  $CT_t$ . All variables

in the VAR model are stationary, and testing Granger causality uses the standard F-test under the following restrictions. These refer to the coefficients of the cross-market returns between equity and carry trades all equally set to zero.

- 1)  $H_0: \beta_{1i} = 0 \ (\beta_{11} = \beta_{12} = \dots = \beta_{1p} = 0)$
- 2)  $H_0: \gamma_{2i} = 0 \ (\gamma_{21} = \gamma_{22} = \dots = \gamma_{2p} = 0)$

The Granger causality measures past values of one variable that can aid in forecasting future values of another variable in the system. Thus, carry trades Granger cause equity when the first null hypothesis is rejected. It means that the past values of carry trades improve the prediction of future changes in stock prices. On the other hand, rejecting the second restriction implies that changes in currency prices can be predicted from the past values of stock prices.

Moreover, to explain the causality relationship between each other in terms of the economic impacts magnitude (Fung, Tse and Zhao (2013), the sum of all coefficients of cross-market returns between equity and carry trades ( $\sum_{i=1}^p \beta_{1i}$  and  $\sum_{i=1}^p \gamma_{2i}$ ) are also considered under the restriction tests:

- 3)  $H_0: \sum_{i=1}^p \beta_{1i} = 0$
- 4)  $H_0: \sum_{i=1}^p \gamma_{2i} = 0$

These rejected restrictions tell us that the total causality relationships across these 2 markets exist. In particular, the sum of all estimated coefficients ( $\sum_{i=1}^p \hat{\beta}_{1i}$ ) indicates the magnitude of total causality from carry trade returns to equity market returns. The sum of all estimated coefficients ( $\sum_{i=1}^p \hat{\gamma}_{2i}$ ) describes

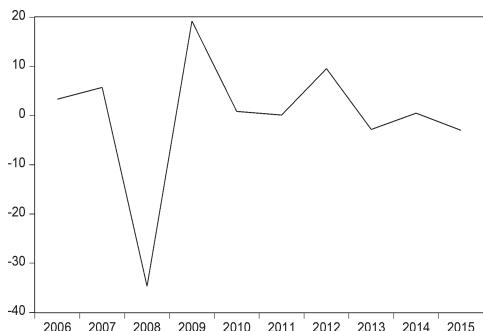
the magnitude from equity market returns to carry trade returns.

In this paper, the sample of daily data spans from August 2006 to March 2015, covering 2,251 observations. Two sets of data are classified to examine the causality relationship in different economies. First, the set of developed economies enclose the most liquid and tradable currencies and stock markets (Japan, United States, United Kingdom, Australia, New Zealand, and European Union). Second, ASEAN-5 (Indonesia, Malaysia, the Philippines, Singapore\*, and Thailand) represent the emerging markets environment and the major stock markets in terms of market capitalization in Southeast Asia.

### Portfolio Returns of Carry Trade

In the base line analysis, a proxy for the performance of carry trade portfolio is the daily log return created from the DB G10 Currency Future Harvest price Index, collected through Reuters DataStream. It is the index tracked changes by the PowerShares DB G10 Currency Harvest Fund of Deutsche Bank, providing for investors who want to conveniently invest in currency futures. The Index is composed of G10 currencies future contracts and constructed to seek profit in the way that high interest rate currencies tend to appreciate relative to low interest rate currencies.

\* The World Bank classifies Singapore as a high-income country, including Singapore here is to represent the result of developed country in ASEAN.



**Figure 1** Annualized CT performance calculated based on DB G10 Currency Future Harvest Index

G10 currencies are most liquid and traded, including the Australian Dollar (AUD), Canadian Dollar (CAD), Swiss Franc (CHF), Euro (EUR), British Pound (GBP), Japanese Yen (JPY), Norwegian Krone (NOK), New Zealand Dollar (NZD), Swedish Krona (SEK), and US Dollar (USD). The DB G10 Currency Future Harvest Index works on making: firstly, long future contracts of the 3 highest interest rates currencies; and secondly, short future contracts of the 3 lowest interest rate currencies among the G10 countries. Each quarter, there is a performance evaluation and re-weighting 3 long positions of the highest interest rate currencies future and 3 short positions of the lowest interest rate currencies future.

### Excess Returns of Individual Currency

Another proxy of carry trade returns is constructed for robustness. It is also due to the lack of carry trades performance that includes

enough Asian currencies into the portfolio\*. This proxy, the excess returns of each currency pair (funding and investment currencies) is calculated individually based on the interest rate differential in concurrence with UIP theory. Consequently the return calculated from eq. 4 below is an arbitrage profit or an excess return above what UIP predicts as documented in many studies (eg. Brunnermeier, Nagel & Pedersen, 2009; Christiansen, Ranaldo & Söderlind, 2011).

(Eq.4)

$$r_{jt}^k = (i_{t-1}^k - i_{t-1}^j) - (s_t^k - s_{t-1}^k)$$

where  $r_{jt}^k$  = individual currency pair excess return in period  $t$  which is calculated from borrowing currency  $j$  and investing in currency  $k$

$i_{t-1}^k - i_{t-1}^j$  = 1-day lagged interest rate differential of country  $k$  and  $j$

$s_t^k$  = log spot exchange rate of currency  $k$  per 1 unit of  $j$

$s_{t-1}^k$  = log 1-day lagged spot exchange rate of currency  $k$  per 1 unit of  $j$

Mid quotes daily data of spot exchange rates and interest rates are utilized. The most used interest rate is the 1-day interbank overnight money market rate, except for some countries where only the 1-day interbank T/N (tomorrow-next) money market rate is available.

The Japanese yen (JPY) and US Dollar (USD) are mainly employed as funding currencies in this type of carry trade proxy. The Yen and Dollar are typically known as safe havens and have become the favorite currencies for trading. The US dollar was even more preferred to the Japanese yen since the subprime crisis and the

\* Some studies customize portfolios from Bloomberg Professional Services and the results have no relevance to equity to carry trades.

use of quantitative easing policy (Fung, Tse & Zhoa (2013). Following Fung, Tse & Zhao (2013), the investment currency used in this study is the Australian Dollar (AUD), the most selected as long position for carry trade strategies. This is due to its high interest rate. The currencies in emerging markets have been considered as well. The lower yielding currencies like JPY or USD are borrowed and then invested in higher yielding assets. 5 emerging Asian economies' currencies: Thai baht (THB), Indonesian rupiah (IDR), Philippine peso (PHP), Singapore Dollar, (SGD), and Malaysian ringgit (MYR) have been added to our investment scope.

### Equity Market Returns

Daily data of stock indices of the above mentioned countries are derived from DataStream. Logarithmic return is applied. The sources for each country's stock indices are: S&P 500 composite (US); FTSE 100 (UK); Nikkei 225 Stock Average (Japan); S&P/ASX 200 (Australia); S&P/NZX 50 (New Zealand); FTSE World Europe (EU); Straits Times Index (Singapore); Bangkok S.E.T. (Thailand); FTSE Bursa Malaysia KLCI (Malaysia); IDX composite (Indonesia); and Psei (Philippines).

### Empirical Results

The base line analysis is the Granger causality relationship between carry trade portfolio returns of G10 currencies and equity market returns. There are 2 directions in which causality can go: 1) carry trade returns cause equity market returns; and 2) equity market

returns cause carry trade returns. The test results are summarized in Table 1. It reports p-values of test restrictions 1 to 4, and the sum of all estimated coefficients under restrictions 3 and 4 ( $\sum_{i=1}^p \hat{\beta}_{1i}$ ,  $\sum_{i=1}^p \hat{\gamma}_{2i}$ ). Significant p-values indicate that the Granger causality relationship exists, while the sum of all estimated coefficients describe how these 2 markets Granger cause each other.

From panel A, G10 carry trade portfolio returns strongly Granger cause returns of all equity markets in developed economies. Panel B also highlights the impact of carry trade returns on all ASEAN-5 emerging stock markets. Past currencies values assist in forecasting future values of prices in all stock markets. Positive values of the sum of all coefficients  $\sum_{i=1}^p \hat{\beta}_{1i}$  explain that higher carry trade portfolio returns of G10 currencies significantly cause higher returns of all stock markets regardless of environments. The exception is the US which shows a negative coefficient.

To illustrate the implication of the estimated results, the violation of UIP theory is reviewed. UIP states that interest rate differentials should be offset by the appreciation of borrowing or funding currencies. Thus, positive returns of carry trades violate UIP. Profits from carry trades persuade more speculators and arbitrageurs to become involved in trading, which leads to more selling (depreciation) of funding currencies and more buying (appreciation) of high yielding or investment currencies. Consequently, funds flow out from (into) countries of funding (investment) currencies. Therefore carry trade

returns positively (negatively) relate to stock market returns in countries where currencies are invested (funded) (Fung, Tse & Zhao, 2013). According to this explanation, the results from Table 1 mean that currencies of countries that have a positive sum of all estimated coefficients are investment currencies (like the AUD which is normally targeted as an investment currency) since the higher carry trade returns, the higher will be the equity market returns. In other words, carry trades help funds flow to where equity market returns are high. Thus their currencies are in demand for investment purposes.

This study reexamines the work of Fung, Tse & Zhao (2013) who found a positive value of coefficients for Japan. They argued that the Japanese yen was no longer a funding currency. This paper contributes to the extension of their study by stating that the US dollar plays the leading role in funding currencies instead of the Japanese yen. The evidence discloses the negative value of -0.4699 for the US, and the positive value of 1.2403 for Japan (Table 1, column restriction 3). This outcome is well supported by the evidence that higher carry trade profits lead to smaller US stock market returns, indicating that capital flows out from the US equity market to where assets produce higher yields. Conversely, in Japan the higher carry trade profits, the higher will be the equity returns. Thus, from this point the yen

becomes an investment currency. The ASEAN-5 stock markets will perform better due to higher carry trade returns. Positive sum of all estimated coefficients implies that ASEAN-5 currencies and equities tend to be invested. Another feature of the Granger causality relationship - equity returns cause carry trade returns - is only found in some equity markets (US, Australia, New Zealand).

For a robustness check, Tables 2 and 3 contain the Granger causality results for the case of excess returns of individual currency pairs and related equity market returns. This refers, for example, to a relationship between excess returns of borrowing JPY to invest in AUD, and equity markets of Japan and Australia. In this analysis the JPY and USD are used as funding currencies, while the AUD and 5 Asian currencies (THB, IDR, PHP, SGD, and MYR) are selected as investment assets.

Overall, the results from borrowing JPY as shown in Table 2 and borrowing USD in Table 3 illustrate both directions of the Granger causality relationship. The exception involves Thailand and Malaysia, where carry trade returns do not help to forecast changes in their stock indices. Conversely, carry trade returns are not predictable from the changes in stock index of Singapore. Positive sum of all estimated coefficients in Table 2 insists that yen is no longer a funding currency.

**Table 1** Granger Causality Relationship between Carry Trade Portfolio Returns and Equity Market Return

Equity Markets	lag	Carry Trades cause Equity				Equity cause Carry Trade		
		restriction 1		restriction 3		restriction 2	restriction 4	
		P-values	Sum	P-values	Coeff		P-values	Sum
<u>Panel A: Developed Economies</u>								
Japan	8	0.0000	0.0000	1.2403	***	0.0004	0.7540	-0.0144
US	12	0.0001	0.0115	-0.4699	**	0.0055	0.0621	0.1533 *
Europe	6	0.0000	0.0000	1.7265	***	0.0545	0.2601	0.0464
UK	6	0.0000	0.0328	0.2314	**	0.1032	0.3409	0.0511
Australia	6	0.0000	0.0000	0.7687	***	0.0335	0.0157	0.1269 **
New Zealand	11	0.0000	0.0000	0.3415	***	0.0005	0.0446	0.1864 **
<u>Panel B: ASEAN Emerging Markets</u>								
Indonesia	8	0.0000	0.0000	1.0861	***	0.0006	0.2786	-0.0481
Malaysia	6	0.0000	0.0000	0.3668	***	0.0860	0.9432	-0.0042
Philippines	6	0.0000	0.0000	0.9041	***	0.2353	0.0928	-0.0649
Singapore	7	0.0000	0.0000	0.5651	***	0.0159	0.1265	0.0818
Thailand	6	0.0000	0.0000	0.6908	***	0.1454	0.0743	-0.0683

\*\*\* Significant at 1% level

\*\* Significant at 5% level

\* Significant at 10% level

**Table 2** Granger Causality for Individual Currency Excess Returns (funding JPY) and Equity Market Returns

Equity Markets	lag	Carry Trade to Equity				Equity to Carry Trade			
		restriction 1		restriction 3		restriction 2		restriction 4	
		P-values	Sum	P-values	Coeff	P-values	Sum	P-values	Coeff
<u>Pair_1: JPY to AUD</u>									
Japan	2	0.0000	0.0111	0.1447	**	0.0002	0.0000	0.1221	***
Australia	5	0.0814	0.8210	0.0137		0.0089	0.0078	0.1589	***
<u>Pair_2: JPY to IDR</u>									
Japan	7	0.0000	0.0000	0.7450	***	0.0000	0.1475	0.0674	
Indonesia	8	0.0000	0.0000	0.7042	***	0.0094	0.9051	-0.0056	
<u>Pair_3: JPY to MYR</u>									
Japan	3	0.0002	0.0028	0.3014	***	0.0000	0.0068	0.0662	***
Malaysia	2	0.1556	0.6703	-0.0140		0.0006	0.0019	0.0987	***
<u>Pair_4: JPY to SGD</u>									
Japan	5	0.0000	0.0000	1.8510	***	0.0359	0.0276	-0.0691	**
Singapore	2	0.0000	0.0000	0.5531	***	0.7787	0.4999	0.0135	
<u>Pair_5: JPY to THB</u>									
Japan	2	0.0000	0.0143	0.2193	**	0.0013	0.0003	0.0568	***
Thailand	6	0.0379	0.1213	0.1836		0.0000	0.0138	0.0661	**
<u>Pair_6: JPY to PHP</u>									
Japan	5	0.0002	0.5728	0.0724		0.0000	0.0000	0.2227	***
Philippines	5	0.2714	0.5310	0.0567		0.0000	0.0000	0.1414	***

\*\*\* Significant at 1% level

\*\* Significant at 5% level

\* Significant at 10% level

**Table 3** Granger Causality for Individual Currency Excess Returns (funding USD) and Equity Market Returns

Equity Markets	lag	Carry Trade to Equity				Equity to Carry Trade			
		restriction 1		restriction 3		restriction 2		restriction 4	
		P-values	Sum	P-values	Coeff	P-values	Sum	P-values	Coeff
<u>Pair_1: USD to AUD</u>									
USD	10	0.0328	0.7092	-0.0493		0.0094	0.1774	-0.1017	
Australia	7	0.0000	0.0000	0.5199 ***		0.2463	0.7954	-0.0151	
<u>Pair_2: USD to IDR</u>									
USD	2	0.8185	0.6806	-0.0281		0.0000	0.0007	0.0564 ***	
Indonesia	2	0.0000	0.0000	0.8133 ***		0.0000	0.0000	0.0693 ***	
<u>Pair_3: USD to MYR</u>									
USD	2	0.5442	0.4076	0.0839		0.0000	0.0000	0.1198 ***	
Malaysia	1	0.7407	0.7407	0.0140		0.0025	0.0025	0.0364 ***	
<u>Pair_4: USD to SGD</u>									
USD	12	0.0001	0.0227	0.6927 **		0.0038	0.0051	-0.0755 ***	
Singapore	2	0.0000	0.0000	0.9567 ***		0.5665	0.3945	-0.0079	
<u>Pair_5: USD to THB</u>									
USD	5	0.0108	0.5578	0.1215		0.0000	0.0005	0.0419 ***	
Thailand	6	0.5429	0.2642	0.2704		0.0000	0.0000	0.0543 ***	
<u>Pair_6: USD to PHP</u>									
USD	2	0.9595	0.9900	-0.0014		0.0000	0.0000	0.1350 ***	
Philippines	5	0.0152	0.0343	0.3765 **		0.0000	0.0000	0.0879 ***	

\*\*\* Significant at 1% level

\*\* Significant at 5% level

\* Significant at 10% level

## Conclusion

Currency carry trade has been reviewed in detail, particularly its strong correlation to the world's stock markets when capital flows from/to financial markets. This paper attempts to build on existing studies concerning this Granger causality relationship in returns between carry trade strategies and equity markets by controlling for economies factor. Carry trade returns are represented by portfolio returns as the analysis base line, and individual currency pair excess returns for a robustness check. Stock markets in developed economies and ASEAN-5 emerging markets are selected. Daily data used for carry trade proxies and equity market returns are from August 2006 to March 2015, covering 2,251 observations.

The empirical results show that carry trade portfolio returns of G10 currencies strongly Granger cause returns of all equity markets in

both developed economies and emerging markets. Higher carry trade portfolio returns lead to significantly higher stock market returns in most developed markets and all the emerging markets. The implication made here is that the US dollar has been used as the funding currency instead of the Japanese yen.

For the case of excess returns of individual currency pairs, results show the directions which the Granger causality relationship can go, exist in most equity markets. In particular, carry trade returns causing equity market returns are found in most stock markets except for Thailand and Malaysia. In contrast, equity market returns do not cause carry trade returns in Singapore. The causality from equity market returns to carry trade returns is explicitly revealed when a carry trade proxy consists of individual currency pairs' excess returns rather than using carry trade portfolio returns.

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## 中国上市公司内外部融资约束与并购财务风险研究

## THE STUDY ON INTERNAL AND EXTERNAL FINANCING CONSTRAINTS AND FINANCIAL RISK OF M&amp;A OF LISTED COMPANIES IN CHINA

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本文以中国 2008-2012 年沪深两市主板 732 家上市公司并购事件为样本, 运用回归分析方法, 对并购企业内外部融资约束与财务风险的关系进行研究。实证结果表明, 内部融资约束与外部融资约束对财务风险的影响存在差异。企业的并购财务风险主要来源于内部融资约束, 内部融资约束与长期和短期财务风险正相关。而外部融资约束对企业财务风险大小的影响是不确定的。因此, 要控制企业并购中产生的财务风险, 应着重于改善融资环境, 提供适合经济发展的“资金容量”, 减少企业面临的融资约束; 同时要加强企业经营管理, 增强企业创造现金流的能力。

**关键词:** 企业并购, 内部融资约束, 外部融资约束, 财务风险**Abstract**

With the mergers & acquisitions of 732 listed companies in Shanghai and Shenzhen main board stock market in China from 2008 to 2012 as study examples, the research on relationship between internal and external financing constraints of M&A companies and financial risk will be carried by the regression analysis method. The empirical results indicate that there are differences between the impacts the internal financing and external financing constraints having on financing risk. The financial risks of M&A mainly come from internal financing constraints, and there is a positive relationship between internal financing constraints and both long-term and short-term financial risks. Otherwise, the impact of external financing constraints on companies' financial risks is uncertain. Therefore, the financial risks of M&A are supposed to be controlled by improving the financing environment, providing capital capacity suited to economic development and reducing financial constraints the enterprise being faced with. Meanwhile, operation management and

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capability to generating cash flows of enterprises are supposed to be strengthened.

**Keywords:** M&A, internal financing constraints, external financing constraints, financial risks

## 引言

融资一直是企业和学界关注的问题, 在没有融资约束的环境中, 企业利用内源融资是最直接和节省融资时间的一种方法。但是, 一些研究已表明, 现实经济生活中企业面临的融资约束无处不在。融资约束会影响企业的财务行为, 但多数学者是从企业面临的总体融资约束水平来讨论, 没有区分来源于企业内部的融资约束, 以及由于宏观环境变化而带来的外部融资约束。在以往的研究中, 融资约束的分组标准有两类, 一是单变量分组标准, 通过单一变量分值的高低来确定企业面临融资约束程度, 如股利支付率、公司规模、终极控股人性质等; 二是多元判别综合指数分组标准, 通过构建融资约束指数模型, 计算融资约束指数来对公司的面临的融资约束水平进行分组, 如KZ指数 (Kaplan & Zingales, 1997)、MDA指数 (Cleary, 1999)、WW指数 (Whited & Wu, 2006) 和SA指数 (Hadlock & Pierce, 2010) 等。这两种分组标准孰优孰劣, 目前尚无权威的定论。

并购是企业扩大规模, 实施战略调整的一种手段。但并购规模的扩张会带来企业并购风险的增加。据Wind数据统计, 2014 年以来中国上市公司作为交易买方, 其未能达成的并购案例就多达 42 起。并购需要巨额现金的即时支付, 有别于日常的资金支出, 因此, 由于并购而产生的财务风险尤其值得关注。目前对并购财务风险的界定尚没有统一的定论, 大多文献停留在笼统的阐述, 没有提出并购财务风险的具体衡量指标。

基于以上分析, 研究融资约束对企业财务行为尤其是财务风险的影响具有理论和现实意义。本文旨在结合收购方面面临的内部融资约束和外部融

资约束, 基于狭义的财务风险视角, 把财务风险界定为偿债风险, 从收购方的长期偿债风险和短期偿债风险出发, 考察融资约束对财务风险的影响, 并对收购方降低并购财务风险提出相关建议。

## 理论分析与研究假设

### 1. 融资约束的定义和分类

目前对融资约束尚没有形成统一的定义。Fazzari, Hubbard & Petersen (1988) 指出, 公司融资约束是指由于融资市场不完善, 公司内部融资与外部融资之间无法完全替代, 在外部融资存在融资溢价的情况下, 公司投资项目的资金来源只能更多地依赖内部资金。融资约束指企业自有资金法满足投资项目资金需求时, 转而寻求外部融资时所面临的摩擦 (Kaplan & Zingales, 1997; Whited & Wu, 2006)。王彦超 (2009) 认为, 由于信息不对称和代理成本的存在, 融资约束体现的是融资需求与融资供给之间的矛盾, 这种矛盾进而会影响到企业的投资行为。影响融资需求的因素主要有投资机会、行业背景、风险承受力和融资政策等等。

目前较少文献提到融资约束的分类。张西征 (2010) 认为, 外部融资约束按产生的原因来分可分为政府政策型融资约束和市场导向型融资约束, 按融资的类别可以分为股权融资约束和债务融资约束。曾爱民、魏志华 (2013) 认为企业面临的融资约束可分为当前约束和未来约束。但目前大多数的研究对只关注当前融资约束, 对未来融资约束未予以考虑。

由上述分析可知, 目前对融资约束尚无统一的定义, 对融资约束的分类也存在不同的观点。基于

企业并购支付方式的选择与企业面临的融资约束有密切的关系，本文从融资约束的来源来定义融资约束概念，认为融资约束是指企业在进行对外投资时，利用内部资金和外部资金融资时所受到的限制。融资约束按其来源可以分为内部融资约束与外部融资约束。内部融资约束是指企业在进行对外投资时，寻求企业内部自有资金的融资支持而受到的限制。本文从内部资金规模约束来反映内部融资约束，以现金持有量表示。外部融资约束是指企业进行对外投资时，由于自有资金的不足转而寻求外部融资时受到的限制。本文从资金供给的角度出发，以外部资金供给的两个来源作为着力点，分别从信贷市场融资规模约束和股权再融资市场融资规模约束来反映外部融资约束，以信贷规模约束和股权扩容规模约束表示。

## 2. 财务风险的界定及影响因素研究

### (1) 财务风险的界定

目前文献把财务风险、财务危机、财务失败和财务困境等同，对它们没有进行严格的区分。Beaver (1966) 的研究表明，无法偿还到期债务表明企业发生了财务失败。而破产、债券违约、透支银、减少股利发放则说明企业已经失败。

国内的研究多以上市公司被ST或PT作为公司是否陷入财务困境的依据，如吴世农、卢贤义 (2001) 等。宋淑琴、刘淑莲 (2014) 对光明集团并购英国维他麦案例进行分析，认为海外并购依赖全杠杆融资的金融环境改善，全杠杆融资能够带来不可忽视的财务风险。

从财务风险涵盖的范围来看，财务风险有广义和狭义之分，广义的财务风险，是指企业在筹资、投资、经营和股利分配等财务活动中，由于面临各种不确定性因素，从而使得企业的财务目标发生偏离，发生经济损失的可能性。而狭义的财务风险主要是指企业的偿债风险，是企业在筹资过程中，

由于未来收益存在不确定性而导致到期不能偿付的风险。由于并购需要巨额的资金保证，由此会对收购方的偿债能力产生影响。因此，本文所指的并购财务风险，主要是基于狭义的财务风险定义，着重分析并购事件发生后，收购方未能达到预期的财务目标而产生的偿债风险。

### (2) 财务风险的微观影响因素

于富生等 (2008) 从董事会特征、高管特征、股权结构三个方面，实证检验表明中国上市公司治理结构对企业财务风险有一定的影响。钱忠华 (2009) 认为股权集中度、国有股权与财务困境概率负相关，说明大股东与国有股份所有者具有阻止财务困境的激励。

### (3) 财务风险的宏观影响因素

王克敏、姬美光和赵沫 (2006) 的研究表明，企业对实际利率变化越敏感，越易受到外部事件冲击，从而陷入财务困境。吕峻和李梓房 (2008) 证明，真实利率水平与公司陷入财务危机概率成正比，信贷增长率与公司陷入财务危机的概率成反比。肖贤辉、谢赤 (2012) 认为上市公司财务困境风险与广义货币供应量 (M 2) 负相关，与实际利率水平正相关。李秉成和祝正芳 (2013) 认为，中央银行货币政策通过影响商业银行信贷量，进而作用于企业财务困境风险，企业财务困境风险与货币供应量负相关。季伟伟 (2014) 研究发现企业财务风险会随着货币政策紧缩程度的变化而变化，宽松(紧缩)的货币政策会降低(提升)企业财务风险。

## 3. 融资约束与财务风险研究

目前融资约束与财务风险的关系研究，主要结论有两种：一是融资约束加大财务风险。吴贾、徐舒、申宇 (2012) 的研究表明，企业较高的融资约束使股票具有较高的风险，从而给企业带来较大的风险，同时融资约束有一个正且显著的风险价格。二是融资约束降低财务风险。Clementi &

Hopenhayn (2006) 进行了“信息不对称条件下”的跨期借贷关系模型研究, 结果表明融资限制会降低远期现金流增加给借款公司带来的风险。

以上分析表明, 对融资约束和财务风险的研究已有很丰富的文献资料, 但是把内部融资约束和外部融资约束与财务风险置于同一分析框架进行研究, 尚缺乏系统的梳理。由于在企业并购过程中, 内部融资约束可能会使企业内源资金的筹集出现困难, 从而转向外源融资。而外部融资约束主要体现在资金容量受限, 可能会导致市场上“无资可融”或者“资金难融”。这些因素都可能会影响公司的财务风险产生影响。前人的研究成果对财务风险的分析主要是基于广义的财务风险定义, 尚未关注对在并购过程中由于内部融资约束和外部融资约束而产生的对收购方长期和短期偿债风险。因此, 基于以上的分析, 本文提出以下假设:

H 1: 内部融资约束越大, 收购方的财务风险越大。

H 2: 股权扩容规模约束越大, 收购方的财务风险越大。

H 3: 信贷规模约束越大, 收购方的财务风险越大。

## 研究设计

### 1. 样本选择与数据来源

考虑到 2005 年中国股权分置改革对公司并购事件产生重要影响, 并且有相当一部分公司在 2005 年后若干年才陆续完成股权分置改革, 因此, 为保证数据的连续性与科学性, 本文以沪深主板上市公司在 2008 年 1 月 1 日至 2012 年 12 月 31 日 5 年间发起的并购交易为研究样本, 并购及相关财务数据均来自 Wind 数据库。

对数据的筛选原则如下:

(1) 并购类型的选择: 由于 2008—2012 年五年间并购的交易方式主要是协议收购、发行股份

购买资产和增资, 因此本研究把并购限定为这三种, 不包括资产剥离、债务重组、资产置换与股份回购等其他形式的并购重组活动。

(2) 支付方式类型选择: 基于中国上市公司并购支付方式多以现金支付与股票支付为主, 其他支付方式样本较少, 为保证有足够的研究样本, 以反映事件的一般规律, 本研究选取完全以现金或完全以股票作为并购支付方式的样本, 其他支付方式不予考虑。

(3) 由于金融和保险类公司采取有别于一般上市公司的会计准则, 其财务指标也有其特殊性, 将其剔除。

(4) 由于收集非上市公司的财务数据存在较大困难, 剔除收购方不是上市公司本身的并购事件。

(5) 如果同一上市公司在一年内有两笔或两笔以上的并购交易, 本文只选择其在该年内交易总额最大的并购交易。

(6) 近年来并购交易数量不断攀升, 并购金额越来越大, 根据重要性原则, 为保证收购方并购交易在整个样本中的重要性, 本文剔除了交易金额低于人民币 1000 万元的样本。

(7) 由于非交易成功的并购原因复杂, 因此, 本文剔除了非交易成功的并购样本。

经过上述数据筛选之后, 共获得 732 家样本公司。对数据的处理采用 Eviews 7.2。

### 2. 研究模型与变量定义

#### (1) 内外部融资约束代理指标的选择

根据并购资金的来源, 收购方的融资约束分为内部融资约束和外部融资约束。内部融资约束产生于收购方内部现金持有量的大小, 一般而言, 公司内部现金持有量越多, 其在并购中采用现金支付的可能性越大 (谢纪刚、赵立彬, 2014)。为了对比现金持有水平与并购交易之间的关系, 本文在主体部分采用现金充裕度即并购前一年末现金及

现金等价物与并购交易金额的比率来反映现金持有量。同时，在稳健性分析中采用（并购前一年的货币资金+交易性金融资产）/并购交易金额来衡量现金持有量。外部融资约束主要是基于信贷市场和股票市场的变化而产生，本文用信贷规模和股权扩容规模来衡量。一般来说，信贷规模越大，表明收购方面临的外部融资约束越小，收购方越容易筹集到信贷资金；股权扩容规模越大，表明收购方增资发行股票的障碍越小，收购方选择股票支付方式的可能性就越大。不管是信贷规模约束还是股权扩容规模约束，其都能通过商业银行信贷量或股票市场容量作用于企业的财务风险。

### (2) 内外部融资约束水平的衡量标准 (FC)

目前文献对融资约束的衡量标准，主要有两种，一是单变量分组衡量标准，二是多元综合指数分组标准。融资约束的这两种衡量标准，孰优孰劣，目前并没有统一的定论。本文以单变量指标来衡量企业面临的内外部融资约束。在衡量内部融资

约束水平时，选取现金充裕度的均值作为划分融资约束组和非融资约束组，现金充裕度大于均值的定义为非融资约束组， $FC=0$ ，现金充裕度小于均值的定义为融资约束组， $FC=1$ ；在衡量外部融资约束时，选取信贷规模和股权扩容规模的均值作为划分融资约束组和非融资约束组，信贷规模和股权扩容规模大于均值的定义为非融资约束组， $FC=0$ ，信贷规模和股权扩容规模小于均值的定义为融资约束组， $FC=1$ 。

### (3) 并购财务风险的度量

为了度量不同的并购支付方式和融资约束水平对收购方财务风险的影响，本文把财务风险定义为偿债风险，按照其影响时间的长短，分为长期财务风险和短期财务风险，长期财务风险用资产负债率来衡量；短期财务风险用速动比率来衡量。

根据前面假设的理论分析，由于企业面临的融资约束程度不同，所带来的风险也存在差别。为此，本文设立以下回归模型：

模型 (1) 和 (2): 检验内部融资约束对长期财务风险和短期财务风险的影响:

$$\text{Level} = \alpha + \beta_1 FC - \text{cashval} + \beta_2 \text{Tobin}' Q + \beta_3 \text{Hh} + \beta_4 \text{Deal} + \beta_5 \text{Size} + \varepsilon \quad (1)$$

$$Qr = \alpha + \beta_1 FC - \text{cashval} + \beta_2 \text{Tobin}' Q + \beta_3 \text{Hh} + \beta_4 \text{Deal} + \beta_5 \text{Size} + \varepsilon \quad (2)$$

模型 (3) 和 (4): 检验信贷规模约束对长期财务风险与短期财务风险的影响:

$$\text{Level} = \alpha + \beta_1 FC - \text{cred} + \beta_2 \text{Tobin}' Q + \beta_3 \text{Hh} + \beta_4 \text{Deal} + \beta_5 \text{Size} + \varepsilon \quad (3)$$

$$Qr = \alpha + \beta_1 FC - \text{cred} + \beta_2 \text{Tobin}' Q + \beta_3 \text{Hh} + \beta_4 \text{Deal} + \beta_5 \text{Size} + \varepsilon \quad (4)$$

模型 (5) 和 (6): 检验股权扩容规模约束对长期财务风险与短期财务风险的影响:

$$\text{Level} = \alpha + \beta_1 FC - \text{equi} + \beta_2 \text{Tobin}' Q + \beta_3 \text{Hh} + \beta_4 \text{Deal} + \beta_5 \text{Size} + \varepsilon \quad (5)$$

$$Qr = \alpha + \beta_1 FC - \text{equi} + \beta_2 \text{Tobin}' Q + \beta_3 \text{Hh} + \beta_4 \text{Deal} + \beta_5 \text{Size} + \varepsilon \quad (6)$$

此外，我们还设置了以下控制变量：(1) 企业成长性 (*Tobin'q*)：收购方市场价值与账面价值之比。*Tobin'q*值越大，意味着企业未来成长性越好，企业出现财务风险的可能性就越小（彭程，杨红，黄荣，2012）；(2) 股权集中度 (*Hh*)：前五大股东持股比例平方和。企业的股权集中度越高，说明企业

的终极控制能力越强，发生财务风险的可能性越小（黄曼行，任家华，2014）；(3) 交易规模 (*Deal*)：并购交易金额与收购方并购前一年末总资产账面价值的比率。并购的规模越大，企业的融资需求越大，财务风险也就越大。(4) 公司规模 (*size*)：收购方并购前一年年末总资产的自然对数。一般来说，

公司规模越大，外部投资者的关注程度越高，因此由于信息不对称而产生的问题越少，它们的破产风险相对较低 (Rajan & Zingales, 1995)。(5) 资产

结构 (Am): 固定资产与资产总额之比。由于固定资产流动性比较差，一般而言，企业的固定资产规模越大，企业的偿债风险就越大 (杨棉之, 2010)。

表 1 变量定义表

变量类型	变量名称		变量符号	变量描述
被解释变量	财务风险	长期财务风险	Level	并购当年的资产负债率 (Level) = 负债总额/资产总额 × 100%
		短期财务风险	Qr	并购当年的速动比率 (Qr) = (流动资产-存货净额) /流动负债
解释变量	融资约束	内部融资约束	FC-cashval	现金充裕度 (Cashval) = 并购前一年末现金及现金等价物与并购交易金额的比率。以现金充裕度均值划分融资约束，小于均值为融资约束组, FC-cashval= 1, 否则为 0。
		外部融资约束	FC-cred	信贷规模 (Cred) = 各项贷款余额/GDP。以信贷规模均值划分融资约束，小于均值为融资约束组, FC-cred= 1, 否则为 0。
			FC-equity	股权扩容规模 (Equity) = 股票筹资总额/ GDP。以股权扩容规模均值划分融资约束，小于均值为融资约束组, FC-equity= 1, 否则为 0。
控制变量	公司规模		Size	收购方并购前一年年末总资产的自然对数
	交易规模		Deal	并购交易金额与收购方并购前一年年末总资产账面价值的比率
	股权集中度		Hh	前十大股东持股比例平方和
	资产结构		Am	固定资产/资产总额
	成长性		Tobin's q	收购方市场价值与账面价值之比, 其中, 收购方的市场价值=年平均股价*总股数+年末公司负债; 收购方的账面价值=年末公司总资产。

### 3. 描述性统计

表 2 报告了内部融资约束、股权扩容规模约束与信贷规模约束与财务风险各变量的描述性统计结果。其中，内部融资约束、股权扩容规模约束和信贷规模约束的均值分别为 0.7391、0.5492 和 0.6325，表明了在内外部融资约束中，内部融资约束的程度最高，其次分别是信贷规模约束和股权

扩容规模约束。而相关控制变量中，前十大股东股权集中度均值为 37.26%，最大值为 87.44%，最小值为 1.54%。同时，并购的交易规模也存在差异，均值为 1.84，最大值达到 613.08。从企业的成长性来看，均值为 2.72，最大值为 29.72，最小值为 2.13。公司规模的均值为 12.55，最大值为 17.26，最小值为 6.17。

表 2 内部融资约束、外部融资约束与财务风险的描述性统计结果 (N=732)

	Level	Qr	FC-cashval	FC-equ	FC-cred	Hh	Deal	Tobin'q	Am	Size
Mean	52.24334	1.642280	0.739071	0.549180	0.632514	0.374818	1.835999	2.686910	0.231735	12.55445
Median	49.73255	0.941600	1.000000	1.000000	1.000000	0.360540	0.040950	2.118821	0.191038	12.41880
Maximum	1008.223	30.83180	1.000000	1.000000	1.000000	0.874412	613.0820	29.71946	0.869258	17.25520
Minimum	2.239300	0.009300	0.000000	0.000000	0.000000	0.015384	0.000100	0.067529	0.000000	6.166000
Std. Dev.	54.65507	2.762786	0.439442	0.497916	0.482450	0.190085	24.11260	2.192063	0.178938	1.419853
Skewness	11.95100	6.351224	-1.088812	-0.197680	-0.549712	0.298288	23.03406	5.258890	0.825345	0.252420
Kurtosis	182.3685	55.02354	2.185511	1.039077	1.302183	2.295042	571.0495	50.78368	2.992313	4.772534
Jarque-Bera	998703.2	87467.92	164.8658	122.0466	124.7851	26.01253	9906478.	73014.06	83.10753	103.6006
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000002	0.000000	0.000000	0.000000	0.000000
Sum	38242.13	1202.149	541.0000	402.0000	463.0000	274.3668	1343.952	1966.818	169.6299	9189.858
Sum Sq. Dev.	2183626.	5579.714	141.1626	181.2295	170.1462	26.41274	425016.3	3512.559	23.40579	1473.683

#### 4. 相关性分析

表 3、表 4 和表 5 分别报告了内部融资约束、股权扩容规模约束和信贷规模约束与财务风险各变量之间的相关关系。从表 3 可以看到，内部融资约束与长期财务风险在 10% 显著性水平显著为正，与短期财务风险在 1% 的显著性水平显著为负；股权扩容规模约束与长期财务风险没有通过相关

性检验，与短期财务风险在 1% 的显著性水平显著为负；信贷规模约束与长期财务风险在 5% 的显著性水平显著为负，与短期财务风险的关系没有通过相关性检验。此外，股权集中度、并购规模和企业成长性均与财务风险显著相关。其中，股权集中度与财务风险显著负相关，而并购规模、企业成长性与财务风险显著正相关。

表 3 内部融资约束与财务风险各变量的相关性分析

Correlation									
Probability		Level	Qr	FC-cashval	Hh	Deal	Tobin'q	Am	Size
Level		1.000000							
		-----							
Qr		-0.219857	1.000000						
		0.0000	-----						
FC-cashval		0.061797	-0.134536	1.000000					
		0.0948	0.0003	-----					
Hh		-0.120303	0.118881	-0.062680	1.000000				
		0.0011	0.0013	0.0901	-----				
Deal		0.100262	0.006820	0.044983	-0.012844	1.000000			
		0.0066	0.8538	0.2241	0.7287	-----			
Tobin'q		0.106870	0.161166	0.093028	-0.025561	0.009772	1.000000		
		0.0038	0.0000	0.0118	0.4899	0.7918	-----		
Am		-0.017615	-0.178215	0.131094	0.090723	-0.064434	-0.104631	1.000000	
		0.6342	0.0000	0.0004	0.0141	0.0815	0.0046	-----	
Size		-0.027141	-0.166134	-0.224467	0.206808	-0.260274	-0.402983	0.223846	1.000000
		0.4634	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-----

表 4 股权扩容规模融资约束与财务风险各变量的相关性分析

Correlation		INSTITUTE OF MANAGEMENT							
Probability		Level	Qr	FC-equ	Hh	Deal	Tobin'q	Am	Size
Level		1.000000							
		-----							
Qr		-0.219857	1.000000						
		0.0000	-----						
FC-equ		-0.044999	-0.107969	1.000000					
		0.2240	0.0034	-----					
Hh		-0.120303	0.118881	0.036579	1.000000				
		0.0011	0.0013	0.3230	-----				
Deal		0.100262	0.006820	-0.025963	-0.012844	1.000000			
		0.0066	0.8538	0.4831	0.7287	-----			
Tobin'q		0.106870	0.161166	-0.092863	-0.025561	0.009772	1.000000		
		0.0038	0.0000	0.0120	0.4899	0.7918	-----		
Am		-0.017615	-0.178215	0.061540	0.090723	-0.064434	-0.104631	1.000000	
		0.6342	0.0000	0.0962	0.0141	0.0815	0.0046	-----	
Size		-0.027141	-0.166134	-0.119668	0.206808	-0.260274	-0.402983	0.223846	1.000000
		0.4634	0.0000	0.0012	0.0000	0.0000	0.0000	0.0000	-----

表 5 信贷规模融资约束与财务风险各变量的相关性分析

Correlation									
Probability		Level	Qr	FC-cred	Hh	Deal	Tobin'q	Am	Size
Level		1.000000							
		-----							
Qr		-0.219857	1.000000						
		0.0000	-----						
FC-cred		-0.072858	0.024159	1.000000					
		0.0488	0.5140	-----					
Hh		-0.120303	0.118881	0.064480	1.000000				
		0.0011	0.0013	0.0813	-----				
Deal		0.100262	0.006820	-0.039249	-0.012844	1.000000			
		0.0066	0.8538	0.2889	0.7287	-----			
Tobin'q		0.106870	0.161166	-0.093859	-0.025561	0.009772	1.000000		
		0.0038	0.0000	0.0111	0.4899	0.7918	-----		
Am		-0.017615	-0.178215	0.015050	0.090723	-0.064434	-0.104631	1.000000	
		0.6342	0.0000	0.6844	0.0141	0.0815	0.0046	-----	
Size		-0.027141	-0.166134	-0.036946	0.206808	-0.260274	-0.402983	0.223846	1.000000
		0.4634	0.0000	0.3182	0.0000	0.0000	0.0000	0.0000	-----

## 实证结果分析

与前面的分析类似, 本节分别从长期财务风险与短期财务风险来阐述内部融资约束、信贷规模约束与股权扩容规模约束与财务风险的关系。

### 1. 内部融资约束与财务风险

表 6、表 7 报告了内部融资约束与长期财务风险与短期财务风险的关系。

从内部融资约束程度与长期财务风险的关系来看, 两者在 10% 的显著性水平通过显著性检验, 表明内部融资约束越大, 收购方的长期财务风险越大。内部融资约束程度与短期财务风险在 5% 显著性水平显著为负, 由于短期财务风险是以速动比率表示, 其指标内涵与反映长期财务风险的资产负债率刚好相反。因此, 该结果表明, 内部融资约束程度越大, 收购方的短期财务风险越大。由此可见, 内部现金流是企业未来偿债能力的保障, 当

企业产生的现金流不足以支付并购的交易金额时, 企业则面临较大的内部融资约束, 当企业因此而转向外部融资约束时, 企业则会产生较大的财务风险。该结论表明假设 1 通过检验。

股权集中度与长期财务风险在 1% 的显著性水平显著为负, 与短期财务风险在 5% 的显著性水平显著为正, 表明股权结构会影响上市公司的财务风险, 股权集中度越高, 则企业面临的财务风险越小。这与杨锦之 (2010) 的实证分析一致。

并购交易规模与长期财务风险在 1% 的显著性水平显著为正, 表明并购交易规模越大, 给企业带来的长期财务风险越大。而并购交易规模与企业的短期财务风险的关系没有通过显著性检验, 可能的原因是, 在并购交易中, 由于收购方所需资金量很大, 不管是内部融资还是外部融资, 抑或是债务融资或股票融资, 从融资的期限来看, 一般都是长期融资, 因此, 并购交易规模主要是对企业长期

财务风险产生影响。

从企业成长性与长期财务风险的关系来看, 两者在 1% 的显著性水平显著为正, 表明企业成长性越高, 其面临的长期财务风险越大; 而企业成长性与短期财务风险则在 1% 的显著性水平显著为正, 表明企业成长性越好, 短期财务风险越小。这种结果表明了企业成长性对收购方的长期和短期财务风险的影响是不同的。企业成长性是企业的价值与资产价值之比, 其只反映企业未来的发展前景, 对于收购方在短期内产生的作用是明显的, 可以使企业更易于筹资来偿还流动负债, 但是从长远来看, 企业产生内部现金流的能力才是其长期偿债能力的根本保证。

从资产结构与长期财务风险的关系来看, 两者

没有通过显著性检验; 而资产结构与短期财务风险在 1% 的显著性水平显著负相关, 表明了固定资产所占的比例越大, 企业的短期财务风险越大。由于固定资产的流动性较弱, 如果企业总资产占比过大, 势必会影响企业的短期偿债能力。

从公司规模与长期财务风险的关系来看, 两者在 1% 的显著性水平上显著为正, 表明公司规模越大, 收购方的长期财务风险越大, 可能的原因是企业并购后, 规模越大的公司, 往往在经营战略实施受阻等情况下出现“船大难掉头”的情况, 从而引发财务风险; 而从公司规模与短期财务风险来看, 两者在 1% 的显著性水平显著为正, 表明了公司规模越大, 收购方的短期财务风险越小。

表 6 内部融资约束对长期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cashval	7.690310	4.430357	1.735822	0.0830
Hh	-37.83640	10.71636	-3.530712	0.0004
Deal	0.275372	0.082648	3.331883	0.0009
Tobin'q	3.458771	0.875446	3.950867	0.0001
Am	-4.619398	11.52737	-0.400733	0.6887
Size	4.141642	0.478056	8.663506	0.0000

表 7 内部融资约束对短期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cashval	-0.548181	0.220692	-2.483917	0.0132
Hh	2.261495	0.533821	4.236429	0.0000
Deal	0.001541	0.004117	0.374241	0.7083
Tobin'q	0.245230	0.043609	5.623357	0.0000
Am	-2.282696	0.574220	-3.975296	0.0001
Size	0.081394	0.023814	3.417965	0.0007

## 2. 外部融资约束与财务风险

### (1) 股权扩容规模约束对财务风险的影响

表 8 和表 9 报告了股权扩容规模约束对收购方长期和短期财务风险的关系。

从股权扩容规模约束与收购方长期财务风险的关系来看, 两者未通过显著性检验。可能的原因是股权扩容规模增加, 为企业并购提供了股票融

资的容量规模。收购方的长期财务风险考察的是企业债务的偿还能力。股权扩容规模约束的升高或降低, 并不必然导致企业长期偿债能力的降低。而股权扩容规模约束与收购方的短期财务风险在 10% 的显著性水平显著为负, 表明了股权扩容规模约束越大, 收购方的短期财务风险越大。

表 8 股权扩容规模约束对长期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-equity	-0.634519	3.923194	-0.161735	0.8716
Hh	-38.37675	10.75284	-3.568988	0.0004
Deal	0.288440	0.082480	3.497086	0.0005
Tobin's q	3.774489	0.857973	4.399311	0.0000
Am	-1.232632	11.42160	-0.107921	0.9141
Size	4.496775	0.458997	9.796953	0.0000

表 9 股权扩容规模约束对短期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-equity	-0.368445	0.195377	-1.885818	0.0597
Hh	2.370823	0.535496	4.427338	0.0000
Deal	0.000670	0.004108	0.163161	0.8704
Tobin's q	0.221792	0.042727	5.190854	0.0000
Am	-2.444064	0.568801	-4.296872	0.0000
Size	0.070313	0.022858	3.076055	0.0022

### (2) 信贷规模约束对财务风险的影响

表 10 和表 11 报告了信贷规模约束和财务风险的关系。如表所示, 信贷规模约束与收购方的长期财务风险和短期财务风险都没有通过显著性检

验。原因可能在于, 随着信贷规模不断扩大, 企业面临的信贷规模约束越来越小, 但是, 企业是否真正取得信贷资金受很多因素的影响, 而企业能否偿还债务, 根本在于企业产生现金流的能力。

表 10 信贷规模约束对长期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cred	4.739851	3.961610	1.196446	0.2319
Hh	-38.80522	10.72481	-3.618267	0.0003
Deal	0.283401	0.082502	3.435081	0.0006
Tobin'q	3.713125	0.858704	4.324106	0.0000
Am	-0.885476	11.39210	-0.077727	0.9381
Size	4.306753	0.460268	9.357061	0.0000

表 11 信贷规模约束对短期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cred	-0.006123	0.197964	-0.030928	0.9753
Hh	2.308168	0.535924	4.306891	0.0000
Deal	0.000622	0.004123	0.150944	0.8801
Tobin'q	0.222704	0.042910	5.190038	0.0000
Am	-2.515966	0.569269	-4.419641	0.0000
Size	0.057853	0.023000	2.515381	0.0121

综合上述对股权扩容规模约束和信贷规模约束与财务风险的关系检验结果, 可以看到, 总体上外部融资约束与财务风险之间不存在显著性相关性, 即股权扩容规模的扩大或缩小, 信贷规模的增加或减少, 对企业的财务风险都没有显著影响。引起企业财务风险的因素主要来自企业内部, 其中内部现金持有量是很重要的一方面。

### 稳健性检验

#### 1. 内部融资约束对财务风险的影响

为保证上述研究结果不受内部融资约束代理

变量选择的影响, 本文采用更换解释变量的方法进行稳健性检验, 以(货币资金+交易性金融资产)与并购交易金额之比的均值来表示内部融资约束水平, 以此来考察内部融资约束与财务风险的关系。从表 12、表 13 可以看到, 内部融资约束与长期财务风险在 10% 的显著性水平显著为正, 说明内部融资约束越大, 收购方面面临的长期财务风险越大; 而内部融资约束与短期财务风险在 5% 的显著性水平显著为负, 说明内部融资约束越大, 收购方面面临的短期财务风险也越大。该结论与前述一致, 说明本文的研究结果是稳健的。

表 12 内部融资约束对长期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cashval	7.606724	4.398463	1.729405	0.0842
Hh	-37.86977	10.71592	-3.533974	0.0004
Deal	0.275543	0.082642	3.334154	0.0009
Tobin'q	3.453175	0.876284	3.940702	0.0001
Am	-4.332529	11.50269	-0.376654	0.7065
Size	4.146048	0.477328	8.685954	0.0000

表 13 内部融资约束对短期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cashval	-0.536904	0.219125	-2.450219	0.0145
Hh	2.264304	0.533851	4.241451	0.0000
Deal	0.001520	0.004117	0.369099	0.7122
Tobin'q	0.245403	0.043655	5.621396	0.0000
Am	-2.305226	0.573047	-4.022751	0.0001
Size	0.080850	0.023780	3.399963	0.0007

## 2. 外部融资约束对财务风险的影响

### (1) 股权扩容规模约束对财务风险的影响

为避免由于代理解释变量的选择而造成对研究结果的影响, 本文采用更换解释变量的方法进行稳健性检验, 以中国境内首发、增发和配股与GDP之比的均值来表示股权扩容规模约束水平, 以此来考察股权扩容规模约束与财务风险的关系。从

表 14 和表 15 可以看出, 股权扩容规模约束与收购方的长期财务风险没有通过显著性检验, 与收购方短期财务风险在 10% 的显著性水平显著为负, 表明股权扩容规模约束越大, 企业的短期财务风险越大。这与文中主体部分的研究结论一致。

表 14 股权扩容规模约束对长期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-equity	4.088767	6.991745	0.584799	0.5590
Hh	-58.38047	18.31804	-3.187047	0.0016
Deal	0.272395	0.111402	2.445153	0.0149
Tobin'q	5.781032	1.545287	3.741074	0.0002
Am	-28.77848	24.11088	-1.193589	0.2334
Size	4.622802	0.808685	5.716444	0.0000

表 15 股权扩容规模约束对短期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-equity	-0.530403	0.270942	-1.957626	0.0510
Hh	4.145054	0.709855	5.839296	0.0000
Deal	0.000921	0.004317	0.213343	0.8312
Tobin's q	0.197561	0.059882	3.299142	0.0011
Am	-2.063212	0.934337	-2.208208	0.0278
Size	0.040180	0.031338	1.282154	0.2005

(2) 信贷规模约束对财务风险的影响

同样, 为避免由于代理解释变量的选择造成对研究结论的影响, 在稳健性检验中, 本文采取变更解释变量的方法进行, 以货币供应量增长率的均

值作为信贷规模约束的代理变量。从表 16 和表 17 可以看到, 信贷规模约束与长期财务风险与短期财务风险的关系均没有通过显著性检验, 与本文主体部分的研究结论一致。

表 16 信贷规模约束对长期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cred	-4.150815	4.063836	-1.021403	0.3074
Hh	-37.65103	10.75540	-3.500662	0.0005
Deal	0.288139	0.082421	3.495955	0.0005
Tobin's q	3.764131	0.857405	4.390146	0.0000
Am	-1.297322	11.38851	-0.113915	0.9093
Size	4.657224	0.473325	9.839384	0.0000

表 17 信贷规模约束对短期财务风险的影响

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FC-cred	0.290026	0.202732	1.430586	0.1530
Hh	2.249458	0.536554	4.192413	0.0000
Deal	0.000630	0.004112	0.153323	0.8782
Tobin's q	0.223447	0.042773	5.223970	0.0000
Am	-2.519418	0.568138	-4.434517	0.0000
Size	0.044900	0.023613	1.901503	0.0576

## 研究结论及政策建议

本文深入研究了企业内外部融资约束与财务风险之间的关系,研究结果表明:

1. 从内部融资约束程度与长期财务风险的关系来看,两者在 10%的显著性水平通过显著性检验,表明内部融资约束越大,收购方的长期财务风险越大。内部融资约束程度与短期财务风险在 5%显著性水平显著为负,由于短期财务风险是以速动比率表示,其指标内涵与反映长期财务风险的资产负债率刚好相反。因此,该结果表明,内部融资约束程度越大,收购方的短期财务风险越大。由此可见,内部现金流是企业未来偿债能力的保障,当企业产生的现金流不足以支付并购的交易金额时,企业则面临较大的内部融资约束,当企业因此而转向外部融资约束时,企业则会产生较大的财务风险。该结论表明假设 1 通过检验。

2. 从股权扩容规模约束与收购方长期财务风险的关系来看,两者未通过显著性检验。可能的原因是股权扩容规模增加,为企业并购提供了股票融资的容量规模。收购方的长期财务风险考察的是企业债务的偿还能力。股权扩容规模约束的升高或降低,并不必然导致企业长期偿债能力的降低。而股权扩容规模约束与收购方的短期财务风险在 10%的显著性显著为负,表明了股权扩容规模约束越大,收购方的短期财务风险越大。

3. 信贷规模约束与收购方的长期财务风险和短期财务风险都没有通过显著性检验。原因可能

在于,随着信贷规模不断扩大,企业面临的信贷规模约束越来越小,但是,企业是否真正取得信贷资金受很多因素的影响,而企业能否偿还债务,根本在于企业产生现金流的能力。

综上所述,内部融资约束与外部融资约束对财务风险的影响程度是不同的,企业的财务风险主要来源于内部融资约束,不管是长期财务风险,还是短期财务风险,内部融资约束均与其通过了显著性检验,表明了内部融资约束越大,给企业带来的财务风险越大。而外部融资约束对企业财务风险大小的影响是不确定的。从股权扩容规模约束对财务风险的影响来看,股权扩容规模约束仅与短期财务风险通过显著性检验,表明股权扩容规模约束越大,企业的短期财务风险也越大;股权扩容规模约束与长期财务风险的关系并没有通过显著性检验。而信贷规模约束与财务风险的关系,不管是从长期财务风险,还是从短期财务风险的角度来看,都没有通过显著性检验。以上的分析表明,企业要避免并购财务风险,应着重从降低内部融资约束入手,从本文对财务风险的定义来看,则主要是提高企业内部现金持有量,提高企业的偿债能力。从宏观层面来看,国家应着力提供适合经济发展的“资金容量”,解决“容量受限”问题,不管是对信贷资金,抑或是股票资金,要引导资金流向业绩好的上市公司,这样才能实现资金的良性循环,降低并购企业的财务风险。

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**PANYAPIWAT**  
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# THE DIFFERENCE IN IMPACTS OF SUPPLY CHAIN CAPITAL STRUCTURES ON CUSTOMER AND SUPPLIER COLLABORATION IN MANUFACTURING FIRMS IN THAILAND

ผลกระทบจากโครงสร้างทางการเงินของห่วงโซ่อุปทานต่อความร่วมมือระหว่างบริษัทกับลูกค้า  
และซัพพลายเออร์ในประเทศไทย

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## Abstract

Effective and efficient firm collaborations with suppliers and customers can lead to improving supply chain performance and stimulate firm growth. This paper investigated customer and supplier collaboration within the different types of supply chain capital structures. We focus on pure Thai, pure MNCs, pure Join Venture, export, and import supply chain capital structures. The data, collected from 2012-2015, consist of 939 responses from manufacturing firms, located in Thailand. One-way ANOVA method is used to analyze the data. The results indicate that at least one type of supply chain capital structure is significantly different from other types of all factors relating to customer collaboration and supplier collaboration. Based on our Post-hoc Analysis, pure MNCs chain and pure JVs chain are significantly different in the supply chain collaboration from the other three chains. However, there is no significant difference in the supply chain collaboration between the group of pure MNCs chain and pure JVs chain.

**Keywords:** Supply Chain Collaboration, Supply Chain Capital Structure, Supply Chain Management

## บทคัดย่อ

ความร่วมมือระหว่างพัฒนาอิเล็กทรอนิกส์และลูกค้าที่ดีสามารถเพิ่มประสิทธิภาพของห่วงโซ่อุปทานและกระตุ้นให้บริษัทเติบโต งานวิจัยนี้ศึกษาเปรียบเทียบความร่วมมือระหว่างบริษัทในห่วงโซ่อุปทานในรูปแบบต่างๆ ที่ประกอบไปด้วยห่วงโซ่องค์กรภายในประเทศ (Pure Domestics Chain) ห่วงโซ่องค์กรต่างชาติทั้งหมด (Pure MNCs Chain) ห่วงโซ่องค์กรร่วมทุนทั้งหมด (Pure Joint Venture Chain) ห่วงโซ่มีลูกค้าเป็นบริษัทต่างชาติ (Export Chain) ห่วงโซ่มีชั้นนำของบริษัทต่างชาติ (Import Chain) โดยใช้ข้อมูลแบบสอบถามที่จัดเก็บระหว่างปี 2555-2558 ซึ่งมีทั้งหมด 939 บริษัทที่ทำการผลิตและอยู่ในประเทศไทย จากการวิเคราะห์ผ่านค่าความแปรปรวน (One-way ANOVA) พบว่า มีรูปแบบของห่วงโซ่องค์กรน้อยหนึ่งรูปแบบที่แตกต่างจากห่วงโซ่อื่นๆ ในทุกปัจจัยของความร่วมมือ กับบริษัทลูกค้าและทุกปัจจัยของความร่วมมือกับชั้นนำของบริษัทต่างชาติทั้งหมด และห่วงโซ่มีลูกค้าเป็นบริษัทต่างชาติทั้งหมด มีความแตกต่างอย่างชัดเจนในด้านความร่วมมือกันระหว่างบริษัทในห่วงโซ่ เมื่อเทียบกับห่วงโซ่อุปทานอื่นๆ แต่ห่วงโซ่ทั้งสองรูปแบบนี้ ไม่มีความแตกต่างกันอย่างชัดเจนในด้านความร่วมมือกันระหว่างบริษัทในห่วงโซ่

**คำสำคัญ:** ความร่วมมือในห่วงโซ่อุปทาน โครงสร้างทางการเงินในห่วงโซ่อุปทาน การบริหารจัดการห่วงโซ่อุปทาน

## Introduction

Thailand joined the ranks of the upper-middle-income countries in 2011 (Thailand Industrialization and Economic Catch-up, 2015). Agriculture is one of the main sectors to drive the economy of the country since it employs over 40% of workers. The intensive agriculture has been changed from labor-intensive and traditional methods to more modern production techniques. Basically, it is driven by the increasing of foreign direct investments (FDIs) and resources allocation among economic sectors. The foreign investors mostly come from Japan, the United States, and Europe. They reallocate the labor and capital inputs from the agriculture sector to many other sectors such as manufacturing, automotive, electronic, and service industry (OECD, 2013). From this trend, the government adopts a dual-track policy to enhance the capabilities of Thai firms

in these industries. Thailand has derived technological capabilities from multinational firms. In other words, the primary technology transfer is embodied in equipment (OECD, 2013).

Thailand can boost performance in the long run by improving labor force skill, investing in infrastructure, and coordinating and implementing on science and technology policies. Upgrading the country's innovation capabilities depends partly on enhancing teaching and research quality, investing in public research facilities, and providing research and development (R&D) incentives to local firms, joint ventures (JVs) firms, and multinational companies (MNCs) firms. Thai manufacturing firms also need to strengthen collaborative innovation linkages with suppliers and customers (OECD, 2013).

The increase of local firms, JVs, and MNCs firms make business environment become more competitive in both formal R&D firms

(Dzhumashev, Mishra & Smyth, 2016) and non-formal R&D firms (Sterlacchini, 1999). In order to become more resilient and adapt to the globalization, each firm must focus on improving their performances and product innovation (Cucculelli, Le Breton-Miller & Miller, 2016; Mantovani, 2006; Petsas & Giannikos, 2005), process innovation (Reichstein & Salter, 2006), and collaboration with suppliers and customers (Alarcón & Sánchez, 2013).

In this paper, only customer and supplier collaboration within each type of supply chain capital structure are taken into consideration. From our interview with the manufacturing firm in Thailand, we would like to categorize five types of the supply chain capital structure. They are pure domestic chain, pure JVs chain, pure MNCs chain, export chain, and import chain. Thus, the objective of this paper is to investigate the difference in impacts of supply chain capital structures on customer collaboration and supplier collaboration.

## Literature Review

There are many factors that the manufacturing firms need to improve such that the firms can stay competitive with their competitors in this tough business environment. Those factors are product innovation (Cucculelli et al., 2016; Manders, de Vries & Blind, 2016; Mantovani, 2006; Petsas & Giannikos, 2005), process innovation (Reichstein & Salter, 2006), position and paradigm innovation (Baregheh, Hemsworth, Rowley & Davies, 2012), absorptive capacity utilization (Huang et al., 2015), technological

competency (Vega-Jurado et al., 2008), supply chain integration innovation (Wong, Wong & Boon-itt, 2013), human resource development (Zhang & Yin, 2012), market expansion (Martinez-Ros, 1999), collaboration with internal and external resources (Alarcón & Sánchez, 2013). Past studies showed that the firms that improve these factors can improve their performances.

Scholars defined the definitions of collaboration differently. Simatupang, Wright & Sridharan (2004) and Cao & Zhang (2011) stated that collaboration is a partnership process, where two or more firms work closely to plan and execute supply chain operation toward a common goal and mutual benefit. Samaddar & Kadiyala (2006) defined collaboration as an imitation and implementation of knowledge creation endeavor. The members of the chain share the expenses and benefits of newly created knowledge through joint ownership of patents and/or licenses. The ability to work across organizational boundaries to create and manage unique value-added processes to meet customer needs was also part of collaboration (Fawcett et al., 2011). Simatupang & Sridharan (2008) defined collaboration as sharing resources and capabilities with the related firms to meet customer demands. Therefore, collaboration is the process of cooperation with the downstream (customers) and upstream (suppliers) members of the supply chain. Simatupang & Sridharan (2005) presented five activities of collaboration. They are collaborative performance, information sharing, decision synchronizing, incentive-aligning, and supply chain integration processing. In this

paper, we are interested in the following activities of collaborations. They are joint capital investment, personnel exchange between the firms and its partners, training to/from the customers and/or suppliers, and joint product/service design with the downstream and/or upstream members. The objective of the collaboration is mostly to yield mutual benefits for firms in the supply chain. We consider these factors because from our interview the firms basically talk about these kinds of customer and supplier collaboration.

In warehouse operations, the goal of the collaboration is to increase throughput and reduce inventory and operation expenses (Simatupang, Wright & Sridharan, 2004). Maietta (2015) studied the determinants of R&D collaboration between the university and firm, and how this collaboration influences product and process innovation in the low-tech industries. The results indicated that the university-firm R&D collaboration affects the process and product innovation. Hudnurkar, Jakhar & Rathod (2014) summarized the factors affecting supply chain collaboration. They stated that information sharing is very significant and effective in supply chain collaboration. The collaboration with internal and/or external resources are essential for the firm's development (Alarcón & Sánchez, 2013). It is the main sources of knowledge transfer and knowledge development within the firms. The firms with supplier/customer collaborations are more likely to create innovation and achieve high performance (Karabulut, 2015).

From collaboration, Dyer & Nobeoka (2000) presented a case study related to how Toyota create and manage a high performance of knowledge sharing network. This case study examines the black box of knowledge sharing within Toyota's network. It also demonstrates Toyota's ability to create and manage network-level of knowledge sharing effectively. It partially explains the relative productivity advantages enjoyed by Toyota and its suppliers. The result suggests that creating competitive advantages the firms need to extend beyond its boundaries. Knowledge sharing within Toyota's network can improve the performance of the firms, so Toyota motivates members to participate and openly share knowledge by preventing members from free riding. Toyota can effectively and efficiently transfer both explicit and tacit knowledge (Nonaka & Konno, 1998; Nonaka & Takeuchi, 1995).

From the literature, two hypotheses are proposed.

**Hypothesis 1:** Types of supply chain capital structure do not differently impact on the customer collaboration.

**Hypothesis 2:** Types of supply chain capital structure do not differently impact on supplier collaboration.

## Methodology

We observed three members in the supply chain: the firms, the customers, and the suppliers. Each member of the supply chain has the following capital structure: 100% local owned (Domestic), joint ventures (JVs), and multi-

national companies (MNCs). Only five types of the supply chain capital structure are observed in this paper. Those supply chain types are: pure domestic chain (domestic, domestic, domestic), pure JVs chain (JVs, JVs, JVs), pure MNCs chain (MNCs, MNCs, MNCs), export chain (all, all, JVs/MNCs), and import chain (all, all, domestic). To specify, the word all in the export chain and import chain refer to any types: domestic, JVs, or MNCs of supply chain capital structure. Pure MNCs chain and Pure JVs chain in the export chain are excluded since it is classified as two different types already. Pure domestic chain in Import chain is also excluded since it is classified as another type of supply chain capital structure.

We collect data via questionnaire surveys. The constructed questionnaire contain three main parts the demographic profile of the establishment, the achievement for upgrading product and process innovation, and business linkages with main customers and supplier.

### **1. Sample and Data Collection**

The questionnaires are constructed. Then it is distributed to the manufacturing firms located in Thailand via email, post office, and in person. In this paper, the data are collected from 2012 to 2015. There are 939 responses,

included in the empirical statistical analysis.

### **2. Measurement Scale**

In this paper, the dependent variable consists of customer collaboration and supplier collaboration. In each main group, there are also sub-factors. The dichotomous questions are used to measure customer collaboration and supplier collaboration, where 0 = No and 1 = Yes. The independent variable is the supply chain capital structure type. There are 5 categories in the supply chain capital structure, where 1 = pure domestic chain, 2 = pure JVs chain, 3 = pure MNCs chain, 4 = export chain, and 5 = import chain. In this paper, one-way ANOVA method is used to observe which type of supply chain capital structure are better and significantly different for each sub-factor of customer (H1) and supplier collaboration (H2).

## **Results and Discussions**

### **1. Data Descriptive**

The demographic of the respondents consists of four parts. Each part contains frequency and percentage as illustrated in table 1. This table gives the basic information of the manufacturing firms, who responds to our survey.

**Table 1** Demographic of the respondents

Sections	Description of each section	Freq	%
Capital structure of establishment (Firms)	100% local owned	773	82.3
	100% foreign owned (MNC)	79	8.4
	Joint Venture (JV, locally and foreign owned)	87	9.3
Total			939 100.0
Capital structure of Customers	100% locally private owned	667	71.0
	100% foreign owned	125	13.3
	Joint Venture	102	10.9
	Total	894	95.2
	missing	45	4.8
Total			939 100.0
Capital structure of Suppliers	100% locally private owned	610	65.0
	100% foreign owned	121	12.9
	Joint Venture	137	14.6
	Total	868	92.4
	missing	71	7.6
Total			939 100.0
Number of full-time employees	1-19	230	24.5
	20-49	164	17.5
	50-99	137	14.6
	100-199	110	11.7
	200-299	64	6.8
	300-399	28	3.0
	400-499	21	2.2
	500-999	58	6.2
	1,000-1,499	25	2.7
	1,500-1,999	17	1.8
Total	2,000 and above	66	7.0
	Total	920	98.0
	missing	19	2.0
Total			939 100.0

**Table 1** Demographic of the respondents (cont.)

Sections	Description of each section	Freq	%
Main business activity	food, beverages, tobacco	96	10.2
	Textiles	39	4.2
	Apparel, leather	33	3.5
	Footwear	2	0.2
	Wood, wood products	57	6.1
	Paper, paper products, printing	48	5.1
	Chemical, chemical products	27	2.9
	Plastic, rubber products	44	4.7
	Other non-metallic mineral products	13	1.4
	Iron, Steel	42	4.5
	Non-ferrous metals	13	1.4
	Metal products	42	4.5
	Machinery, equipment, tools	56	6.0
	Computers & computer parts	20	2.1
	Other electronics & components	66	7.0
	Precision instruments	2	0.2
	Automobile, auto parts	99	10.5
	Other transportation equipment and parts	12	1.3
	Handicraft	2	0.2
	Other	212	22.6
	Total	925	98.5
	missing	14	1.5
Total		939	100.0

## 2. Hypotheses Testing

There are two main groups of the dependent variables. They are customer collaboration factors (H1) and supplier collaboration factors (H2). The factors in each group are analyzed by using one-way ANOVA method, where the

independent variable is the different types of supply chain capital structures. The detail of dependent and independent variables are shown in table 2 and table 3, respectively. The significant level p-Value of this empirical analysis is 95% confidence level.

**Table 2** Customer and supplier collaboration factors

Dependent Variables			Freq	Mean	STD
Customer Collaboration	Factor 1a	Firms having a capital tie-up with the main customer	904	.16	.370
	Factor 1b	Firms dispatch personnel to the main customer	904	.32	.466
	Factor 1c	Main customer dispatches personnel to the firms	887	.22	.414
	Factor 1d	Firms provide any training to the main customer	906	.40	.491
	Factor 1e	Firms receive some training from the main customer	905	.47	.499
	Factor 1f	Firms design a new product or service with the main customer	908	.44	.497
Supplier Collaboration	Factor 2a	Firms having a capital tie-up with the main supplier	883	.20	.418
	Factor 2b	Firms dispatch personnel to the main supplier	833	.29	.453
	Factor 2c	The main supplier dispatches personnel to the firms	843	.21	.410
	Factor 2d	Firms provide any training to the main supplier	875	.37	.484
	Factor 2e	Firms receive some training from the main supplier	877	.49	.500
	Factor 2f	Firms design a new product or service with the main supplier	881	.41	.493

**Table 3** Types of supply chain capital structure

Independent Variables			Freq	%
5 Types of Supply Chain Capital Structure	Type 1	Pure_Domestic_Chain	508	54.1
	Type 2	Pure_JVs_Chain	24	2.6
	Type 3	Pure_MNCs_Chain	23	2.4
	Type 4	Export_Chain	225	24.0
	Type 5	Import_Chain	159	16.9
Total			939	100.0

### 3. Customer Collaboration (H1)

There are six factors included in customer collaboration that we used to observe firm and customer collaboration. Those factors are given in table 4. From table 4, the p-Value is less than 0.05 for all factors. Therefore, the

null hypothesis (H1) is rejected since these data provide substantial evidence that at least there is one significant different impact of supply chain capital structure on the collaboration between the customer and the firm with 95% confidential interval.

**Table 4** The impact of supply chain capital structure on customer collaboration

Customer Collaboration			Sum of Squares	df	Mean Square	F	Sig.
Factor 1a	Firms having a capital tie-up with the main customer	Between Groups	3.208	4	0.802	5.981	0.000
		Within Groups	120.562	899	0.134		
		Total	123.77	903			
Factor 1b	Firms dispatch personnel to the main customer	Between Groups	4.687	4	1.172	5.509	0.000
		Within Groups	191.197	899	0.213		
		Total	195.884	903			
Factor 1c	The main customer dispatches personnel to the firms	Between Groups	10.565	4	2.641	16.521	0.000
		Within Groups	141.005	882	0.16		
		Total	151.569	886			
Factor 1d	Firms provide some training to the main customer	Between Groups	6.959	4	1.74	7.423	0.000
		Within Groups	211.186	901	0.234		
		Total	218.146	905			
Factor 1e	Firms receive some training from the main customer	Between Groups	9.24	4	2.31	9.625	0.000
		Within Groups	215.982	900	0.24		
		Total	225.222	904			
Factor 1f	Firms design a new product or service with the main customer	Between Groups	10.677	4	2.669	11.311	0.000
		Within Groups	213.111	903	0.236		
		Total	223.789	907			

In post-hoc Multiple Comparisons, LSD is used for the equal variances assumed. From post-hoc Analysis, we can identify which pair of a chain of the capital structure is significantly different. There are four pairs, significantly different within factor 1a and factor 1c. The export chain is significantly better than import chain and pure domestic chain, where pure MNCs chain is significantly better than pure domestic chain and import chain. Factor 1b, the export chain is significantly better than a pure domestic chain, where pure JVs chain is significantly better than pure domestic chain and import chain. Factor 1d, export chain, import chain, and pure MNCs chain are significantly better than a pure domestic chain. Factor 1e, the export chain is significantly better than import chain and pure domestic chain. Pure JVs chain is significantly better than a pure domestic chain. Factor 1f, export chain, pure JVs chain, and Pure MNCs chain are significantly better than a pure domestic chain.

Hence, all significant pairs within each factor of customer collaboration, only firms in the pure domestic chain have less collaboration with the customer. Then import chain has the customer collaboration higher than a pure domestic chain. The export chain is even better than pure domestic chain and import chain. The pure MNCs chain and pure JVs chain has the highest customer collaboration, and there are not any significantly different between pure

MNCs chain and Pure JVs chain.

#### 4. *Supplier collaboration (H2)*

We investigated six factors of supplier collaboration. They are used to observe firm and supplier collaboration. From table 5, the p-Value is less than 0.05 for all factors. Therefore, the null hypothesis (H2) is rejected since these data provide substantial evidence that at least there is one significant different impact of supply chain capital structure on the collaboration between the supplier and the firm.

In post-hoc Multiple Comparisons, LSD is used for the equal variances assumed. Post-hoc can show which pair of the chain of the capital structure is significantly different. Factor 2a, pure MNCs chain is significantly better than a pure domestic chain, export chain, and import chain. Factor 2b, the export chain is significantly better than a pure domestic chain. Factor 2c, pure MNCs chain and export chain is significantly better than a pure domestic chain. Factor 2d, the export chain is significantly better than pure domestic chain and import chain. Factor 2e, export chain and import chain are significantly better than a pure domestic chain. Factor 2f, pure JVs chain, pure MNCs chain, and export chain are significantly better than a pure domestic chain. Moreover, pure MNCs chain and export chain are significantly better than import chain.

**Table 5** The impact of supply chain capital structure on supplier collaboration

Supplier collaboration			Sum of Squares	df	Mean Square	F	Sig.
Factor 2a	Firms having a capital tie-up with the main supplier	Between Groups	5.303	4	1.326	7.822	0.000
		Within Groups	148.815	878	0.169		
		Total	154.118	882			
Factor 2b	Firms dispatch personnel to the main supplier	Between Groups	3.237	4	0.809	4.008	0.003
		Within Groups	167.19	828	0.202		
		Total	170.427	832			
Factor 2c	The main supplier dispatches personnel to the firms	Between Groups	5.926	4	1.482	9.154	0.000
		Within Groups	135.639	838	0.162		
		Total	141.566	842			
Factor 2d	Firms provide any training to the main supplier	Between Groups	8.415	4	2.104	9.32	0.000
		Within Groups	196.381	870	0.226		
		Total	204.795	874			
Factor 2e	Firms receive some training from the main supplier	Between Groups	4.754	4	1.189	4.834	0.001
		Within Groups	214.393	872	0.246		
		Total	219.147	876			
Factor 2f	Firms design a new product or service with the main supplier	Between Groups	12.854	4	3.214	14.011	0.000
		Within Groups	200.925	876	0.229		
		Total	213.78	880			

Hence, all significant pairs within each factor of supplier collaboration, only firms in the pure domestic chain have less collaboration with the supplier. Then import chain has the supplier collaboration higher than a pure domestic chain. The export chain is even better than pure domestic chain and import chain. The pure MNCs chain and pure JVs chain has the highest supplier collaboration, and there are not any significantly different between pure MNCs chain and Pure JVs chain.

### Conclusion and Further Study

Based on our empirical results, each factor of customer collaboration and supplier collaboration are significantly impacted by the type of supply chain capital structure. From post-hoc, the pairs, which is significantly different in each factor of customer and supplier collaboration, are defined. From those significantly different pairs; basically, we can see that there are no collaboration factors that are significantly different between pure MNCs and pure JVs chain. Pure MNCs and pure JVs chain seem

to have the highest customer and supplier collaboration. After these two chains, the levels of collaboration activities are followed by an export chain, import chain and pure domestic chain in sequentially.

This paper contributes to the existing literature by identifying some key factors of customer collaboration and supplier collaboration, that impacted differently among the supply chain capital structures. There are 3 limitations in our study. First, the relationship period of the firm with their customer and supplier are not considered. Second, we do not classify the firms into the small, medium, and large firm. In case that we classify, the sample size for some types of supply chain

capital structure is very small, and we cannot use it to analyze. Third, the data are collected from the manufacturing firm; however, we cannot focus on a specific type of business since the sample size is not enough to analyze.

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## CUCKOO SEARCH ALGORITHM FOR THE VEHICLE ROUTING PROBLEM WITH BACKHAULS AND TIME WINDOWS

การพัฒนาวิธีการจัดเส้นทางเดินรถซึ่งมีข้อจำกัดด้านรถเที่ยวกลับและตารางเวลาด้วยวิธีการค้นหา  
คำตอบจากการเลียนแบบพุติกรรมของนกคuckoo

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### Abstract

A Vehicle Routing Problem with Backhauls and Time Windows (VRPBTW) involves two different subsets of customers known as linehauls and backhauls. The demands of the linehauls must be delivered before the backhaul pickups. The total demands of customers must not exceed a vehicle's capacity, and the time that a vehicle arrives at every customer must be within the required time windows. In this study, we present a cuckoo search (CS) algorithm, which is inspired from aggressive breeding behavior of cuckoo birds to solve this problem. Moreover, we proposed the nearest neighbor with roulette wheel selection method (NNRW) as an initial solution algorithm. The proposed method was tested on a set of benchmark instances. The results indicated that NNRW gave equal or better solutions than the improved nearest neighbor algorithm (INN). Furthermore, CS algorithm was compared with other methods from existing studies. Computational results show that our algorithm gave equivalent solutions to or better solutions than the best known solutions for the majority of small and medium-size instances. Hence, it is a competitive method for solving small and medium size VRPBTW problems.

**Keywords:** vehicle routing problems, backhaul, time window, cuckoo search

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## บทคัดย่อ

ปัญหาการจัดการเส้นทางเดินรถโดยมีข้อจำกัดด้านรถเที่ยวกลับและตารางเวลา นั้นเกี่ยวข้องกับกลุ่มลูกค้าสองประเภท ได้แก่ ลูกค้าเที่ยวไป และลูกค้าเที่ยวกลับ โดยเราจะต้องนำสินค้าไปส่งให้กับลูกค้าเที่ยวไปก่อนที่จะรับสินค้าจากลูกค้าเที่ยวกลับเสมอ ทั้งนี้เปรียบเสมือนลูกเต๋าที่บรรทุกไปบนจะต้องไม่เกินความจุของรถ และส่งสินค้าภายในกรอบเวลาที่ลูกค้าสะดวกอีกด้วย ในกรณีนี้เราได้นำเสนอขั้นตอนวิธีการค้นหาคำตอบเลียนแบบพุติกรรมของนักการท่องเที่ยว ซึ่งได้รับแรงบันดาลใจจากพุติกรรมการสืบพันธุ์ที่ก้าวร้าวของนักการท่องเที่ยวเพื่อแก้ปัญหานี้ โดยเราได้นำเสนอขั้นตอนวิธีการเลือกคำตอบที่ใกล้ที่สุดด้วยวงล้อรูเล็ตต์ (roulette wheel) สำหรับการสร้างคำตอบเริ่มต้น และได้ทดสอบขั้นตอนวิธีดังกล่าวกับตัวอย่างที่ใช้เปรียบเทียบเปรียบแบบพุติกรรม ผลการศึกษาพบว่า ขั้นตอนวิธีการเลือกคำตอบที่ใกล้ที่สุดด้วยวงล้อรูเล็ตต์ได้คำตอบเท่าหรือดีกว่าการค้นหาคำตอบด้วยวิธีการเลือกคำตอบที่ใกล้ที่สุดที่ปรับปรุงแล้ว นอกจากนี้เรายังได้ทำการเปรียบเทียบขั้นตอนวิธีการค้นหาคำตอบเลียนแบบพุติกรรมของนักการท่องเที่ยว กับวิธีอื่นๆ ที่ร่วบรวมมาจากงานวิจัยต่างๆ จนถึงปัจจุบัน พบว่า ในส่วนใหญ่ของปัญหาที่มีขนาดเล็กและขนาดกลาง ขั้นตอนวิธีการค้นหาคำตอบเลียนแบบพุติกรรมของนักการท่องเที่ยวสามารถพบคำตอบที่เทียบเท่าหรือดีกว่าคำตอบที่ดีที่สุดเท่าที่เคยพบมา ดังนั้นขั้นตอนวิธีนี้จึงเป็นอีกทางเลือกหนึ่งที่ดีในการหาคำตอบของปัญหานี้ที่มีขนาดเล็กและขนาดกลาง

**คำสำคัญ:** การจัดการเส้นทางเดินรถ รถเที่ยวกลับ กรอบเวลา วิธีการค้นหาคำตอบจากการเลียนแบบพุติกรรมของนักการท่องเที่ยว

## Introduction

Since business has always been a highly competitive environment, many companies employ strategies for optimizing their logistics system. To effectively improve logistic service quality, several problems have been studied including vehicle routing problem (VRP). The objective of VRP is to find an optimal set of routes for delivery vehicles which minimizes total cost while being restricted by the capacity of the vehicles. This problem is widely applied in many applications such as logistics distribution, school bus routing, and mailing system. Many types of vehicle routing problem models have been developed due to varieties of real-world situations. One of them is the vehicle routing problem with time windows (VRPTW), which is a VRP with a specified time slot that a delivery

is allowed for each customer. A waiting time occurs if a vehicle arrives before the specified time window. VRPTW is commonly found in distribution planning (Wang et al., 2016), material transportation (Pradhananga et al., 2014), and E-grocery delivery (Emeç, Catay & Bozkaya, 2016). Berger & Barkaoui (2002) presented a new memetic algorithm in the serial and parallel versions to address the VRPTW. Later, they presented a new parallel hybrid genetic algorithm for VRPTW (Berger & Barkaoui, 2004). The results showed that this algorithm was highly competitive and provided some new best known solutions. Bräysy & Gendreau (2002) presented tubu search algorithm for VRPTW and concluded that this algorithm is a one of the best techniques to tackle this problem. The hybrid version which consists of ant

colony optimization (ACO) and tabu search was presented by Yu et al. (2011). The results showed that this algorithm was an effective tool for VRPTW when compared with some other published meta-heuristics. The vehicle routing problem with backhauls (VRPB) is one of the interesting variations of VRP where a vehicle does not only deliver goods to the linehaul customers but also picks up goods from the backhaul customers before going back to the depot. The benefit of doing so is to utilize the unused capacity of empty vehicle on the way back to the depot after delivery. For example, a coffee company delivers the goods to its customers and picks up their raw materials back to its factory (Casco, Golden & Wasil 1988). Osman & Wassan (2002) presented a reactive tabu search which was a new way to exchange neighborhood structures for VRPB. The results showed that this algorithm was robust and competitive with other algorithms that gave the best known solutions. Brandao (2006) presented a new tabu search algorithm for the VRPB. The computational results showed that this algorithm outperformed existing published algorithms. A memetic algorithm with different local search methods was presented by Tavakkoli-Moghaddam, Saremi & Ziacc (2006). The results exposed the effectiveness of exploiting power of this algorithm. Gajpal & Abad (2009) presented multi-ant colony system which used pheromone data to generate the solutions. This algorithm gave some better solutions than the others and five new best known solutions.

In this paper, we study the VRP combining with two variations, namely backhauls and time windows. This problem is called the vehicle routing problem with backhauls and time windows (VRPBTW). Since the VRPBTW is an NP-hard combinatorial optimization problem (Thangiah, Potvin & Sun, 1996), the exact algorithm is not always possible to find an optimal solution within a limited time. For larger problems, heuristics and meta-heuristics are more appropriate than exact methods.

Bio-inspired intelligence known as meta-heuristic methods is widespread for solving various problems during the last decade. Examples of these algorithms are Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Ant Colony Optimization (ACO), Artificial Bee Colony algorithm (ABC), Bat Algorithm (BA), and Firefly Algorithm (FA). However, only few studies have been devoted to the VRPBTW. Provin, Duhamel & Guertin (1996) presented a genetic algorithm for solving VRPBTW. The results of this algorithm showed that, on average, 1% of the optimum were produced by this algorithm. Thangiah et al. (1996) described an insertion algorithm for the VRPBTW as well as other local search heuristics to improve the initial solutions. Reimann, Doerner & Hartl (2002) presented an ant system approach which is based on the well-known insertion algorithm proposed for the VRPTW by Solomon (1987). The results showed that the learning and computational time behavior of this algorithm were equivalent to the custom-made methods. Zhong & Cole (2005) presented a basic con-

struction of an initial infeasible solution and then used a guided local search to improve the solution. Moreover, a new technique called section planning was used to enhance the feasibility and some of the results were better than the best known solutions in the literature. Ropke & Pisinger (2006) proposed a unified heuristic for VRPB and applied the local search heuristic to enhance the solution. This algorithm obtained 227 new best known solutions out of 338 problems. Küçükoğlu & Öztürk (2015) proposed an advanced hybrid meta-heuristic algorithm which combines tabu search algorithm and simulated annealing algorithm to obtain more effective solutions for the VRPBTW. The experiment results showed that some new best known solutions were obtained and were closed to optimal solutions.

Various heuristics and meta-heuristics have been applied to VRPBTW but this is not the case for Cuckoo Search (CS). CS is a meta-heuristic method introduced by Yang & Deb (2009). Inspiration of this algorithm is the parasitic spawn behavior of some cuckoo species. This algorithm was originally designed for solving continuous problem. Although discrete versions of CS have been applied to the travelling salesman problem (Ouaarab, Ahiod & Yang, 2014) and VRP (Zheng et al., 2013), to the best of our knowledge, it had never been applied to VRPBTW. Thus, we propose CS algorithm for VRPBTW in this study.

This paper is organized as follows. Firstly, we introduce a brief concept of CS, and then describe the main steps of the algorithm. Secondly, we explain the nearest neighbor with

roulette wheel selection method for generating a set of initial solutions; and the 1-move intra-route exchange and  $\lambda$ -interchange for improving the solutions. Then, we report the computational results. Finally, we discuss and make the conclusions for this study.

### **The General Concept of Cuckoo Search**

A cuckoo is an extraordinary bird because of its aggressive breeding behavior. The female cuckoos lay eggs in the nest of other host birds to let them hatch and brood young cuckoo chicks. If the host birds discover that the eggs are not theirs, they can either get rid of the cuckoo eggs or abandon their nests and build new ones. However, some cuckoo species can mimic color and pattern of eggs in a few chosen host species to reduce chance of their eggs being abandoned. In addition, a cuckoo chick always mimics the call of the host chick to gain more feeding opportunity.

The cuckoo search starts by generating a number of host eggs (initial solutions) and assign them to nests. In the simplest approach, each nest can always have only a single egg. A cuckoo randomly selects a host nest and lays its egg (neighborhood search) into the nest. The aim is to replace a not-so-good solution with a new and better solution (cuckoo egg). A cuckoo egg will be abandoned and the host bird will build a completely new one (generating a new solution) when it discovers the egg is not its own. In summary, there are three ideal rules for this: (1) each cuckoo lays one egg at a time and selects a nest randomly; (2) the best nest with a high quality egg will be carried

over to the next generation; (3) the number of host nests is fixed and a cuckoo egg is discovered with a probability  $p_a \in [0,1]$ .

### Main Steps of Cuckoo Search

The steps of the CS can be described as follows:

- Step 1 Generate a set of initial solutions (host eggs) by the nearest neighbor with roulette wheel selection method and assign each egg to a host nest.
- Step 2 Evaluate the fitness of each solution and remember the global best solution.
- Step 3 Choose randomly a host nest and then apply the neighborhood search on the host egg to generate a cuckoo egg. The host egg will be replaced with the cuckoo egg if the new cuckoo egg is better than the old one.
- Step 4 Abandon the worse nest with the probability  $p_a$  and generate a new one.
- Step 5 Update the global best solution if a solution has better quality than the current best one.
- Step 6 If the number of iterations reaches the maximum, then the algorithm finishes. Otherwise, go to Step 3.

### Initial Solution Generation for CS

The nearest neighbor heuristic (NN) is one of the classical methods for solving the VRPBTW. This method finds the solution by choosing the closest customer from the last node to be next customer in the route while preserving the capacity, time windows, and backhaul feasibilities. In general, the closeness

is the reciprocal of the Euclidean distance. Küçükoğlu & Öztürk (2015) presented an improved nearest neighbor heuristic (INN), which computed the closeness from the reciprocal of the weighted sum of three factors, namely the direct distance between the two customers, the urgency of the delivery of the next customer, and the time remaining until the vehicle's last possible service start.

The INN algorithm starts a tour with the depot. Next, it adds the feasible closest unassigned customer into the tour until no more unassigned customer can be added, in which case the tour is finished and the process repeated with a new tour. If all customers are assigned, the initial solution is obtained. The closeness of customer  $i$  to customer  $j$ , denoted by  $closeness_{ij}$ , is computed by determining the reciprocal of  $proximity_{ij}$ , which is defined as:  $proximity_{ij} = \alpha c_{ij} + \beta h_{ij} + \gamma v_{ij}$ , where  $\alpha + \beta + \gamma = 1$ ,  $\alpha, \beta, \gamma \geq 0$ ,  $c_{ij}$  denotes the distance expressed as time from customer  $i$  to customer  $j$ ,  $h_{ij}$  denotes the idle time before servicing customer  $j$  after customer  $i$ , and  $v_{ij}$  denotes the urgency of delivery to customer  $j$  after customer  $i$  expressed as the time remaining until the vehicle's last possible service start for customer  $j$ .

In this paper, we propose the nearest neighbor with roulette wheel selection method (NNRW) which is a combination of a roulette wheel selection method (Holland, 1975) and the improved nearest neighbor (INN) heuristic (Küçükoğlu & Öztürk, 2015) for generating the initial solutions. The  $closeness_{ij}$  which is the reciprocal of  $proximity_{ij}$  is defined the same way the INN heuristic describes. The NNRW method

can be explained as follows.

During a tour construction where customer  $i$  is our current customer, let  $p_j$  be the selection probability of customer  $j$  to be served next after customer  $i$ . Let  $U$  be the set of all unassigned customers. Then  $p_j$  is calculated by:

$$p_j = \frac{\text{closeness}_{ij}}{\sum_{h \in U} \text{closeness}_{ih}} \text{ for } j \in U$$

We define  $q_j = \sum_{h=1}^j p_h$  for  $j \in U$ . Then a random number  $r$  which ranges between 0 and 1 is selected for spinning the roulette wheel. If  $r \leq q_1$ , then choose the first customer in  $U$  to be the next customer for the vehicle. Otherwise, if  $q_{j-1} < r \leq q_j$ , then choose the  $j^{th}$  customer in  $U$  to be the next customer where  $2 \leq j \leq |U|$ . The assigned customers are discarded from  $U$  to prevent duplicate customers in a tour.

The initial solution construction always starts a tour with the depot, and then finds the next customer by the nearest neighbor with roulette wheel selection method. If the next customer violates the constraints (the capacity constraints, the time windows constraints, and the backhaul constraints), we spin the roulette wheel again to find a new one. If the new one is still not feasible, we end this tour and begin a new tour. This process is repeated until all customers are served.

## Neighborhood Search

The definition of a neighborhood of a solution in a continuous problem is well known, but this is not always the case for a combinatorial problem. In VRPBTW, a neighbor of a

solution is generated by changing the order of visited customers. In this study, this can be accomplished by the 1-move intra-route exchange (Chiang & Russell, 1997) and the  $\lambda$ -interchange (Osman, 1993).

The idea of 1-move intra-route exchange is randomly removed one customer (linehaul or backhaul) from a route and inserted back to the same route in a different position. The solution is accepted if it can reduce the total cost while the capacity constraints, the time windows constraints, and the backhaul constraints are not violated. An example of 1-move is shown in Figure 1.

The  $\lambda$ -interchange is a technique which combines many methods such as insertion, swap, insert section, and swap section. The idea of  $\lambda$ -interchange is to interchange customers (linehauls or backhauls) between routes where  $\lambda$  is a limit on the number of customers to be exchanged. The operator  $(\lambda_1, \lambda_2)$  on routes  $(p, q)$  means exchanging  $\lambda_1$  customers on route  $p$  with  $\lambda_2$  customers on route  $q$ , where  $\lambda_1, \lambda_2 \leq \lambda$ . The improved solution is accepted if the total cost is decreased while maintaining the capacity, time windows, and backhaul feasibility. An example of operator  $(1, 0)$  which removes customer 4 in the first route and then adds it in another route is given in Figure 2. This operator is similar to the insertion algorithm. As shown in Figure 3, the operator  $(1, 2)$  exchanges customer 4 in the first route with customer 8 and customer 9 in the second route. This operator is similar to the swap section algorithm.

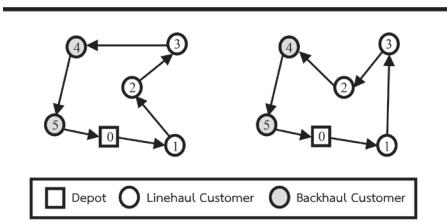


Figure 1 An Example of a 1-move

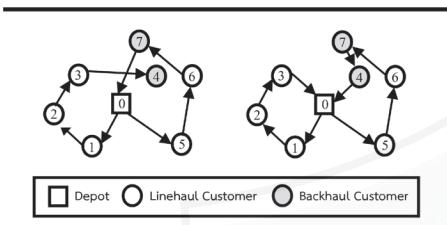


Figure 2 Example of operator (1, 0)

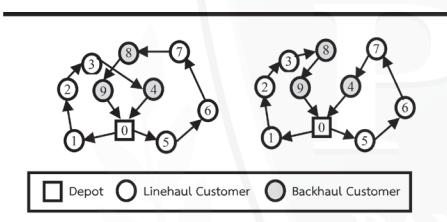


Figure 3 Example of operator (1, 2)

## Computational Results

The proposed algorithm was coded in Microsoft Visual C# 2010 Express and executed on a PC with 2.5 GHz Intel Core2 Duo CPU and 4 GB memory. As for this experiment, the algorithm parameters were assigned as follows:  $\alpha = 0.4$ ,  $\beta = 0.3$ ,  $\gamma = 0.3$  (Küçükoğlu & Öztürk, 2015: 60-68), the number of host nest = 15,  $p_a = 0.25$  (Yang and Deb, 2009: 210-214), the size of  $\lambda$ -interchange operator = 4, maximum number of iterations = 300.

We tested NNRW algorithms on the benchmark problems sets (R101-R105) developed by Gelinas et al. (1995) for the VRPBTW. For each

problem, 100 customers are located uniformly over the service area with a short scheduling horizon. The small and medium problems are obtained by taking the first 25 and 50 customers respectively. Moreover, for each problem size, three problems are generated by randomly selecting 10%, 30% and 50% of the nodes to be backhaul customers without changing other attributes. The results are shown in Table 1.

In Table 1, the first column represents the number of customers in the problem, name of problems are shown in the second column, BH (%) denotes the percentage of backhauls, Dist shows the total distance of solution, NV indicates the number of vehicles used in the solution. The Average Dist and SD columns indicate the average and the standard deviation calculated from 10 independent runs of NNRW. The best solutions of NNRW algorithm from these runs are represented by Best Dist, and the computational time in seconds is presented in the CPU time column. The  $\%Gap_{imp}$  is computed by the following formula:

$$\%Gap_{imp} = \frac{(NNRW\ solution) - (INN\ solution)}{INN\ solution} \times 100$$

$\%Gap_{imp}$  represents the quality of the NNRW solutions in terms of improvement percentage over the INN solution, where a negative value indicates that NNRW solution is better than the INN solution, zero value indicates that NNRW solution is equal to the INN solution, and a positive value indicates the NNRW solution is worse than the INN solution.

**Table 1** Comparison of the NNRW solutions with NN and INN for VRPBTW

Size	Prob	BH (%)	Nearest Neighbor Solutions (NN)			Improved Nearest Neighbor Solutions (INN)			Nearest Neighbor with Roulette Wheel Selection Solutions (NNRW)					%Gap <sub>imp</sub>	
			Dist	NV	CPU time	Dist	NV	CPU Time	Average Dist	SD	Best Dist	NV	CPU time		
n=25	R101	10	662.1	10	0.18	662.1	10	0.21	666.70	16.07	<b>643.4</b>	9	0.25	-2.82	
		30	735.3	10	0.33	721.8	10	0.32	740.23	8.29	<b>721.8</b>	10	0.26	0.00	
		50	693.1	11	0.21	678.8	10	0.19	689.46	20.75	<b>676.8</b>	10	0.29	-0.29	
		R102	10	564.2	7	0.18	563.5	7	0.20	576.28	28.02	<b>563.5</b>	7	0.31	0.00
		30	629.6	10	0.57	628.1	9	0.90	630.77	2.63	<b>628.1</b>	9	0.45	0.00	
		50	591.6	8	0.18	586.4	8	0.22	596.28	10.67	<b>584.4</b>	8	0.35	-0.34	
	R103	10	507.1	6	0.20	488.8	6	0.22	508.13	9.90	<b>488.8</b>	6	0.27	0.00	
		30	534.8	6	0.16	534.0	7	0.14	538.85	21.00	<b>514.8</b>	7	0.25	-3.60	
		50	535.2	7	0.19	497.4	6	0.22	506.58	19.23	<b>490.6</b>	6	0.29	-1.37	
	R104	10	486.2	5	0.22	465.5	5	0.23	471.91	10.20	<b>453.4</b>	5	0.27	-2.60	
		30	517.4	6	0.16	513.3	6	0.14	504.77	16.39	<b>476.3</b>	6	0.22	-7.21	
		50	506.5	5	0.17	500.5	5	0.14	487.69	20.28	<b>465.4</b>	5	0.19	-7.01	
	R105	10	579.6	7	0.19	565.1	7	0.20	585.34	22.45	<b>565.1</b>	7	0.24	0.00	
		30	633.4	8	0.21	632.9	8	0.20	642.08	7.34	<b>632.9</b>	8	0.26	0.00	
		50	639.2	8	0.15	635.5	9	0.18	633.06	18.24	<b>591.1</b>	8	0.20	-6.99	
n=50	R101	10	1175.5	16	0.19	1173.2	15	0.23	1156.30	18.27	<b>1134.0</b>	15	0.43	-3.34	
		30	1223.2	16	0.22	1218.8	16	0.29	1233.47	16.85	<b>1215.0</b>	16	0.39	-0.31	
		50	1203.1	16	0.25	1190.5	16	0.27	1199.93	8.52	<b>1183.9</b>	16	0.38	-0.55	
		R102	10	994.3	12	0.34	987.8	12	0.43	1010.6	19.93	<b>977.0</b>	12	0.52	-1.09
		30	1091.1	14	0.22	1081.2	14	0.28	1079.18	23.00	<b>1054.7</b>	14	0.34	-2.45	
		50	1100.9	14	0.18	1100.3	14	0.22	1086.25	20.86	<b>1060.9</b>	14	0.32	-3.58	
	R103	10	877.8	10	0.19	874.9	10	0.37	860.93	20.69	<b>833.7</b>	10	0.49	-4.71	
		30	955.3	12	0.23	951.7	12	0.22	938.85	21.69	<b>894.4</b>	11	0.38	-6.02	
		50	947.6	11	0.3	939.1	11	0.34	931.99	26.38	<b>896.4</b>	10	0.44	-4.55	
	R104	10	792.1	7	0.24	784.8	8	0.25	739.75	22.20	<b>704.3</b>	7	0.38	-10.26	
		30	795.8	8	0.31	785.6	7	0.35	791.10	24.46	<b>745.9</b>	8	0.48	-5.05	
		50	771.7	8	0.35	771.6	8	0.46	788.95	14.37	<b>767.0</b>	8	0.50	-0.60	
	R105	10	1091.5	12	0.17	1091.5	13	0.24	1030.63	28.48	<b>983.3</b>	12	0.38	-9.91	
		30	1084.3	13	0.21	1075.6	14	0.26	1077.62	23.40	<b>1053.2</b>	13	0.34	-2.08	
		50	1078.4	12	0.26	1059.2	12	0.33	1065.59	22.75	<b>1026.3</b>	12	0.42	-3.11	
n=100	R101	10	2072.7	28	0.58	1914.5	25	0.56	1859.44	28.33	<b>1811.6</b>	24	1.21	-5.37	
		30	2091.2	26	0.95	1978.7	25	0.86	1937.07	26.95	<b>1898.8</b>	24	1.04	-4.04	
		50	1992.0	26	2.15	1990.2	27	4.52	1973.86	26.72	<b>1944.1</b>	26	3.54	-2.32	
		R102	10	1687.8	22	0.85	1671.8	21	1.00	1689.72	35.40	<b>1628.8</b>	21	1.14	-2.57
		30	1755.7	23	1.05	1733.7	22	1.20	1743.87	20.38	<b>1716.2</b>	23	1.45	-1.01	
		50	2001.8	26	0.55	1891.2	25	0.51	1800.87	23.71	<b>1756.2</b>	22	0.97	-7.14	
	R103	10	1457.4	19	0.54	1454.2	19	0.59	1424.71	15.74	<b>1399.8</b>	18	1.02	-3.74	
		30	1478.8	18	1.03	1459.0	17	1.73	1467.99	23.11	<b>1439.2</b>	17	2.07	-1.36	
		50	1563.5	20	1.11	1519.5	19	1.27	1535.40	12.92	<b>1514.2</b>	19	1.78	-0.35	
	R104	10	1206.3	14	1.30	1152.3	13	1.44	1214.11	37.57	<b>1148.1</b>	13	2.31	-0.36	
		30	1210.7	14	2.29	1201.7	14	5.62	1234.33	24.28	<b>1196.4</b>	14	4.21	-0.44	
		50	1274.8	14	0.96	1274.7	15	1.17	1289.21	28.33	<b>1244.7</b>	14	2.22	-2.35	
	R105	10	1632.1	19	0.48	1627.6	20	0.56	1609.73	33.76	<b>1557.2</b>	18	1.19	-4.33	
		30	1626.3	20	0.75	1621.7	19	1.40	1684.87	36.55	<b>1612.3</b>	19	1.68	-0.58	
		50	1724.2	21	0.99	1699.8	21	1.37	1720.85	44.86	<b>1683.4</b>	19	1.83	-0.96	

In Table 1, the  $\%Gap_{imp}$  column shows that the NNRW solutions are better or equal to INN solutions for all instances. The remarkable improvements (more than 10%) can be seen in R104 for 50 customers with 10% backhauls. Although the NNRW method used more execution time than INN algorithm for some instances, these results indicate that NNRW algorithm was more effective than INN heuristic in terms of solution quality.

To evaluate the efficiency of CS, we compared the CS solutions with the best known solutions collected from many papers in various instances as presented in Table 2. The other collected algorithms were Push-Forward Insertion Heuristic (PFIH) (Thangiah et al., 1996), Genetic Algorithm (GA) (Potvin et al., 1996), Hybrid Meta-heuristic Algorithm (HMA) (Küçükoğlu & Öztürk, 2015), and Unified Heuristic (UH) (Ropke & Pisinger, 2006). The numbers with bold face font in each row indicates the best known solution for that problem, and the  $\%Gap_{best}$  in the last column is calculated by the following formula:

$$\%Gap_{best} = \frac{(CS \text{ solution}) - (\text{the best known solution})}{\text{the best known solution}} \times 100.$$

where a positive value indicates that our solution is worse than the best known solution,

zero value indicates that CS solution is equal to the best known solution, and a negative value indicates our proposed algorithm can find a new best known solution.

For small problems with 25 customers, the proposed algorithm obtained 12 solutions that were equal or better than the best known solutions out of 15 instances. The new best known solution was found in the R101 problem with 50% backhauls. From Table 2, CS performed better than PFIH, GA, and HMA in terms of number of best case solutions.

For medium problems with 50 customers, our algorithm obtained 2 matching best known solutions and 5 new best known solutions out of 15 problems, namely, the R101 problem with 10% backhauls, the R102 problem with 10%, the R104 problem with 50%, the R105 problem with 10% and 50% backhauls. According to Table 2, CS still outperformed PFIH, GA, and HMA in terms of number of best case solutions.

For large problems with 100 customers, the proposed method underperformed the other methods in terms of best known solutions except for two cases, namely, the R101 problem with 10% and 30% backhauls. Although CS underperformed GA and HMA, it performed better than PFIH while comparable with UH in terms of number of best case solutions.

**Table 2** Comparison of the CS solutions with other algorithms for VRPBTW

Size	Prob	BH (%)	CS		PFIH		GA		HMA		UH		%GAP <sub>best</sub>
			Dist	NV									
n=25	R101	10	<b>643.4</b>	<b>9</b>	681.7	9	<b>643.4</b>	<b>9</b>	<b>643.4</b>	<b>9</b>	-	-	0.00
		30	721.8	10	<b>716.5</b>	<b>9</b>	721.8	10	721.8	10	-	-	0.74
		50	<b>676.8</b>	<b>10</b>	700.6	9	682.3	10	<b>676.8</b>	<b>10</b>	-	-	0.00
	R102	10	<b>563.5</b>	<b>7</b>	565.1	7	<b>563.5</b>	<b>7</b>	<b>563.5</b>	<b>7</b>	-	-	0.00
		30	<b>628.1</b>	<b>9</b>	629.3	9	622.3	9	<b>628.1</b>	<b>9</b>	-	-	0.00
		50	<b>584.4</b>	<b>8</b>	585.4	7	<b>584.4</b>	<b>8</b>	<b>584.4</b>	<b>8</b>	-	-	0.00
	R103	10	478.8	6	496.2	6	<b>476.6</b>	<b>6</b>	478.8	6	-	-	0.46
		30	<b>507.0</b>	<b>7</b>	520.4	6	<b>507.0</b>	<b>7</b>	<b>507.0</b>	<b>7</b>	-	-	0.00
		50	<b>483.0</b>	<b>6</b>	480.4	6	<b>483.0</b>	<b>6</b>	<b>483.0</b>	<b>6</b>	-	-	0.00
	R104	10	<b>452.8</b>	<b>5</b>	463.1	5	<b>452.8</b>	<b>5</b>	453.8	5	-	-	0.00
		30	473.1	6	470.1	6	<b>468.5</b>	<b>6</b>	<b>468.5</b>	<b>6</b>	-	-	0.98
		50	<b>446.8</b>	<b>5</b>	447.8	5	<b>446.8</b>	<b>5</b>	<b>446.8</b>	<b>5</b>	-	-	0.00
	R105	10	<b>565.1</b>	<b>7</b>	591.7	7	<b>565.1</b>	<b>7</b>	<b>565.1</b>	<b>7</b>	-	-	0.00
		30	<b>623.5</b>	<b>8</b>	630.6	7	630.2	8	<b>623.5</b>	<b>8</b>	-	-	0.00
		50	<b>591.1</b>	<b>8</b>	592.9	7	592.1	7	592.1	7	-	-	-0.17
n=50	R101	10	<b>1133.3</b>	<b>15</b>	1160.3	13	1138.1	14	1135.8	15	-	-	-0.22
		30	<b>1191.6</b>	<b>16</b>	1224.6	15	1192.7	16	<b>1191.6</b>	<b>16</b>	-	-	0.00
		50	1183.9	16	<b>1175.6</b>	<b>16</b>	1183.9	16	1183.9	16	-	-	0.71
	R102	10	<b>976.5</b>	<b>12</b>	978.8	12	976.8	12	976.8	12	-	-	-0.03
		30	1054.6	14	1034.9	14	<b>1029.2</b>	<b>13</b>	1046.0	14	-	-	2.47
		50	<b>1059.7</b>	<b>14</b>	1061.6	14	<b>1059.7</b>	<b>14</b>	1061.6	14	-	-	0.00
	R103	10	818.8	9	844.3	10	<b>813.3</b>	<b>9</b>	815.5	9	-	-	0.68
		30	894.4	11	917.8	11	<b>892.7</b>	<b>10</b>	889.3	11	-	-	0.19
		50	889.0	10	903.4	10	<b>885.5</b>	<b>10</b>	887.7	10	-	-	3.92
	R104	10	698.2	7	691.4	7	689.2	6	<b>687.7</b>	<b>7</b>	-	-	1.53
		30	742.3	8	743.8	8	751.5	7	<b>736.8</b>	<b>8</b>	-	-	0.75
		50	<b>734.5</b>	<b>8</b>	765.6	7	741.4	7	738.2	8	-	-	-0.50
	R105	10	<b>972.8</b>	<b>11</b>	996.2	11	1002.5	10	978.5	11	-	-	-0.58
		30	1027.1	13	1060.5	11	1047.8	11	<b>1026.7</b>	<b>12</b>	-	-	0.04
		50	<b>993.4</b>	<b>11</b>	1028.6	11	1018.0	11	996.2	11	-	-	-0.28
n=100	R101	10	<b>1805.7</b>	<b>24</b>	1842.3	24	1815.0	23	1811.6	23	1818.9	22	-0.33
		30	<b>1886.9</b>	<b>24</b>	1928.6	24	1896.6	23	1891.1	24	1959.6	23	-0.22
		50	1924.3	25	1937.6	25	<b>1905.9</b>	<b>24</b>	1911.2	25	1939.1	24	0.96
	R102	10	1624.1	20	1654.1	20	<b>1622.9</b>	<b>20</b>	1623.7	20	1653.2	19	0.07
		30	1705.6	22	1764.3	21	<b>1688.1</b>	<b>20</b>	1724.0	22	1750.7	22	1.04
		50	1757.8	22	1745.7	21	<b>1735.7</b>	<b>21</b>	1759.8	23	1775.8	22	1.27
	R103	10	1379.7	17	1371.6	15	<b>1343.7</b>	<b>16</b>	1346.9	16	1387.6	15	2.68
		30	1407.7	16	1477.6	16	<b>1381.6</b>	<b>15</b>	1385.9	16	1390.3	15	1.89
		50	1474.7	19	1543.2	17	1456.6	17	1465.0	18	<b>1456.5</b>	<b>17</b>	1.24
	R104	10	1145.2	13	1220.3	13	1117.7	12	1093.4	12	<b>1084.2</b>	<b>11</b>	5.63
		30	1167.8	14	1303.5	12	1169.1	12	<b>1136.6</b>	<b>12</b>	1154.8	11	2.74
		50	1197.3	14	1346.6	13	1203.7	13	<b>1189.6</b>	<b>13</b>	1191.4	11	0.65
	R105	10	1523.7	18	1553.4	17	1621.0	17	<b>1516.0</b>	<b>17</b>	1561.3	15	0.51
		30	1602.2	19	1643.0	18	1652.8	16	<b>1581.5</b>	<b>17</b>	1583.3	16	1.31
		50	1629.6	19	1657.4	18	1706.7	18	<b>1604.1</b>	<b>18</b>	1710.2	16	1.59

## Result Discussion

When comparing the results in terms of the number of best case solutions, the CS algorithm is competitive with the other methods in literature for solving small and medium size VRPBTW problems. However, for some instances CS underperformed the existing algorithms especially GA (Potvin, Duhamel & Guertin, 1996) and HMA (Küçükoğlu & Öztürk, 2015). We speculated that there are two main reasons for this. First, the CS algorithm generates only initial 15 solutions for all instances while the GA (Potvin, Duhamel & Guertin, 1996) produces 100 initial solutions for small and medium size problem and 200 initial solutions for large size problem. Therefore, the GA can explore more in the solution space and get the better solutions than the CS algorithm. Second, the HMA (Küçükoğlu & Öztürk, 2015) is a hybrid meta-heuristic which is combined with tabu search, that prevents the search from cycling back to previously visited solutions, and simulated annealing algorithm, that prevents from trapping in the local optimum while the CS algorithm does not have those strategies. This is one of the advantages of hybrid algorithm.

## Conclusions

In this paper, we present a cuckoo search

(CS) algorithm to solve the VRPBTW problem. In the solution construction part, we use the nearest neighbor with roulette wheel selection method (NNRW) for generating a set of initial solutions. The solutions are iteratively improved within the CS framework by the neighborhood search algorithms, namely the 1-move intra-route exchange and the  $\lambda$ -interchange. The NNRW algorithm is compared with the general nearest neighbor algorithm (NN) and the improved nearest neighbor algorithm (INN) through the benchmark instances. The results show that NNRW is superior to NN and INN heuristic in terms of solution quality. In addition, CS algorithm was compared with other methods, namely Push-Forward Insertion Heuristic (PFIH), Genetic Algorithm (GA), Hybrid Meta-heuristic Algorithm (HMA), and Unified Heuristic (UH). The results showed that the proposed algorithm was able to give best known solutions or found the new best known solutions for some instances, especially problems with small and medium sizes. Hence, it is a competitive method for solving small and medium size VRPBTW problems. Further research can be done to enhance CS algorithm by combining with other heuristics. Hybrid heuristics can make the CS algorithm approach more effective for VRPBTW.

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## 人——组织匹配对员工创新行为的影响： 论创造力自我效能感的中介作用

### THE EFFECT OF PERSON—ORGANIZATION FIT ON EMPLOYEE'S INNOVATIVE BEHAVIOR: THE MEDIATING ROLE OF CREATIVE SELF—EFFICACY

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#### 摘要

从人与情境互动的角度出发,探讨人——组织匹配对员工创新行为的影响机制。通过对 350 名在职员工的调查,发现人——组织匹配对员工创新行为、创造力自我效能感均有显著的正向影响,其中价值观匹配和要求——能力匹配对员工创新行为、创造力自我效能感具有显著的正向影响,而需求——供给匹配对员工创新行为和创造力自我效能感没有影响;创造力自我效能感对员工创新行为具有正向影响;创造力自我效能感在人——组织匹配与员工创新行为之间起到部分中介作用。文章基于社会交换等理论对研究结果进行了讨论,存在的局限性是文中只研究了创造力自我效能感作为中介变量,在未来的相关研究中,希望加入其他中介和调节变量,以建立更加完善的理论模型。

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关键词: 人——组织匹配, 创造力自我效能感, 员工创新行为

#### Abstract

From the perspective of interaction between people and the environment, to explore the impact of Person—organization on employee's Innovative behavior. Through the survey of 350 employees, it was found that Person—organization fit has a significant positive impact on employee's innovative behavior and creative self—efficacy. The value congruence and the demands—abilities had significant positive impact on the employees' Innovative behavior, creative self—efficacy. The needs—supplies has no impact on the employee's Innovative behavior and the creative self—efficacy; the creative self—efficacy has positive impact on the employee's Innovative behavior; the creative self-efficacy play a part of the intermediary role between Person—organization and Employee's Innovative behavior. This paper discusses the research

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results based on the theory of social exchange and other other related theories, the limitations of this paper are that only the Creative self-efficacy as the mediator variable, in the future related research, we hope to add other mediating and regulating variables to establish more perfect of the theoretical model.

**Keywords:** Person-Organization Fit, Employee's Innovative Behavior, Creative Self-efficacy

## 前言

激烈的市场竞争以及不安的经济环境使创新成为组织生存和发展的关键因素之一。Branstetter (2006) 认为企业中每个员工的创新行为是组织创新基础, 就是要将是员工在工作中试图引入与应用新的概念、方法与流程, 产生创新想法或解决方案, 并努力付诸实践的行为激发出来, 企业才能步入新的发展。桑瑞聪, 岳中刚 (2011) 发现大多研究限于个体特质或环境特征单方面因素对创新行为的静态影响, 而个体行为更是其与周围环境交流、摩擦和互动的产物, 所以单一性因素难对创新行为的变化很难进行预测。杜旌 (2013) 研究指出以往的研究难以考虑中国本土文化价值观, 事物之间的联系需基于特定的情境中。国内外的实证研究的对象多以在校的学生, 这种实验方法的成果是无法在组织环境中得到应用, 因为, 员工社会的工作环境下会受到工作准则和规范的制约, 其中还会涉及到与自身相关的利害关系。马红宇、申传纲、杨璟、唐汉瑛与谢菊兰 (2014) 认为当组织环境无法满足员工需求或提供相应资源时, 会使员工产生紧张、消极情绪。Greguras & Diefendorff (2009), Chiaburu, Thundiyil & Wang (2014) 研究发现当员工的价值观与组织价值观相匹配时, 组织更可能实现员工的期望进而满足员工的心理需求, 使员工产生较高的工作满意度、创新想法。Volmer (2015) 提出情境因素在工作事件与情感反应之间发挥调节效应。最后, 员工的行为表现多是与组织创新互动的结果。所以, 从人——组织匹配

视角及其三个维度 (价值观匹配、需求——供给匹配、要求——能力匹配) 来考察与员工创新行为之间的关系是有价值的。由此, 学者们逐渐对个体与环境之间互动的人——环境匹配理论关注起来。

人——环境匹配理论从系统适配角度来解释人与组织环境的关系, 为阐述人类行为产生机制提供了一个崭新视角。目前中国情境下人—组织匹配的研究并不多, 尤其缺少人——组织匹配对员工创新行为影响机制的实证探索。根据社会认知理论可知, 人类行为可能是通过一些激励原因或是环境因素发生改变, 而这些因素是测试根据一个信念: 人具有通过自己的行动产生效果的力量, “一个人除非相信自己能通过自己的行动产生所期待的效果, 否则, 他们很少具备行动的动机, 因而效能信念是行动的重要基础”。

有学者提出, 创新的最大障碍是缺乏信心和进取精神, 而不是外在的物质条件。企业要想实现在管理上和技术上的发展和超越, 就需要激发作为创新基础的个体员工自身信念和勇气, 才能改进管理方式及技术赶超。敢于创新、勇于实践的精神其实就是创造力自我效能感。本文的研究希望从创造力自我效能感的视角, 检验人——组织匹配对员工创新行为的影响, 以探讨两个研究目的: 一是, 探讨人——组织匹配对创造力自我效能感、员工创新行为是否具有正向影响; 二是, 探究创造力自我效能感在人——组织匹配与员工创新行为之间的是否具有中介作用。

## 文献综述

### 概念界定

#### 1.1 人——组织匹配

人——组织匹配 (Person–Organization Fit, P–O Fit) 的概念可以追溯到勒温的心理场论, 它是从人-环境匹配发展而来。梳理文献发现, 人——组织匹配不同于职业、文化、绩效、团队等环境中的其他方面, 它关注的是个人与组织间的相互融合性, 它的研究主要集中在匹配存在的前因后果。陈金龙、尤美玲、林志臣与吴志新 (2016) 认为人——组织匹配主要表现在以下三个方面: 价值观匹配、需求——供给匹配和要求——能力匹配。价值观匹配指的是个体与组织在基本理念上的一致; 需求——供给匹配指的是组织为个体提供了诸如薪酬、社交、荣誉等资源, 满足了个体对组织的需求; 要求——能力匹配指的是个体为完成任务而付出时间、经历、工作经验、承诺等, 从而达到了组织对员工能力的要求。

尽管学者们关于人-组织匹配的定义给出了不同的意见, 但根据现有的相关研究, 发现三维定义是目前学者们采用的最多的观点。因此, 本研究认为, 三维定义较其他一维、二维的定义能够更全面的体现个人与组织匹配间的维度与内容, 而且涵盖了从价值观等深层次的无形特征匹配到有形的需求性物质层面的匹配, 符合个体的能力特征与认知判断特征。

#### 1.2 员工创新行为

Scott & Bruce (1994) 认为, 个体创新行为的发生是先从发现问题开始, 然后对问题产生解决方法的创新构想, 并对自己的新想法要寻找资源支持, 最后将创新的想法付诸于产品或是制度。张红琪、鲁若愚与蒋洋 (2012) 总结前人的研究, 归纳出员工个体创新行为的定义可以分为两类: 一是从创新的结果界定个体创新行为, 二是根据创新的过程界定个体创行为。第一类观点主要研究

创新对员工创新行为的激发作用, 而后所带来的结果; 第二类观点认为个体创新的产生是一个过程, 研究员工在不同阶段的创新对其创新行为的影响。

国内学者屠兴勇、何欣与郭娟梅 (2015) 又在以往学者研究的基础上, 将员工创新行为的定义进行了扩展: 员工在工作过程中, 产生创新构想或提出问题解决方案, 并努力将之付予企业实践的行为。结合本研究的研究目的, 本文主要关注最终的是创新结果, 因此把创新行为看作结果变量定义。

#### 1.3 创造力自我效能感

关于员工创造力自我效能感的研究, Tierney & Farmer (2010) 等国外学者他们将与创造力领域的相关理论, 与自我效能感领域的理论相结合, 将组织环境下的工作场所作为背景, 针对员工在工作中的创造方面的自我效能感作为研究, 提出了“创造力自我效能感”的概念: 个体在完成特定的任务时, 是否产生了创新行为的能力以及信心, 创新活动中的个体对自己能力的表现具有强烈的自我创新信念。国内学者杨晶照、杨东涛、赵顺娣与姜林娣 (2011) 认为员工创造力自我效能感是员工在工作中表现出的特殊内在动力, 是员工在出现创新行为时对自身创造力肯定和实施的表现, 概括起来有四个方面: 一是相信自己能够有新想法产生; 二是自信可以应用新方法解决问题; 三是用自身具备的技巧和信心帮助他人新想法的实施; 四是面对新问题能够信心的有办法解决。

通过梳理文献, 可以看出自我效能感的概念已经较为成熟, 而员工创造力自我效能感衍生于自我效能感, 因此, 学者们对创造力自我效能感的概念界定基本一致, 没有争议。

## 研究目的

本文研究的目的是基于社会认知理论等相关

的互动理论, 运用实证研究方法, 考察人——组织匹配及其三维度、创造力自我效能感、员工创新行为之间的关系, 探讨三个变量之间可能存在的直接影响或是中介影响, 通过研究结论来丰富员工

创新理行为论。根据文献综述和相关学者的研究支持, 本文提出研究理论模型, 模型中中介变量是创造力自我效能感, 自变量是人——组织匹配, 因变量是员工创新行为, 具体框架如图 1.1 所示。

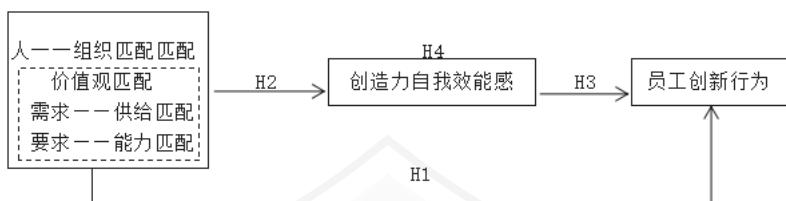


图 1.1 理论模型图

根据理论模型图得出研究设。

### 1、人——组织匹配与员工创新行为的关系。

Woodman, Sawyer & Griffin (1993) 研究认为, 个体特征、社会影响和工作环境共同的作用下产生个体创新绩效。Martin (2007) 研究工作要求——控制模型, 指出“工作任务→个人的要求”与“个体工作中接受的组织资源”二者交叉作用时, 对员工创新行为才有显著的正向影响。学者们测量人——组织匹配的匹配度的研究基本上从价值观的一致性、工作要求——个人能力、个人需求——工作供给的互补性进行研究, 其中价值观的一致性匹配研究成果比其他两种匹配类型要多。姚艳虹和范盈盈 (2014) 根据社会交换理论发现, “互惠原则”影响着人类的一切思想和行为, “互惠”内容可以是物质或非物质的。个体需求与组织供给匹配着眼于组织是否满足个体需求, 当组织满足个体生理、心理、物质、精神上的偏好时, 有利于促进员工创新。而组织要求与个体能力匹配从个体资源满足组织要求的视角看待匹配, 当个体满足组织的努力、承诺等要求, 具备完成工作的相关知识能力, 也助于推动创新。这些研究结论证实了人——组织匹配程度对员工态度、员工绩效、员工幸福感和员工行为都有着影响, 因此, 可以得

出人——组织匹配与员工创新之间存在着不可忽视的联系。基于以上研究, 提出假设:

H1: 人——组织匹配对员工创新行为具有正向影响。

H1a: 价值观匹配对员工创新行为具有正向影响。

H1b: 需求——供给匹配对员工创新行为具有正向影响。

H1c: 要求——能力匹配对员工创新行为具有正向影响。

2、人——组织匹配与创造力自我效能感的关系。人——组织匹配与其中一些因素 (例如, 工作环境、组织氛围等) 存在紧密的关系, 因而认为人——组织匹配度较高的员工将具备较高水平的创造力自我效能感。从价值观角度看, 价值观一致性之所以会影响员工的态度和行为, 个人与组织在共同价值观上一致时, 会激励员工产生更高的信念, 来实现组织目标。从要求——能力角度看, 人——组织匹配度较高的员工能够更好地完成工作, 更多的受到上级的认可与表扬, 因此对自己的工作能力更加自信; 相反, 由于自身能力欠缺且无法满足任务要求, 人——组织匹配度较低的员工在工作中可能力不从心, 会产生更多的负面情绪,

进而导致创造力自我效能感水平低。周明建、侍水生与蒋建军 (2011) 从需求——供给角度研究, 员工的需求得到了组织资源的满足, 有助于提升员工的创造力自我效能感。基于以上研究, 提出假设:

H2: 人——组织匹配对创造力自我效能感具有正向影响。

H2a: 价值观匹配对创造力自我效能感具有正向影响。

H2b: 需求——供给匹配对创造力自我效能感具有正向影响。

H2c: 要求——能力匹配对创造力自我效能感具有正向影响。

### 3、创造力自我效能感与员工创新行为的关系

人力资源理论表明, 员工所具有的创新的技巧和能力, 都是员工潜在需要挖掘的创新能力, 这是企业需要开发的资源之一。如果无法将员工潜在的创新能力转化为创新行为, 则会浪费人力资源。Carmeli & Schaubroeck (2007) 的研究也证明, 员工所具有的一种潜能是创造力自我效能感, 这种潜能可以积极地提高创新行为。基于以上研究, 提出假设:

H3: 创造力自我效能感对员工创新行为具有正向影响。

### 4、创造力自我效能感的中介作用。

员工创造力自我效能感在员工创新中的中介作用得到广泛证实。Tierney & Farmer (2004) 通过对 140 位科研人员的实证分析, 得出主管对员工创新的预期心理及支持行为, 促进员工对创新产生预期, 这对员工创新起着积极的影响, 而在此过程中, 员工创造力自我效能起到了中介作用。

Gong, Huang & Farh (2009) 等对台湾员工的实证研究, 论证了变革型领导与员工创新行为之间的正向相关关系、员工学习导向与员工创新行为之间的正向相关关系, 在变革型领导、学习导向与员工创新行为的关系中, 创造力自我效能感起中介

作用。顾远东和彭纪生 (2010) 发现, 创造力自我效能感在组织氛围与产生创新的构想起中介作用, 组织氛围与执行创新的构想中创造力自我效能感起中介作用。基于以上研究, 提出假设:

H4: 创造力自我效能感在人——组织匹配与员工创新行为之间具有中介作用。

## 研究方法

### 1、研究对象和数据收集

研究采取问卷调查法, 分为两步: 一是初测试, 收集的数据用于问卷的题项更改、信效度分析; 二是发放和收集正式问卷, 收集的数据将进行样本检验和假设检验。

初测对象为制造业在职的基层员工, 共发放问卷 150 份, 回收回 138 份, 回收率为 92%。剔除 8 份无效问卷, 得到有效问卷 130 份, 样本有效率为 86.7%。预测试中, 采用CITC (修正条款总相关系数) 来考察是否删除题项。人——组织匹配量表的总体信度为 0.900, 各分量表的信度为 0.872、0.860 和 0.811; 创造力自我效能感量表的总体信度为 0.864; 员工创新行为量表的总体信度为 0.905; 同事支持量表的总体信度为 0.904。各个量表均符合研究要求。

### 2、正式问卷

正式问卷通过与联系的企业主管沟通, 进行组织内QQ群和微信群, 每周追踪问卷收集的进度, 调查问卷时间为 16 年 1 月至 5 月, 范围涉及广东、广西多个省市, 行业种类涉及IT、教育、服务等多个行业, 问卷主要针对基层员工。剔除无效问卷后, 得到 345 份有效问卷。

本次调查对象的男性的比例为 38.84% (134 名) 和 61.16% (211 名)。其中大专及以下学历有 62 名 (17.97%)、大专学历有 66 名 (19.13%)、本科学历有 152 名 (44.06%)、硕士及以上学历有 65 名 (18.84%)。收入在 2000 元及以下的人员有 47 人

(13.62%)、2001–3000 元的人员有 82 人 (23.77%)、3001–5000 元收入的人员有 109 人 (31.59%)，5001 元及以上收入的人员有 107 人 (31.01%)。

### 2.1 量表信度检验

人——组织匹配量表的 Cronbach's  $\alpha$  系数为 0.916，具有较好的信度。创造力自我效能量表的 Cronbach's  $\alpha$  系数为 0.928，具有较高的信度。创新行为量表的 Cronbach's  $\alpha$  系数为 0.940，表明量表的信度较高。

### 2.2 效度检验

采用 Amos 22.0 对问卷进行验证性因素分析。表 2.1 结果显示，人——组织匹配、创造力自我效能感及员工创新行为潜变量测量模型各项拟合指数 GFI、AGFI、NFI、IFI、TFI、CFI 的拟合指数均达到最优的 0.9 以上，人——组织匹配、创造力自我效能感及创新行为变量 RMSEA 均低于 1.00，表明人——组织匹配、创造力自我效能感及创新行为拟合程度较好，具有较好的结构效度。

表 2.1 量表的验证性分析拟合指数

量表	$\chi^2/DF$	GFI	AGFI	NFI	IFI	TLI	CFI	RMSEA
人——组织匹配	1.989	0.971	0.945	0.977	0.988	0.983	0.988	0.054
创造力自我效能感	3.271	0.974	0.939	0.981	0.986	0.977	0.986	0.081
创新行为	4.295	0.981	0.907	0.975	0.981	0.966	0.981	0.098

3、人——组织匹配、创造力自我效能感及员工创新行为三变量的相关分析

对人——组织匹配、创造力自我效能感及创新行为变量进行相关分析，表 3.1 结果显示，人——

组织匹配及其三维度均与创造力自我效能感、创新行为呈显著正相关，相关系数在 0.439–0.613 之间，表明三变量间存在相关关系，为下一步回归分析提供了参考依据。

表 3.1 相关分析结果

	价值观匹配	需求——供给匹配	要求——能力匹配	人——组织匹配	创造力自我效能感	员工创新行为
价值观匹配	1					
需求——供给匹配	0.669 <sup>**</sup>	1				
要求——能力匹配	0.561 <sup>**</sup>	0.616 <sup>**</sup>	1			
人——组织匹配	0.856 <sup>**</sup>	0.889 <sup>**</sup>	0.841 <sup>**</sup>	1		
创造力自我效能感	0.475 <sup>**</sup>	0.466 <sup>**</sup>	0.598 <sup>**</sup>	0.594 <sup>**</sup>	1	
员工创新行为	0.473 <sup>**</sup>	0.439 <sup>**</sup>	0.512 <sup>**</sup>	0.549 <sup>**</sup>	0.613 <sup>**</sup>	1

4. 人—组织匹配对创新行为、创造力自我效能感的影响

为检验人—组织匹配对员工创新行为的影响以及人—组织匹配对创造力自我效能感的影

响作用，以性别、学历、月收入为控制变量，将人—组织匹配为设为自变量，员工创新行为和创造力自我效能感设为因变量，采用回归分析法检验假设 H1、H2。

表 4.1 人—组织匹配对创新行为、创造力自我效能感回归分析表

	非标准化B	标准误	标准化Beta	t	P	R <sup>2</sup>	ΔR <sup>2</sup>	F
常数项	1.788	0.214		8.345	0.000 ***			
性别	.212	0.079	0.120	2.670	0.008 **			
年龄	-0.010	0.044	-0.014	-0.220	0.826			
工作年限	0.021	0.037	0.037	0.573	0.567			
人—组织匹配	0.515	0.043	0.543	12.089	0.000 ***	0.317	0.294	39.375 ***
	0.536	0.040	0.583	13.275	0.000 ***	0.364	0.329	48.751 ***

表 4.1 的回归结果可知，人—组织匹配对应的回归显著性p均具有显著的统计学意义 ( $p < 0.001$ )，因此可认为人—组织匹配能显著预测创新行为，人—组织匹配对员工创新行为产生正向预测作用 ( $\beta=0.543$ ,  $p < 0.001$ )。从  $R^2$  结果可知，人—组织匹配对员工创新行为的解释度为 29.4%，同时，回归结果F值为 39.375，其显著性概率值小于 0.01，具有显著的统计学意义，故认为人—组织匹配对员工创新行为回归方程拟合效果较好。假设 H1 得到验证。同时，人—组织匹配能显著预测创造力自我效能感，人—组织匹配对创造力自我效能感产生正向预测作用 ( $\beta=0.583$ ,  $p < 0.001$ )。从  $R^2$  结果可知，人—组织匹配对创造力自我效能感的解释度为 32.9%，同时，回归结果 F 值为 48.751，其显著性概率值小于 0.01，假设 H2 得到验证。

#### 5. 创造力自我效能感的中介作用验证

为进一步考察人—组织匹配对员工创新行为的影响效果，研究用人—组织匹配、创造力自我效能感及创新行为进行层次回归分析。在验证中介作用方法主要根据 Baron 和 Kenny 提供的

方法。

为检验创造力自我效能感在人—组织匹配与创新行为关系间的中介效应，以性别、学历、月收入为控制变量，以人—组织匹配三维度为自变量，员工创新行为为因变量，创造力自我效能感为中介变量，采用层级回归分析检验假设，如表 5.1 所示。

模型 1，以人—组织匹配三维度为自变量，以性别、学历、月收入为控制变量，以创造力自我效能感为因变量进行回归分析。结果表明，价值观匹配及要求—能力匹配能显著预测创造力自我效能感 ( $p < 0.05$ )，需求—供给匹配未能显著预测创造力自我效能感 ( $p > 0.05$ )。价值观匹配对创造力自我效能感有显著正向影响 ( $\beta=0.178$ ,  $p < 0.01$ )，假设 H2a 得到验证；要求—能力匹配对创造力自我效能感有显著正向影响 ( $\beta=0.462$ ,  $p < 0.001$ )，H2c 得到验证；需求—供给匹配对创造力自我效能感没有正向影响 ( $\beta=0.045$ ,  $p > 0.05$ )，H2b 未得到验证。人—组织匹配三维度对创造力自我效能感方程解释率为 36.7%，F 值达到 0.001 水平显著。

模型 2, 以人—组织匹配三维度为自变量, 以性别、学历、月收入为控制变量, 以员工创新行为为因变量进行回归分析。结果表明, 价值观匹配及要求—能力匹配能显著预测员工创新行为 ( $p<0.05$ ), 需求—供给匹配未能显著预测创新行为 ( $p>0.05$ ), 价值观匹配对创新行为有显著正向影响 ( $\beta=0.236$ ,  $p<0.001$ ), H1a 得到验证; 要求—能力匹配对创新行为有显著正向影响 ( $\beta=0.322$ ,  $p<0.001$ ), H1c 得到验证; 需求—供给匹配对员工创新行为没有正向影响 ( $\beta=0.069$ ,  $p>0.05$ ), H1b 未得到验证。人—组织匹配三维度对创新行为方程解释率为 29.1%, F 值达到 0.001 水平显著。

模型 3, 以人—组织匹配三维度、创造力自我效能感为自变量, 以性别、学历、月收入为控制变量, 以员工创新行为为因变量进行回归分析。结果表明, 价值观匹配、要求—能力匹配及创造力自我效能感能显著预测创新行为 ( $p<0.05$ ), 需求—供给匹配未能显著预测创新行为 ( $p>0.05$ )。价值观匹配对创新行为有显著正向影响 ( $\beta=0.156$ ,

$p<0.01$ ), 要求—能力匹配对创新行为有显著正向影响 ( $\beta=0.115$ ,  $p<0.05$ ), 创造力自我效能感对员工创新行为有显著正向影响 ( $\beta=0.449$ ,  $p<0.001$ )。增加中介变量创造力自我效能感后, 人—组织匹配三维度对创新行为方程解释率增加了 12.1%, F 值达到 0.001 水平显著。

判定中介效应成立的条件全部满足: ①人—组织匹配的价值观匹配、要求—能力匹配显著影响创造力自我效能感; ②人—组织匹配的价值观匹配、要求—能力匹配显著影响创新行为; 在①、②的前提下, 引入中介变量创造力自我效能感后, 人—组织匹配的价值观匹配、要求—能力匹配对创新行为的影响作用减弱 ( $\beta_1$  从 0.236 降为 0.156,  $\beta_2$  从 0.322 降为 0.115), 创造力自我效能感对创新行为仍有正向影响, 故创造力自我效能感在人—组织匹配的价值观匹配、要求—能力匹配对创新行为的影响作用中起到部分中介作用。假设 H3、H4 得到验证。

表 5.1 人—组织匹配三维度与创新行为的回归分析结果

INSTITUTE	模型 1 创造力自我效能感	模型 2 创新行为		模型 3 创新行为
		模型 1 创新行为	模型 2 创新行为	模型 3 创新行为
控制变量				
性别	-0.0560	0.127 <sup>**</sup>	0.153 <sup>***</sup>	
学历	-0.033	-0.078	-0.063	
月收入	0.101 <sup>*</sup>	0.074	0.029	
自变量				
价值观匹配	0.178 <sup>**</sup>	0.236 <sup>***</sup>	0.156 <sup>**</sup>	
需求—供给匹配	0.045	0.069	0.048	
要求—能力匹配	0.462 <sup>***</sup>	0.322 <sup>***</sup>	0.115 <sup>*</sup>	
中介变量				
创造力自我效能感				0.449 <sup>***</sup>
R <sup>2</sup>	0.402	0.336	0.457	
△R <sup>2</sup>	0.367	0.291	0.121	
F 值	37.934 <sup>***</sup>	28.492 <sup>***</sup>	40.437 <sup>***</sup>	

注: <sup>\*</sup>  $p<0.05$ , <sup>\*</sup>  $p<0.01$ , <sup>\*</sup>  $p<0.001$  (双侧)

## 研究结果

研究通过抽样调查不同企业的基层员工, 探索人—组织匹配对员工创新行为的影响, 并研究创造力自我效能感的中介作用。从上述数据的结果分析可以得出以下结论:

1、人—组织匹配以及价值观匹配与要求—能力匹配对员工创新行为有显著正向影响; 而需求—供给匹配对员工创新行为没有显著影响。这说明: 当员工受到组织鼓励和支持时, 会将自身价值观融合在组织价值观中, 发现其中的某些一致性, 因此, 当员工将自己的价值观与组织价值观进行比较, 有共同点时, 员工会重新定位自身角色和目标, 促使员工的创新行为与组织所期望的愿景一致。员工所具有的专业领域技能实际上指的就是要求—能力匹配中的能力, 虽然能力不一定马上产生创新绩效, 但是较高能力的员工在发现和分析问题时, 会跳过工作中存在的限制性的准则和方法, 根据新问题提出新想法, 来改善不合理的技术和流程, 以便完全解决问题。需求—供给匹配没有影响, 可能是组织在工作中不能给予员工资源需求的满足, 可能会引起工作中的不顺畅和压力, 促使员工没有感受到组织中的被需求和重视的心理, 进而产生怠慢、厌烦的工作行为。

2、人—组织匹配对创造力自我效能感产生显著正向影响; 价值观匹配预测与要求—能力匹配对创造力自我效能感产生显著正向影响; 需求—供给匹配未能显著预测创造力自我效能感。人与组织价值观的匹配程度会影响个体的心理过程, 要求—能力匹配中员工个人感知的匹配程度良好, 表明员工对自身胜任能力有着良好的自信心, 对工作完成秉持着较强的自我效能感, 而且对工作方法会有新的见解, 进而实施应用达成目标。当组织对员工的需要和偏好无法回应时, 需求—供给匹配就未能产生。因此员工就会降低自身的效能感, 无法对工作产生创新行为。

3、创造力自我效能感对创新行为产生显著正向影响, 并在人—组织匹配对员工创新行为之间具有部分中介作用。研究表明, 高创造力自我效能感的员工, 为了解决面临的新问题, 会对新技能和新知识进行查找和学习, 说明在工作中此类员工善于将自身的思维进行创造性的整合, 自信可以产生解决问题的方法, 而且对于新方法勇于实践和尝试, 在实践中检验方法的可行度。

## 总结与讨论

研究在中国情境下, 以企业基层员工为样本, 从人—组织匹配的视角和创造力自我效能感视角, 探究员工创新行为的发生和扩展。从研究中得到了一些理论与实践价值的结果。

首先, 对人—组织匹配与员工创新行为的关系在中国情境下进行了新的视角检验, 拓展了在中国情境下的环境与行为的关系研究。其次, 通过创造力自我效能感的理论分析, 分析和了解创造力自我效能感与员工创新行为之间的关联, 将两者进行相关性分析和回归分析后, 得出了它们之间有显著正向影响的关系。最后, 研究了创造力自我效能感的中介作用, 通过层级回归分析, 运用三个模型检验了“人—组织匹配→ 创造力自我效能感→ 员工创新行为”模型, 以此验证了创造力自我效能感作为人—组织匹配影响员工创新行为的中介变量的理论构想, 是对人与组织环境对员工创新行为理论构想的补充, 也为将来研究人与组织匹配中其他匹配类型与员工创新行为的关系提供了新的研究支持。

通过研究, 组织除了从内在因素, 即创造力自我效能感的激励, 也可以从人力资源管理实践的角度出发, 促进员工创新行为的发生。例如营造企业文化氛围、组织专项培训等方法, 开展各类创新活动, 使员工加深个人与环境的互动, 实现自身的价值。

在研究过程中虽然对问卷进行了周期性（每周）的追踪收集，以确保问卷的真实性，因此，问卷收集的比较顺利，但是由于人力、物力和时间的限制，在分析过程中存在局限性，未来在完善后续研究时需要注意和关注这些问题。

研究数据的收集采用的是问卷调查的形式，在问题较多的情况下，测试者容易产生厌烦情绪，可能使调查者和受试者信息不对称，诸如此类的问题都可能致使研究结论的产生不可靠性。另外，员工创新行为问卷采用员工自评式，数据可能存自我美化的成分，出现打分过高的现象，使数据的可靠性一定程度上受到影响。再者，量表多采用国外

学者的研究，不同的文化背景可能会产生不同的结论。第三，本文研究尝试打开了人——组织匹配对员工创新行为影响机制的“黑箱”，虽然在研究中验证了一小部分的问题，但也只是初步研究，其中还有很多其他不同的问题没有涉及和验证。因此，在未来可以通过探索性的案例的视角进行研究和证明，还可以采用其他心理过程变量如内部动机、心理资本、自我认知等作为中介变量，来考察人——组织匹配对员工创新行为产生影响。另外，在中国文化环境中，人——组织匹配存在多少维度，各维度又是什么内容，将是研究者和管理者未来面临和需要解决的问题。

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## 基于扎根理论的中国拳击教练员胜任力模型构建研究

### BASED ON GROUNDED THEORY OF COMPETENCY MODEL TO BUILD THE CHINESE BOXING COACHES

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#### 摘要

本文使用扎根理论的质性研究方法, 通过对国家拳击队的 14 名高级教练员的访谈数据进行质性分析, 初步构建了中国拳击教练员胜任力模型, 以此反映拳击教练员所需要具备的胜任力。研究结果显示, 中国拳击教练员胜任力模型组成为专业知识、专业技能、个人特质、管理技能、专业态度、人际关系 6 个维度 28 个范畴。模型的建立为拳击教练员的评估、选拔、培训、职业发展等提供了理论依据。

**关键词:** 拳击教练员, 扎根理论, 模型构建

#### Abstract

In order to reflect the excellent boxing coaches need to have the professional quality, this paper through analyzing the Chinese national boxing team of 14 senior coaches interview data qualitatively, constructs the Chinese boxing coaches competency model, by using the grounded theory in qualitative research methods. The research results show that the competency model of boxing coaches in our country is divided into 28 categories: professional knowledge, professional skills, personal characteristics, management skills, professional attitude and interpersonal relationships. The establishment of the model provides the theoretical basis for the evaluation, selection, training and career development of boxing coaches.

**Keywords:** Boxing coach, Grounded theory, Model construction

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## 引言

2012 年伦敦奥运会后随着拳击“去业余化”进程的改革，拳击赛事得以进一步的丰富与完善，目前已形成系统且丰富的赛事体系。随着拳击竞技水平的飞速发展，对教练员的素质与技能要求更加严格，拳击教练员的专业化、职业化要求越来越高，教练员成为了一种高度专业化、科学化的职业。

教练员的职业化要求教练员具备专业化的职业素质与技能，以便更好地胜任训练工作。拳击运动员竞技场上的较量实际上是教练员执教技能的较量，教练员胜任能力的高低直接关系到运动员竞技能力的提高与运动成绩的获得。近年来教练员胜任力引起了业界和学界的激烈讨论与思考，绩效优秀教练员的应该具备哪些胜任力？这是摆在我们面前的一个亟需解决的问题。

笔者通过中国知网查阅近十年以来关于教练员胜任能力的 106 篇文章进行梳理发现，目前学者对于教练员胜任力还没有统一标准与界定，而对于拳击教练员的胜任力研究国内更是匮乏。因此研究我国优秀拳击教练员的胜任力构成，探究优秀拳击教练员的核心能力，找出其影响因素和逻辑机理，有针对性的进行评价、培训与评估，对于提高和发展我国拳击教练员的整体胜任力有重要的实践意义和理论意义。

本文使用扎根理论的质性分析方法构建中国拳击教练员胜任力模型，研究的基本逻辑思路是：首先，对我国胜任素质的相关文献进行梳理，为后续的半结构化访谈和资料分析提供参考和理论研究的三角验证；其次，对中国国家拳击队的 14 名拳击教练员进行行为事件访谈，访谈一位编码一次，循环推进，完成开放编码和主轴编码；接着，通过对编码之间的关系比较、选取的概念教练员素质的比较、文献与研究结果的比较，完成模型构建；最后讨论了构建模型的价值以及未来研究的方向。

## 文献回顾

### 胜任力的概念研究

McClelland (1973) 首次提出“胜任力”的概念，其定义为：“能将某岗位工作中有卓越成就者与表现普通者区分开来的个体特征，它可以是动机、特质、价值观、某领域知识或行为技能，任何可以被可靠测量或计数的，并且能显著区分优秀与普通绩效的个体特征”。随后国内外学者对于不同工作岗位的胜任力进行了深入分析和实证研究并取得了丰富的成果，但有关胜任力的定义至今尚未统一，目前国内学术界对胜任力内涵主要有以下三个观点。

以国外学者 McClelland (1973), Boyatzis (1982), Spenser (1993), 国内学者王重鸣 (2000)、彭剑峰, 饶征 (2003) 为代表的“特征观”，他们研究认为影响优秀绩效的不是外显的知识与技能而是鉴别的隐形胜任特征。国外学者 Fletcher (1991)、Cockerill et al. (1995), 国内学者仲理峰, 时勘 (2004) 为代表的“行为观”，他们研究认为影响优秀绩效的是可以测量和评价的个体外显行为。以 Ledford (1995), Byham & Moyer (1996) 为代表的“综合观”他们研究认为对于胜任力评价预测量应该综合以上两种观点。

通过对胜任力文献的梳理与理解，研究拳击教练员的胜任力应当以“综合观”为指导，这样更严谨和客观。基于以上研究本文的拳击教练员的胜任力界定为在中国竞技体育组织情境下，绩效优秀的拳击教练员在训练教学比赛中表现出的个人特质、动机、知识、能力等胜任指标。

### 中国教练员胜任力研究

笔者通过文献的查找与梳理，2005~2016 年 10 年间中国教练员胜任素质研究共发表了 106 篇论文，涉及田径、武术、举重、篮球、足球、体操、乒乓球、跆拳道、排球、瑜伽 10 个运动项目的教

练员, 研究成果主要在于文献综述与胜任力模型的理论构建, 其中核心文献为 3 篇, 刘鑑 (2006) 建立了足球教练员胜任力模型, 模型包括知识的获得、团队意识、相信团队成员、促进合作、权威、自信、关注细节和关怀。邱芬, 姚家新 (2009) 建立了专业教练员模型, 模型包括知识的获取、创新、团队合作、沟通、权威、关注细节、洞察力、分析思考。尹碧昌 (2014) 建立了田径教练员胜任力模型, 模型包括专业知识、执教技能、建立与发展关系、个人特质。

上述研究代表着中国教练员胜任力主要研究成果。从模型建立方法来看普遍使用文献综述、访谈、内容分析, 计算胜任特征频次、平均数、访谈长度等统计分析, 进行模型构建, 研究方法与过程相似, 导致研究结论的科学严谨性受到质疑。教练员胜任力研究不能脱离我国竞技体育的组织情景, 同时特殊专项的教练员胜任力研究匮乏, 通过文献的查找目前国内外对于拳击教练员的胜任力研究尚属空白。

#### 从运动训练角度对教练员胜任力指标进行的研究

Eitington, (1989) 研究认为, 一名优秀教练员应具有五个方面的素质: 1) 善于营造一个具有支持性氛围的团体; 2) 能够给予和获得他人建设性反馈意见; 3) 善于倾听别人建议和观点; 4) 善于成功地移植、引进、和利用相关学科知识的能力; 5) 能够控制一个具有开放性氛围的团体。

中国著名体育学者过家兴 (1991) 在《运动训练学》一书中, 根据我国的实际情况及现代竞技体育的发展需要, 对教练员素质提出了 6 个方面的要求: 1) 高度的政治觉悟; 2) 高尚的道德情操; 3) 强烈的职业责任感; 4) 熟练掌握教育学和方法学技能; 5) 勇于探索和大胆创新; 6) 丰富的专业知识和实践经验。

吴飞, 刘国斌 (2007) 研究认为乒乓球教练员

的素质结构由思想认识、意志信念、行为类型 3 个要素构成。赵映辉, 刘光同 & 徐丰 (2010) 研究指出教练员的临场指挥对于篮球比赛至关重要。祝大鹏 (2010) 研究指出体育教练员应具备自信、责任心、调动积极性、专业技能、反思能力、终身学习、明确的发展目标、创造性、关注细节 9 项素质。徐玉明, 满会磊 (2012) 研究认为中国优秀教练员的创新素质优于一般教练员。信凯 (2016) 研究认为足球教练员应该具备以下素质: 1) 热爱事业、有追求、有奉献精神; 2) 专业水平的积累; 3) 运筹帷幄、随机应变; 4) 学习与科研能力; 5) 运动心理学知识; 6) 恩威并重、以德服人。

虽然国内外学者和教练员分别从不同角度, 对不同运动项目的教练员素质提出了具体要求, 但主要是采用静态分析法, 只注重教练员各项素质的划分, 没有对各项素质之间的横向或纵向关系进行研究。这种研究方法把教练员的素质要素看成是孤立的静态的因素, 缺乏了对各要素之间的系统性进行恰当的分析, 同时对于优秀教练员的核心素质没有挖掘梳理。

#### 从心理学角度对教练员胜任力指标进行的研究

从心理学角度主要是对教练员素质结构的类型、构成以及作用进行研究。Carron & Bennett (1977) 对教练员与运动员的协调能力进行了研究, 结果发现, 教练员和运动员在情感层次、与他人发展联系的能力、个人的控制能力上存在显著差异。进入 20 世纪 90 年代, 随着人们对运动训练规律的认识水平不断提高, 一些学者认为教练员素质的高低和素质结构的合理程度是影响科学化训练水平的主要因素。

宗棣华 (1995) 以足球教练员为研究对象, 提出教练员应具备: 1) 较高的智能与智慧; 2) 稳定的情绪; 3) 广博的知识; 4) 坚强的意志; 5) 精深的专业技能与丰富的经验; 6) 较强的应变能力。王朝

群 (1997) 以排球教练员为研究对象, 提出智能型教练员要具备高智力结构和能力结构以及强烈的敬业精神。

许登云, 乔玉成 (2010) 以孙海平、蔡振华、许海峰等十位成功教练员为研究对象, 分析他们的成功的因素, 除具备基本教练员素质外, 还具有霸气、勇气、志气等特殊气质。李继辉 (2011) 以田径教练员的素质构成和素质结构为研究对象, 提出优秀教练员核心素质为: 1) 专项经验; 2) 管理队伍能力; 3) 专项训练能力; 4) 运动训练基础理论知识; 5) 哲学和思维科学知识; 6) 指挥比赛能力; 7) 运动医疗保健知识。并区分为核心层和保障层。

上述文献对教练员素质类型结构的类型、构成、作用进行了广泛研究, 但是由于研究人员对相关素质的概念未作出明确的界定, 因而造成一些素质的内容说法不同, 实质却基本相同的重复现象。另外, 由于研究方法不详, 样本数量也未说明, 也阻碍了其它研究人员进行后续的研究。

## 研究设计

通过上述的文献回顾与梳理笔者发现对于教练员胜任素质的研究文献相对陈旧, 且核心文献较少, 研究方法缺乏科学性与严谨性。由于已有研究中对于教练员的胜任力缺乏系统深入的研究, 本

研究将使用质性的研究方法, 不从现有的理论和研究结果出发, 避免受到现有研究思路和结论的影响。遵从实际实践, 从现实现象出发, 进行理论构建, 强调理论的饱和度。运用扎根理论构建拳击教练员胜任素质模型。本研究的整体逻辑思路是: 首先对我国教练员胜任素质的相关研究文献进行梳理, 以此为基础构建起初步的半结构化访谈框架; 其次, 开展访谈并进行开放编码和选择性编码, 确定核心范畴; 然后, 在核心范畴的基础上确定各范畴之间的关系, 完成模型构建, 并与相关的研究文献进行对话; 最后, 讨论模型对于我国拳击教练员的启示以及未来继续研究的方向。

### 1. 理论性抽样

理论性抽样指根据理论研究的需要有目的地选择研究样本。与计量研究严格要求遵循统计意义上标准和样本代表性不同, 扎根精神的研究更强调资料的经验性和理论的饱和性。依据理论性抽样的原则, 首先确定样标, 选取而中国国家拳击队 (男队、女队) 的 14 名教练员作为研究对象, 研究对象具有权威性, 代表了中国拳击教练员的最高水平。样标如表 4 所示。访谈对象男 12 人, 女 2 人, 执教年限都在 10 年以上, 教练员级别均为高级教练员, 其中国家级教练 6 人, 高级教练员 8 人, 均为国家男、女队现役教练员。

表 1 行为事件访谈对象的基本情况

内容	工作环境		性别		执教时间 (年)			文化水平			教练级别		
	国家队	男	女	男	女	10-15	15-20	20 以上	中专	大专	本科	高级	国家级
人数 (人)	14	12	2	5	5	4	4	5	4	8	6		

为了保证理论的饱和度, 男子拳击队的 8 名教练员与女子拳击队的 6 名教练员分别进行访谈。访谈采用目前得到公认, 且最有效的方法 (BEI) 行

为事件访谈法 McClelland (1998)。即采用开放式的行为回顾式探察技术, 让被访者讲述在具体工作岗位中最成功的三件事, 采用 STAR 工具, 重点

挖掘的信息是在怎样的组织情景下发生的, 当时都牵扯到了什么人, 被访者是怎么想的, 当时又做了什么, 产生了什么结果, 访谈采用行对访谈的内容进行一定程度上的三角验证, 即向 A 了解 B 所说的内容, 以其一致性来判断数据的可靠性。然后, 对访谈内容进行扎根质性分析, 来确定访谈者所表现出来的胜任力特征。

## 2. 数据收集

使用半结构化访谈的方法收集数据, 每访谈一位教练员进行一次编码, 不断比较, 直至第 12 名拳击教练时发现无新概念或关系出现, 继续访谈 2 位教练员仍无新的发现, 判断理论已经饱和。

对拳击教练员实施半结构化的访谈, 利用 STAR 工具, 编写中国优秀教练员访谈提纲, 以拳击教练员的执教经历为轴线, 主要由被访谈者以叙事的方式介绍, 近两年的关键事件, 尽量规避其由于紧张或时间模糊而导致的叙述不真实成分。为防止受访者疲劳出现的非故意误差等, 笔者控制访谈的方向与节奏, 通过教练员自身的感受和经历来挖掘信息, 就教练员的带队、训练、比赛、日常管理等内容进行引导, 紧紧围绕教练员所具备的素质与能力进行展开。如有表述不清或概念模糊时, 笔者与受访者沟通交流, 准确记录受访者信息。通过对访谈资料整理发现, 随着访谈的深入, 被访谈者均表现出更加热情的态度, 谈到一些访

谈者意料之外的事件或因素。访谈过程中以几个开放式的问题进行引导, 如参与拳击运动的动因、家人的态度、朋友的感受、执教有待改进的地方等等, 被访谈者往往可以叙述大量的事例和内容。

由于是半结构化的方式, 访谈者可以在一定程度上控制访谈的进度, 收集到需要的数据。每例访谈时间一般为 1.5 至 2 小时, 共计 23 小时, 整理后得到文本资料共 43194 字。

### 扎根研究

### 开放编码

此阶段将访谈录音转化为文字文本, 将访谈资料打散并聚类, 形成概念和范畴。有

信息模糊或不能把握的, 通过访谈等方式向被访谈者经过确认, 结论一致后形成最终结果, 以此反映数据内容。

在开放编码中, 尽可能使用被访者的原话, 以呈现其感受或态度。以逐行、逐句、逐段的方式编码, 使得资料中的概念自然涌现出来。编码的编号规则为: PA-B, 其中 PA 为被访谈人编号, B 为访谈资料中涌现的第 B 个概念, 例如 P11-6 表示编号为 P11 的被访谈人的访谈资料中涌现的第 6 个概念。

经过多次反复对比分析, 共从资料中抽象出 89 个概念及其所属的 18 范畴, 如表 2 所示。

表 2 开放编码界定的范畴和概念

Z	主范畴	概念	典型编码例证
1	专项经验	教练员自身的专项经历感受、经验性知识	P1-2 他打拳有内涵有想法 P7-4 感觉他和我的打法很相似
2	体能训练知识	教练员对于拳击专项进行身体结构功能的训练知识	P2-2 经常进行核心力量训练 P3-7 强调专项力量的训练教学
3	临场指挥	比赛场上教练员的技战术安排与指挥能力	P2-3 现场的指挥对运动员技术发挥至关重要 P13-5 充分发挥自己特长抑制对手发挥
4	沟通能力	教练员与运动员以及工作人员的交流沟通反馈	P8-4 他们经常过来找我谈训练体会 P13-2 训练计划制定后我们都要开队会商量的
5	成就动机	是教练员追求自认为重要的有价值的工作，并使之达到完美状态的动机	P10-12 肯定要拿全运会冠军的 P6-3 一直盼着他能去打奥运会
6	选材知识	教练员对运动员选拔的标准和要求	P10-3 我都选身高臂长脖子短的运动员 P10-1 我找那些跑的快力量大的运动员
7	训练负荷的控制	教练员对于专项运动量与运动强度的监控	P4-7 不能练疲了不然没有状态 P5-20 该调整的时候就得大胆调
8	应变能力	指教练员面对意外事件时，能迅速地做出的决策反应，使得事件妥善解决的能力	P13-6 我感觉带队能体现我的人生价值 P9-4 我把运动员当自己孩子来看待
9	持续学习	教练员坚持学习专业前沿知识、不断的进修学习提高	P1-15 教练员学习班有机会都去参加 P7-4 新规则的使用对运动员打法影响很大
10	技术诊断	教练员对运动员技术的规范性进行指导纠正	P9-2 动作幅度大的运动员得技术纠正 P1-8 勾拳没力是因为腰髋发力脱节
11	自我控制	教练员对自我心理和行为的掌握	P6-9 我没有将自己的情绪带到训练中
12	计划能力	教练员对于教学训练阶段和过程的规划能力	P12-1 前两年练习专项素质与基本功 P5-9 赛前阶段保持状态很关键
13	解决问题能力	教练员能预见到问题，同时还要有决策力和执行力	P7-8 右肩损伤后我让他改成左架拳手 P11-2 体重下不来我带他汗蒸
14	区别对待	指教练员针对不同运动员个体的实际情况而采取的不同的应对策略	P1-7 我给他讲了要发挥他的特长加强中近距离的拼打 P11-12 针对性的加强上肢力量练习
15	伤病预防	教练员对于运动员伤病的预防及控制	P12-1 训练完是不能洗凉水澡的 P10-2 打沙包一定要把绷带缠紧
16	创新能力	教练员根据自己的认知进行的技术改革	P6-5 让运动员带着护齿跑步和跳绳 P8-6 女孩经常和男孩一块打实战

表 2 开放编码界定的范畴和概念

Z	主范畴	概念	典型编码例证
17	激励	指教练员激发运动员的动机和潜力, 使其心理过程始终保持在激奋的状态中, 鼓励人朝着所期望的目标采取行动的心理过程。	P1-8 我经常在队会上表扬他 P14-1 我们训练很有激情, 经常一块打
18	协作	指在训练比赛管理过程中的部门与部门、人与人之间的协调配合	P1-6 上海队负责伙食补助 P8-15 让队医联系的北京三院做检查
19	收集信息	指教练员通过各种渠道获取与比赛有关的各方面信息	P1-21 我把他的六场比赛的视频反复观看研究 P8-7 通过国际裁判拿到了对手国外比赛录像
20	执教理念	指教练员个体对所从事专项教学训练前沿性发展趋势的认知与判断	P7-9 我们的宗旨就是以我为主, 以快打慢 P8-16 平时强调打调结合、积极主动
21	主动性	教练员按照自己的计划和目标行动, 而不依赖外力推动的行为品质	P9-9 训练提前半小时进馆, 教练员要比运动员先到 P8-6 身体允许的情况下我坚持和运动员一起练
22	团队意识	指教练员的整体配合意识, 相信团队成员, 促进合作	P1-23, 没有整个团队作保障, 我们根本走不到今天。 P14-1 体能教练、队医我们每天都要开会
23	关注细节	指教练员在训练比赛过程中对于运动员技术身体等细微环节的关注与把握	P9-13 训练中强化后手直拳的内旋扣腕发力 P1-17 我让他到我房间休息, 将他手机收了电视关了
24	支持	指上交主管领导的政策、经费、场地、器材等各方面的帮助	P1-5 中心领导协调了住宿问题 P1-17 主管领导给与了经费参赛支持
25	洞察力	指教练员深入事物或问题的能力, 准确地认识事物复杂多变的内外相互关系的能力	P6-11 发现这个小孩很有灵性, P2-9 他能力只发挥了一半, 还有潜力
26	竞争性	指教练员个体为了完成训练目标获取成功而采取的相应行动	P8-21 我和队员一起把决心书贴在训练馆的墙上 P10-8 和男队员相比我们的训练强度一点都不低
27	影响力	指的是用一种为别人所乐于接受的方式, 改变他人所乐于接受的方式, 改变他人的思想和行动的能力。	P4-9 回来后更听我的话了, 我做的训练计划他们都保质保量的完成 P3-14 近半年的早操运动员没有迟到的
28	责任心	教练员个人对自己和他人、对家庭和集体、对国家和社会所负责任的认识、以及承担责任和履行义务的自觉态度。	P5-9 早操我每天都出的 P4-13 晚上查房还是必须的

## 主轴编码

此阶段目的是将前阶段编码过程中分割的资料, 通过类聚分析建立不同范畴之间的关联。核心是要分析各范畴之间存在什么样潜在的逻辑关系, 依此寻找线索。编码中发现, 范畴间存在一定的类聚关系, 经过分析、讨论 和不断比较, 将范畴的逻辑关系进行归类, 最后确定范畴可以按个人特质、专业知识、专业技能、管理技能、专业态度、人际关系分为六类。与个人特质相关的范畴有: 成就动机、责任心、应变能力、自我控制, 这些方面体现了专业教练员的内在的潜质。而选材知识、体能训

练知识、专项经验和持续学习能力是对优秀拳击教练员的知识要求。执教理念、临场指挥、训练负荷的控制、技术诊断、计划能力、创新能力、关注细节、收集信息、洞察力、区别对待、伤病预防是对优秀拳击教练员专业技能的要求。沟通能力、解决问题能力、激励、团队合作、影响力属于拳击教练员的管理技能。责任心、主动性两个因素划归为专业态度。支持和协作划归为人际关系。因此, 我们将上述 28 个范畴合并为 6 个类属, 如表 3 所示。

表 3 主轴编码确定的范畴类属关系

编号	关系类别	范畴	内涵
1	专业知识	选材知识、体能训练知识、专项经验、持续学习能力	专业知识即拳击教练员所具备的专业理论知识和技术知识、经验以及这些知识经验的获取能力。“选材知识、体能训练知识、专项经验、持续学习能力”四个范畴属于自变量。
2	专业技能	执教理念、训练负荷的控制、技术诊断、计划能力、临场指挥、创新能力、关注细节、收集信息、洞察力、区别对待、伤病预防	专业技能即拳击教练员所具备的专项执教技能, 是取得训练效果的保证。“执教理念、训练负荷的控制、技术诊断、计划能力、创新能力、临场指挥、关注细节、收集信息、洞察力、区别对待、伤病预防”十一个范畴的因素属于自变量
3	管理技能	沟通能力、解决问题能力、激励、团队合作、影响力	管理技能即是指教练员运用技术和知识、流程完成管理任务的能力。“沟通能力、解决问题能力、激励、团队合作、影响力”五个范畴属于自变量
4	人际关系	支持、协作	人际关系指教练员与人在相互交往过程中所形成的心理关系。“支持、协作”两个范畴属于自变量
5	个人特质	成就动机、竞争性、自我控制、应变能力	个人特质即拳击教练员那些潜在的难以被发现和比较的个体特征, 属于内源动力。“成就动机、竞争性、自我控制、应变能力”四个范畴属于自变量。
6	专业态度	责任心、主动性	教练员对拳击所持有的稳定的心理倾向。这种心理倾向蕴含着个体的主观评价以及由此产生的行为倾向性。“责任心、主动性”两个范畴属于自变量

## 选择编码

依据研究目的, 在对范畴和关系类别的反复分析基础上, 探讨中国拳击教练员胜任素质模型的成因, 根据 Spencer & Spencer (1993) 提出的“冰山”胜任特征模型结构, 将专业知识、专业技能、管理技能划分为显性的基准性胜任素质。将专业态度、人际关系、个人特质划分为隐性的鉴别性胜任素质。故将核心范畴确定为“中国拳击教练员胜任力模型”, 按此核心范畴构建模型如 图 1 所示。



图 1 中国拳击教练员胜任力模型

## 饱和度说明

扎根分析的理论饱和度是决定是否可以停止采样的标准, 当没有新的概念和关系出现时, 可认为理论已经饱和。本研究在完成第 12 位教练员的访谈数据开放编码后, 发现已无新的概念和关系出现, 继续访谈 2 位教练员并做开放编码后, 确

认理论已经饱和。

## 理论对比验证

将研究得到的因素和相关文献进行比较, 绝大多数因素在以往的研究中能找到相应的支持, 对比如表 4 所示。正如文献回顾中所说, 由于以往对教练员的素质的研究中是静态化的, 同时脱离了具体的工作组织情景, 缺乏对各项素质进行深入细致的分析。在对教练员专业技能和管理技能素质的研究中学者们过多的注重了教练员的创新能力、临场指挥能力、技术诊断能力、计划能力、训练负荷的控制能力、伤病预防能力、洞察力、沟通能力等而忽视了教练员的执教理念、解决问题的能力、收集信息能力、区别对待。同时本文首次提出了沟通能力、解决问题能力、激励、团队合作、影响力属于教练员的管理技能, 而不属于教练员的专业技能范畴, 这与前期的研究成果不一致。在专业知识维度中, 优秀拳击教练员所具备的选材知识、体能训练知识、专项经验、持续学习能力在前期文献中找到了验证。在个人特质维度中, 优秀拳击教练员所具备的成就动机、竞争性、自我控制、应变能力也找到了验证。在专业态度中, 主动性、责任心两个要素没有找到验证, 属于本文新的研究。以往学者注意力集中在研究教练员个体的特质, 强调了个体的成就动机与责任心, 忽视了对于教练员个体专业态度中主动性的研究, 这是本文研究中新的发现。因此个人特质、专业知识、专业技能、管理技能、专业态度、人际关系 6 个维度构成的中国拳击教练员胜任力模型比以往的理论可以更好的解释优秀拳击教练员的胜任能力。

表 4 相关文献比较对理论范畴的验证

编号	范畴	代表性文献比较例证
1	专项经验	过家兴 (1991)、李继辉 (2011)、信凯 (2016)
2	体能训练知识	宗棣华 (1995)、邱芬, 姚家新 (2009)
3	临场指挥	宗棣华 (1995)、李继辉 (2011)、信凯 (2016)
4	沟通能力	Eitington, J. E. (1989)、邱芬, 姚家新 (2009)
5	成就动机	祝大鹏 (2010)、许登云, 乔玉成 (2010)
6	选材知识	过家兴 (1991)、宗棣华 (1995)
7	训练负荷的控制	过家兴 (1991)、李继辉 (2011)、祝大鹏 (2010)
8	责任心	过家兴 (1991)、王超群 (1997)、信凯 (2016)、祝大鹏 (2010)
9	持续学习	信凯 (2016)、祝大鹏 (2010)
10	技术诊断	刘鎏 (2007)、邱芬, 姚家新 (2009)
11	自我控制	Carron, A. V. & Bennett, B. B. (1977)、潘永生, 孙廷旭 (2014)
12	计划能力	过家兴 (1991)、祝大鹏 (2010)
13	解决问题能力	本文新的研究
14	执教理念	本文新的研究
15	预防伤病	宗棣华 (1995)、李继辉 (2011)
16	创新能力	Eitington, J. E. (1989)、过家兴 (1991)、徐玉明 (2012)、祝大鹏 (2010)
17	支持	本文新的研究
18	协作	本文新的研究
19	主动性	本文新的研究
20	区别对待	本文新的研究
21	团队合作	刘鎏 (2006)、邱芬, 姚家新 (2009)
22	应变力	信凯 (2016)
23	影响力	刘鎏 (2006)、邱芬, 姚家新 (2009)
24	竞争性	尹碧昌 (2014)
25	激励	祝大鹏 (2010)
26	关注细节	刘鎏 (2006)、邱芬, 姚家新 (2009)
27	洞察力	邱芬, 姚家新 (2009)
28	收集信息	本文新的研究

## 机制分析

本研究所构建的中国拳击教练员胜任素质模型共有六部分构成，分别为个人特质、专业知识、专业技能、专业态度、管理技能、人际关系。这六个维度是一个立体的综合结构。优秀拳击教练员的个体特质以及他所具备的专业知识、专业技能、专业态度、管理技能、人际关系构成了六维度的胜任力模型。

一名优秀的拳击教练员需要具有特殊的个人特质，在本研究中发现优秀的拳击教练员具备很高的成就动机、自我控制、应变能力、竞争性四要素。成就动机是拳击教练员的内源动力能够激发工作的热情，使得拳击教练员爱岗敬业。同时由于拳击项目的高度对抗性，使得长期从事拳击训练的教练员的竞争性增强，拳击比赛千变万化，随时都有意外情况发生，对教练员的应变能力提出了更高的要求，教练员自我情绪的控制与稳定也保障了与运动员以及其工作人员的沟通。从模型来看，拳击教练员的专业知识是优秀拳击教练员工作的基础和起点，它包括运动员选材知识、体能训练知识、专项经验、持续学习四个部分。只有具备了扎实的专业知识才能科学有效的进行选材，通过访谈得知绝大多数拳击教练员都是优秀的职业运动员出身，他们退役后从事教练员工作，他们具有丰富的专项经验以及体能训练知识。但由于拳击规则的不断修改，要求教练员不断的学习新规则，同时由于拳击竞技水平的不断提升，教练员的持续学习也成为丰富提高专业知识的手段。

专业技能维度包括执教理念、训练负荷的控制、技术诊断、计划能力、临场指挥、创新能力、关注细节、洞察力、区别对待、伤病预防、收集信息十一个部分组成。一名优秀的拳击教练员能够有着先进的执教理念合理的安排多年、常年的训练计划，这就需要缜密的计划能力，同时需要准确的控制训练的负荷量与强度，进行训练负荷的控制，对

于训练中的技术细节进行科学有效的诊断与纠正，并且能够根据自己的学习认知进行技术创新，在比赛中能够灵活机动的进行临场指挥，充分发挥自己的聪明才智，做到运筹帷幄。

管理技能维度包括教练员的沟通能力、解决问题能力、影响力、激励、团队合作。在拳击教学训练中，教练员与运动员建立与发展关系，因而教练员与运动员的沟通与交流就很关键，调动运动员的训练积极性，充分发挥教练员主导，运动员的主体地位，及时有效的发现训练中存在的问题并解决问题，对于提高训练效果，提高运动成绩至关重要。在长期的拳击训练教学中教练员对于运动员得激励，以及教练员的影响力都会对运动员产生潜移默化的影响，同时相信团队成员并促进合作成为了现代竞技体育的发展方向。

人际关系包括支持和协作两个部分。领导的支持包括政策、经费、场地、器械、后勤保障等对于项目的发展具有导向性作用。协作包括教练组之间、教练员与医务人员、科研人员、裁判员、后勤人员等的协作，现代竞技项目的发展要求资源整合、平台整合与系统整合，因而协作共赢尤为重要。专业态度包括主动性、责任心两个部分。教练员怎样看待对待自己的工作、怎样看待对待运动员以及对拳击事业的态度包含了认知、情感与行为三部分。通过访谈优秀拳击教练员都表现出了对于拳击事业的热爱，对于人生价值的追求以及为国争光的荣誉感。

## 讨论与建议

根据构建出的中国优秀拳击教练员素质模型中的拳击教练员的个人特质，针对性的加强教对教练员成就动机的引导、工作责任心的强化以及自我控制能力能够调动教练员的内源动力，激发工作热情，起到源头激活作用。

专业知识是教练员从事拳击专业教学训练的

根本和基础, 从模型中可以看出专业知识维度专业选材知识、体能训练知识、专项经验与持续学习四部分构成。所访谈的优秀拳击教练员群体多数都是优秀运动员退役转行做教练员, 他们专业技能突出, 相对理论知识缺乏, 因而加强专业理论知识的学习能够有效的弥补理论素养的匮乏, 同时由于拳击技术的飞速发展, 教练员接受新鲜事物的能力要提高加强, 学习新规则新技术, 理论与实践相结合, 因此持续学习至关重要。

专业技能是教练员直接应用到拳击训练教学的能力, 从素质模型上看, 专业技能维度主要包执教理念、关注细节、收集信息、洞察力、区别对待、临场指挥、技术诊断、计划能力、训练负荷的控制、创新能力十部分组成。拳击教练员在整个运动训练过程中占主导地位, 因此教练员的执教理念属于整个训练体系的顶层设计, 因材施教, 区别对待, 最大限度的挖掘运动员的潜力, 决定着训练的先进性与有效性。拳击的训练教学是一个长期系统的体系, 因此训练计划的制定, 训练负荷量与强度的控制非常关键, 教练员的洞察力对于保持运动员的竞技状态与技术水平的提升具有重要影响。拳击属于技能主导类同场格斗对抗类项目, 由于属于技能主导, 因此教练员对于运动员技术的诊断能力、关注细节以及技术的创新能力显得尤为关键, 运动员技术细腻, 打法新颖, 往往可以取得优异成绩。随着拳击竞技水平的飞速发展, 对于比赛对手的信息收集尤为关键, 知己知彼才能百战不殆。拳击比赛属于交手项目, 两人对抗, 单败淘汰, 比赛残酷且激烈, 当运动员双方实力想当时, 教练员的临场指挥可以有效的控制比赛节奏, 成为赢得比赛的关键。

管理技能是在运动训练过程中教练员对运动的管理能力, 从胜任力模型上看, 管理技能包括沟通能力、解决问题能力、激励、团队合作、影响

力五部分组成。教练员的工作群体是运动员, 因而要与运动员建立与发展关系, 形成共容环境, 才能有效的进行训练工作。教练员与运动员得沟通方式, 沟通能力相当重要, 有效的沟通交流与反馈可以起到事半功倍的效果。在长期的训练中, 教练员对于运动员的激励可以有效的提高运动员的训练热情与主动性, 教练员的言传身教潜移默化的影响运动员, 教练员的影响力关系到训练计划的落实与执行, 直接的影响训练效果。在访谈过程中多位教练提到了队医、领队、教练的合作, 相信团队成员, 促进合作, 发挥团队已成为现代竞技体育发展的趋势。在保障拳击训练教学过程中, 对于发现的问题与情况, 教练员的解决问题能力对于稳定军心, 保持团体精神风貌, 取得优异运动成绩至关重要。

人际关系是指人际关系指教练员与人在相互交往过程中所形成的心理关系。从胜任力模型上来看包括支持和协作。教练员妥善处理与分管领导的关系能够有效的争取政策、经费、场地等的支持, 同时与裁判员、科研人员、医务人员、后勤人员保持良好的人际关系对于项目的发展尤为重要。

专业态度是指拳击教练员对拳击所持有的稳定的心理倾向。这种心理倾向蕴含着个体的主观评价以及由此产生的行为倾向性。从胜任力模型上看包括主动性、责任心两部分构成。拳击教练员对于拳击工作、对于拳击运动员的情感态度, 由此而激发的对于拳击事业的认知, 对于教练的态度行为影响重大。教练员对于拳击训练工作的主动性和责任心同时会潜移默化的影响运动员, 使运动员能够自觉的完成训练计划, 同时教练员的主导地位得到彰显, 运动员的主体地位得到突出。访谈中优秀拳击教练员均表现出了对于拳击事业的热爱以及集体荣誉感。

## 结论

通过对我国 14 位优秀拳击教练员进行扎根研究得到以下总结：

优秀拳击教练员所具备的 28 个素质范畴为：执教理念、专项经验、体能训练知识、临场指挥、沟通能力、成就动机、选材知识、训练负荷的控制、责任心、持续学习、技术诊断、自我控制、计划能力、解决问题能力、伤病预防、创新能力、应变能力、影响力、团队意识、关注细节、洞察力、区别对待、竞争性、主动性、支持、协作、收集信息、激励。

通过开放编码、主轴编码把 28 个范畴归纳为专业知识、专业技能、个人特质、专业态度、管理技能、人际关系六个维度。专业知识维度包括选材知识、体能训练知识、专项经验、持续学习能力。专业技能维度包括执教理念、关注细节、收集信息、洞察力、区别对待、临场指挥、技术诊断、计划能力、训练负荷的控制、创新能力、伤病预防。管理技能维度包括激励、团队合作、影响力、解决问题能力、沟通能力。专业态度维度包括主动性、责任心。人际关系维度包括支持、协作。

通过开放编码、主轴编码和选择编码建构了我国拳击教练员的胜任力模型，首次提出我国拳击教练员胜任力模型是由个人特质、专业知识、专业技能、管理技能、专业态度、人际关系六维度组成的立体框架模型。

通过构建的拳击教练员模型以及具体的指标体系可以明确拳击教练员的核心素质，有针对性的进行评价、培训与评估，能够有效的提高拳击教练员整体的胜任能力，对于拳击竞技水平的提高具有重要的理论与实践意义。

## 研究不足与展望

本研究虽构建了理论体系，但由于使用质性分析，首先没有将因素进行量化分析，因此无法明确单个自变量在多大程度上解释因变量的变化，此外对于扎根方法的争议颇多，主要是得出的结论是否具有可推广的普遍性意义，故研究结论还需后续研究将因素进行指标量化，并进行相对应的实证研究，进而明确各因素的变动影响和验证研究结果的可推广性。

INSTITUTE OF MANAGEMENT

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# 中国制造企业一线技能型员工素质模型的构建研究

## --以HX钢构股份有限公司为例

### THE COMPETENCY MODEL BUILDING: A CASE STUDY OF THE FIRST LINE SKILLED EMPLOYEES IN HX STEEL CONSTRUCTION LIMITED COMPANY

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#### 摘要

本文采取调查问卷法, 以某民营钢构公司为例, 从知识、技能、素养三个维度构建了一线技能型员工素质模型, 并从文化程度、专业知识、资质等级、从业经历、学习能力、沟通能力、上进心、责任感、吃苦精神、团队精神等十个要素对产品品质及生产效率的影响进行了验证。

**关键词:** 素质模型, 构建方法

#### Abstract

The paper took the way of questionnaire in one China local Steel Construction. It built the first line worker's competency model from three dimensions: knowledge, skill and professionalism and test the influence factor to production quality and production efficiency from education background, professional knowledge, intelligence level, work experience, study ability, communication ability, desire to advance, the sense of responsibility and hard-working spirit and team spirit.

**Keywords:** Competency Model, Construction Method

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## 前言

2015 年是不平凡的一年，支撑着中国经济快速发展的外部环境与内在条件都在发生剧变，经济的增长开始从高速逐步朝着中高速的方向变化。对于一个国家来说，制造业是经济发展的基础，不发展制造业，国家就难以强盛。中国要想实现伟大的“复兴梦”，必须继续坚持走制造业强国之路。中国国家主席习近平强调，“实体经济是国家的本钱，要发展制造业尤其是先进制造业”。

作为当今全球制造业第一大国，中国制造业目前正普遍呈现增速不断放缓、增长动力不足的局面。随着劳动力数量红利递减、生产要素成本提升、资源环境约束加强等因素的影响，资源密集型、劳动密集型、高耗能高污染行业等低端制造业增长乏力，并导致了中国工业整体增速下降。随着经济增速放缓和全球产业变革，过去 30 多年中国经济快速增长所积累的一些风险和矛盾也逐渐暴露。比如多数制造业企业出现严重产能过剩，为了化解产能过剩亟待进行资产重组和结构调整，这些不可避免会引发企业倒闭、员工转岗，甚至失业潮的到来。

中国从国家层面已经将制造业放到“立国之本”的战略地位，而制造业转型升级已经进入了“深水区”，在顺利趟过这段“深水区”，实现中国制造业的弯道超车，建立人才队伍是根本保障。但我们看到大家关注最多是：中国紧缺领军人才、高层次技术人才、优秀的企业家和高水平经营管理人才。可德、日甚至韩国等制造业强国却告诉了我们一个事实：一线技能型员工素质的高低，决定着制造业品质的高低，决定着制造业转型升级的成败。因此，针对千千万万一线技能型员工，建立科学合理的素质模型，并将之应用于建立选人、用人、育人、留人机制，对于中国变“人口红利”为“人才红利”，走人才引领制造业转型发展之路具有非常重要意义。

## 研究目标

希望通过研究能够找到制造企业一线技能型员工在知识、技能、职业素养等素质变化对产品品质及生产效率提升的影响，期待能够开发出符合规律的、能够影响生产的一线生产技能型员工素质模型，为中国制造企业的竞争力提升起到促进作用。

## 文献综述

### 1、其他国家素质模型研究情况

从古罗马的时候就出现了素质的定义，那时候这一词是人民对优秀战士的称赞，当时的人还发明了“素质剖面图”，这也是探究素质的开端。McClelland (1973) 在《美国心理学家》杂志上发表了题为《测量素质而不是智力》的文章。他认为素质能够判断及区分工作成果、生活成果的优劣。这篇论文的发表受到了广泛关注，这标志着素质探索的开端，相继有很多人踏上了探索素质的道路，不同的人开始从不同角度赋予素质以不同的定义。

Guglielmino (1979) 指出素质由以下三部分组成：(1) 概念胜任素质；(2) 人际胜任素质；(3) 技能胜任素质。Boyatzis (1982) 提出素质指的是个人特征，这些特征能促使其在工作中产生更加优秀的绩效。Woodruffe (1991) 指出素质不是工作的本身，而是工作中行为模式的聚集，素质是一种能使个体超常发挥的行为。Spencer & Spencer (1993) 指出素质是指能将某一工作中有卓越成就者与表现平平者区分开来的指标，它可以是特质、态度或某领域知识或行为技能的个体特征。Sandberg (2000) 认为素质是指在某一具体的工作领域中所运用的能力特征，如：在具体的工作中所用到的知识、技能，而不是指个人所拥有的知识和技能。Vakola (2007) 认为素质是员工潜在的、与优秀工作绩效相关的一套行为模式，在个人和团队中都

能发挥作用并切实有效地为组织提供可持续的竞争优势。

## 2、中国素质模型研究情况

相比较而言,中国在素质模型方面的研究时间不长,在2002年之前,很少学者对素质模型进行研究,在接下来的几年,对其进行研究的学者越来越多,这在一定程度上加快了能力素质模型的推广。

在中国知网数据库(CNKI)中,通过搜索关键词“工人素质模型”,一共可以检索到与其相关的文章有126篇,一共可以分为三类。第一类是与素质模型构建相关的,只有4篇,分别为《采掘业一线操作员工胜任特征模型的建立与验证研究》、《中国现代轮胎制造企业一线员工素质模型的构建与应用》、《制造业能力素质模型的构建研究——来自广东啤酒制造业一线员工的实证研究》、《贝卡特沈阳公司一线员工能力素质模型的构建与应用》;第二类是与提高工人素质有关的,其研究方法多是定性分析,这种方法比较具体的实证研究和定量研究;最后一类是与工人素质模型在人力资源管理方面应用有关的,只有3篇,分别为《广州铁道车辆厂技术工人培训系统设计》、《基于胜任力的南昌供电公司班组员工培训研究》、《企业生产部门员工岗位素质与素质评价》。由此我们不难看出,对员工素质进行研究的论文是极其有限的。

成晶晶(2009)为高新技术制造业企业R&D人员构建素质模型,得到了包括5个维度共22项素质的高新技术制造业企业R&D人员通用素质模型。

孙夕秀(2010)通过问卷调查、行为事件法以及文献研究法,研究煤炭领域中层人员的素质模型。最终的结果表明他们必须具备以下六大素质:自我调整能力、安全意识、组织能力、管理水平、人际关系处理能力以及专业能力。基于上述研究成果,进一步研究了职位高低、年龄、最高学历等

等相关因素对模型的干扰和影响。

陈其明(2010)通过调查珠江三角洲企业中信息化岗位人才,总结出高级信息化人才岗位能力素质词典,主要包含:专业技能、知识、品质、基础素质。其中基础素质包含以下8项:逻辑分析能力、耐压力、敬业精神、学习创新能力、沟通能力、团队精神和组织规划管理能力;品质主要包括职业道德、道德素质、思想素质、政治素质;知识包括法律法规知识、管理知识、专业知识和行业知识;专业技能主要包括计算机维护、财务技能、英语技能、BOM构建、编程工具、数据库、ERP及其流程。

户晓茹(2010)通过分析油田基层工人所扮演的角色,最终提炼出了各个岗位人员的能力维度,最为重要的有两个,即工作态度以及诚实自律,无论从事什么样的工作,这两项都是必备的基本素质,基本素质包含9项,即诚实自律、适应力、逻辑分析能力、工作实施、处理质量问题能力、工作态度、沟通能力、安全环保监查和处理能力等能力素质特征。让每个员工都清晰基本素质特征,明确自己的定位,这样就能在无形之中提高自己的工作效率。

万官泉(2010)通过对某供电企业人力资源进行透彻的分析,并详细的探讨了能力素质模型的构建方法,研究能力素质模型的人力资源开发途径,并提出了奖惩晋升和业绩考核、职业发展和员工培训等情况下的开发模式。

时勘(2011)通过分析通信领域的干部素质模型,提出了大量的胜任特征,比如发展下属、人际洞察、团队建设以及客户服务。

## 3、素质模型研究综述

通过以上诸多学者关于素质的定义,我们很容易发现:尽管不同的学者对素质进行界定时偏重不同,有的偏重于行为,而有的偏重特质,但对其界定的内涵有以下3个相同之处:

- (1) 都和绩效密切相关;
- (2) 都指出造成个人绩效优劣的主要原因是素质;
- (3) 在工作情境中, 都强调员工的个体特质、技能和知识。

## 研究方法

根据研究目的, 本研究为应用研究, 主要采取定量分析法, 具体运用了以下几种分析方法:

### (1) 实证研究法

将以 HX 钢构公司作为对象进行实例研究分析, 分析方式采用访谈结合问卷, 并收集数据进行统计模型分析, 对比分析一线生产技能型员工在知识、能力、职业素养等维度的变量情况, 并将理论模型的分析结果与实证分析所得进行对比验证。

### (2) 调查问卷法

该法的特点是收集资料十分的快速。目前常用的有 360° 反馈法, 该法不仅可以收集目标岗位的行为表现, 同样可以收集素质要素, 并且省时省力。缺点在于问卷编制需要相关人员投入极大的精力, 因问卷的设计好坏, 对于结果的准确性有不少影响。

## 基本假设

H1: 一线技能型员工知识对产品品质及生产效率存在显著影响;

H1.1: 一线技能型员工的文化程度对产品品质及生产效率存在显著影响;

H1.2: 一线技能型员工的专业知识对产品品质及生产效率存在显著影响;

H2: 一线技能型员工的能力对产品品质及生产效率存在显著影响;

H2.1: 一线技能型员工的资质等级对产品品质及生产效率存在显著影响;

H2.2: 一线技能型员工的从业经历对产品品质及生产效率存在显著影响;

H2.3: 一线技能型员工的学习能力对产品品质及生产效率存在显著影响;

H2.4: 一线技能型员工的沟通能力对产品品质及生产效率不存在显著影响;

H3: 一线技能型员工的素养对产品品质及生产效率存在显著影响;

H3.1: 一线技能型员工的上进心对产品品质及生产效率存在显著影响;

H3.2: 一线技能型员工的责任感对产品品质及生产效率存在显著影响;

H3.3: 一线技能型员工的吃苦精神对产品品质及生产效率存在显著影响;

H3.4: 一线技能型员工的团队精神对产品品质及生产效率存在显著影响。

## 模型设计

### 1、分类设计

对于素质进行类别划分, 乃是进行素质建模的基础。分类标准有很多, 我们可以将素质按照过程要素进行划分, 比如基础素质以及特殊素质; 也可以按照企业需求划分, 通用素质、可迁移素质以及专业素质等。

本研究中, 对于素质的划分是分为三大类别, 分别是知识类、能力类及职业素养类, 知识类又分为文化程度和专业知识; 能力类分为资质等级、从业经历、学习能力、沟通能力等; 职业素养分为上进心、责任感、吃苦精神、团队精神等。

### 2、理论模型

综合上面的分析可以发现, 对于制造企业来说, 一线的技能型员工的基本素质可以包括三个不同的方面, 分别是知识、能力以及职业素养。在知识方面主要包括: 专业知识、文化程度; 在能力方面主要包括资质等级、从业经历、学习能力与沟通能力等; 在职业素养方面主要包括上进心、责任感、吃苦精神及团队精神等方面。最终, 制造企业一线技能型员工素质模型如表 1 所示:

表 1 一线技能型员工素质的理论模型

知识	专业知识、文化程度
能力	资质等级、从业经历、学习能力、沟通能力
职业素养	上进心、责任感、吃苦精神、团队精神

## 问卷调查

### 1、问卷设计

在前期的准备阶段, 我们研究了大量文献和岗位说明书, 并结合团体焦点访谈的有关内容, 得到了最初的预试问卷。接着, 我们寻求了资深专家与专业人员的帮助, 对问卷内容和结构的科学性、有效性进行评估与建议, 作了进一步地修改。除此之外, 我们还展开试测环节, 对问卷进行最终的调整。

经过实际的走访与调查可知, 对大部分钢构企业来说, 一线技能型员工的岗位大致可分成这几种: 油漆工、抛丸工、铣工、行车工、电焊工等。尽管处于不同岗位上的工作者可能具有不同的工作形式, 但是他们需要具备的基本素质类似。所以在研究其素质水平时, 可以采用同一份问卷。

问卷主要分成两大板块, 其中一个板块是个人基本信息, 主要涉及性别、年龄、学历、岗位、工龄这几个小问题。另一个板块是一线生产工人素质要求, 设置这个板块主要是为了认识和掌握一线生产工人对于不同素质条目在工作中重要程度的看法。

我们采取五点式李科特量表, 依照重要程度强弱对各个素质条目进行分类, 即很重要、重要、有些重要、不太重要和不重要这五档, 请被调查者按照个人实际以打“√”的形式选择重要程度。

在后期进行结果处理时, 我们根据重要程度对各素质条目进行赋值, 最重要为 5 分, 其次分别为 4、3、2、1 分。在得到各素质条目的分值之后, 取其平均数, 在此基础上得到相应素质要素的分

值。最后, 对每个素质维度所包含的素质要素分值进行平均, 得到素质维度的分值。

### 2、调查样本及调查过程

本文采用结构方程模型进行研究, 所有的数据来自问卷调查, 调查对象为 HX 钢构股份公司的一线生产技能型员工, 调查方式为随机抽样。

为确保问卷调查结果足够科学, 在问卷正式的发放之前, 调查人员要先与被访者进行良好地沟通。在问卷填写时, 调查人员应予以实时的指导与答疑, 确保每个问题的信息都传达准确。

问卷的执行分为二个阶段。预计调研 1000 份问卷, 实际执行 1096 份问卷, 有效问卷 1086 份。其中, 第一阶段发放问卷 120 份, 回收有效问卷 116 份, 主要目的是为了解问卷的可靠性和有效性。第二阶段执行问卷 976 份, 有效问卷 961 份, 有效回收率为 98.5%, 主要目的为收集研究数据。

调查对象在性别分布上, 男性占据更高的比例, 其数据分别为: 男性 81.5%, 女性 19.5%。年龄分布比较集中, 大多位于 19-40 岁这个年龄层, 具体数据为: 20 岁以下占总体 1.8%, 20-30 岁占总体 48.2%, 30-40 岁占总体 35.9%, 40-49 岁占总体 11.3%, 50 岁以上占总体 2.8%。学历的分布集中于高中、中专和中技, 约有 43.1%。工龄的分布结果较为分散, 在 3 年以下的有 15.8%, 3-5 年的占 42.7%, 6-10 年的有 33.5%, 10 年以上的有 8%。

### 3、信度与效度检验

信度指结果的可靠性, 效度则指结果的准确性。在模型检验阶段, 我们利用 SPSS 对数据进行处理, 可以得到如下结果: Cronbach's Alpha 系数高达 0.86, 这证明我们的问卷可靠性令人满意。并且, KMO 系数为 0.89, 这可以证明变量间具有比较好的相关性。Bartlett 球形检验的 sig. 的 0.000, 显著性良好。总而言之, 这份问卷的设计是较为可靠、准确的。

#### 4. 调查数据的统计分析

##### (1) 素质要素重要性分析

若想深入了解和评估各素质要素的重要程度, 借助平均数指标来衡量是一个很好的方法。平均值高的素质条目表示其在工作中的重要性程度也较高。

此次研究从技能型员工视角出发, 展开对素质要素重要性的分析和评价。之所以会分成技能型与非技能两个方向, 是因为公司对这两种不同类型的员工, 通常会有不同的素质要求标准, 有些对

技能型员工的要求很高, 对一线非技能型员工操作工不做要求; 而有些素质是一线非技能型员工必须具备的, 对技能型员工就没有什么硬性的要求了。在这种情况下, 若是把全部素质要素整合在一起进行分析, 结果就不够准确了。而且因为 HX 公司行业的特殊性, 技能型工种都必须持证上岗, 不具备资格的, 不能够作业, 因此无法在产品品质及生产效率方面进行比对。经过统计分析, 我们可以得到下面的结果, 即一线生产技能型员工素质要素的重要性指数, 见表 2:

表 2 素质要素值比较表

素质要素	要素值	素质要素	要素值
机器的基本原理	4.64	上进心	4.60
图纸的识别能力	3.81	沟通能力	4.78
工艺知识	4.78	安全能力	4.81
文化程度	4.35	文化程度	3.21
零件的使用性能	4.02	从业经历	4.60
专业知识	3.94	诚信	4.77
资质等级	4.79	团队精神	4.70
学习能力	4.55	吃苦精神	4.59

通过分析上述结果, 我们可以得到这样几点结论: 首先是技能型员工操作工, 他们普遍看重的素质条目有 13 个, 即排除掉图纸识别能力和文化程度、专业知识之外的剩余全部素质条目, 对这些素质条目的重要性等级打分都不低于 4 分, 占总体比例高达 81.25%。

##### (2) 素质要素差异性分析

为了增加研究的对比性, 本次针对一线技能型员工男女性别进行差异性检验, 选取的检验方式是两独立样本 T 检验的方式。经过处理, 可以看到表 3 展示的结果:

表 3 两独立样本 T 检验

		方差方程的 Levene 检验		均值方程的 T 检验						
									差分的 95% 置信区间	
		F	Sig.	T	dr	Sig. (双侧)	均值 差值	标准误 差值	下限	上限
专业知识	假设方差相等	6.032	.015	10.648	260	.000	.82184	.05840	.47031	.77337
	假设方差不相等			10.455	221.613	.000	.82184	.05948	.48730	.77838
文化程度	假设方差相等	1.872	.172	15.390	260	.000	1.27970	.08315	1.06393	1.49547
	假设方差不相等			15.520	259.939	.000	1.2790	.08246	1.06574	1.49366
学习能力	假设方差相等	.081	.776	.059	260	.953	.004	.083	-.159	.166
	假设方差不相等			.058	239.267	.954	.004	.063	-.161	.166
机器的基本原理	假设方差相等	1.510	.220	-.797	260	.426	-.070	.088	-.299	.158
	假设方差不相等			-.793	248.408	.429	-.070	.089	-.300	.160
从业经历	假设方差相等	3.080	.081	21.452	260	.000	1.20932	.5837	1.06304	1.35581
	假设方差不相等			21.580	259.830	.000	1.20932	.5604	1.06391	1.35474
资质等级	假设方差相等	.068	.785	-1.632	260	.104	-.204	.125	-.528	.120
	假设方差不相等			-1.634	257.397	.103	-.204	.125	-.528	.120
职业素养	假设方差相等	.510	.478	-1.074	260	.284	-.05219	.04860	-.17831	.07393
	假设方差不相等			-1.081	258.991	.281	-.05219	.04826	-.17741	.7304

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根据上表, 可以发现: 专业知识、文化程度、从业经历这几项对应的 sig. (双侧) 是 0.000, 能够表现出两类员工于这几点上具有比较明显的区别。而剩余几种素质的 sig. (双侧) 明显超过了 0.01, 说明男性技能型员工和女性技能型员工在后面几种素质上没有明显的区别。除去机器的基本原理以外的其余素质, 分析得出的结论, 均与原假设较为一致。至于机器的基本原理这一要素, 与原假设存在一定出入的主要原因, 很可能与 HX 公司的内部构造有关, 其公司设有专门的维修和保养部门, 安排了专业人员从事维修与保养工作, 所以尽管

在文献中认为技型能员工对机器的基本原理应当掌握, 但实际上可能专业的维修与保养部门对一线技能型员工培训过少, 所以在 HX 公司不能得到有效的证明。

我们提取上面研究得出的差异较大的三种素质条目, 进行更加细致地对比与分析, 可以找出两者更具体的区别, 结合已有信息分析发现: 对于一线女性技能型员工操作工的沟通能力所设定的标准比男性技能型员工明显更高, 但在其余素质条目上, 公司往往会对后者提出更高的要求。表 4 是更直观的结果展示:

表 4 素质条目的均值比较

岗位属性	类别	N	均值	标准差	均值的标准误差
专业知识	男性	139	4.66	.546	046
	女性	123	1.81	.592	053
文化程度	男性	139	4.29	.583	049
	女性	123	2.18	.628	057
责任感	男性	139	4.22	824	062
	女性	123	1.83	721	.065
上进心	男性	139	4.13	824	.70
	女性	123	1.76	721	0.071
沟通能力	男性	139	2.4	698	.059
	女性	123	4.26	663	.060
从业经历	男性	139	4.65	.598	0.51
	女性	123	1.78	.684	062

### (3) 因子分析

通过 SPSS 对数据的处理及分析, 可以得到下面几条认识。KMO 系数高达 0.89, Bartlett 球形检验的 sig. 是 0.000, 十分显著, 符合因子分析要

求。选取主成分分析法, 提出大于 1 的特征值, 获取 4 个公因子, 累计方差贡献率是 65.37%, 这表明我们选择的公因子能够对观测变量的多数变异进行合理说明。详细的数据展示如下表 5:

表 5 解释的总方差

成份	初始特征值			提取平方和载入			旋转平方和载入		
	合计	方差的%	累积%	合计	方差的%	累积%	合计	方差的%	累积%
2	5.419	21.678	51.603	5.419	21.678	51.603	5.158	20.633	43.133
3	2.164	8.658	60.261	2.164	8.658	60.261	3.838	15.351	58.484
4	1.278	5.110	65.371	1.278	5.110	65.371	1.722	6.887	65.371
5	.942	3.766	69.137						
6	.811	3.244	72.382						
7	.785	3.140	75.522						
8	.710	2.841	78.363						
9	.690	2.759	81.122						
10	.598	2.391	83.513						
11	.475	1.900	85.413						
12	.418	1.671	87.084						
13	.409	1.637	88.721						

提取方法: 主成份分析。

结合碎石检验法, 对下图进行分析。下图的曲线在经过第四个因子之后, 有了明显的趋势变化, 之后渐成直线形状, 拐点是 5, 所以最佳的因子个数是 4。利用方差最大化正交旋转, 加大各因子负

载距离, 这有利于后期观察并获得旋转成分矩阵, 具体操作如图 1

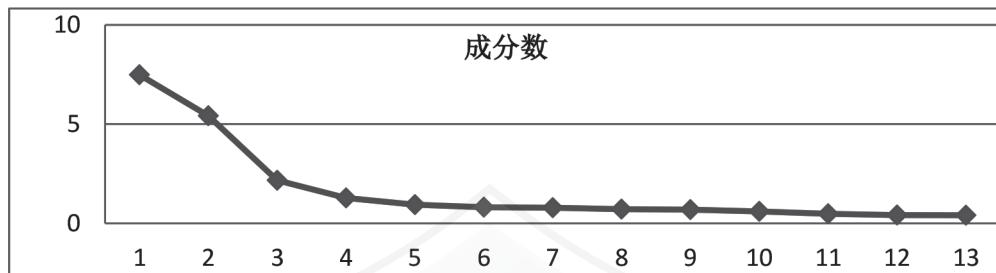


图 1 碎石图

表 6 旋转成份矩阵

	成份			
	1	2	3	4
机器的基本原理	.093	.243	.492	.397
图纸的识别能力	.154	.098	.677	.169
工艺知识	.042	.131	.742	.210
文化程度	.222	.075	.906	.072
学习能力	.069	.025	.066	.012
从业经历	.887	.056	.086	.175
资质等级	-.777	.146	.189	.249
学习能力	.001	.410	.126	.691
上进心	.015	.572	.209	.005
沟通能力	.086	.675	.098	.374
团队精神	-0.022	.815	.109	.187
责任感	.101	.713	.124	.064
吃苦精神	.014	.798	.087	.143

提取方式: 主成分分析

旋转法: kaiser 标准化下的正交旋转

a. 旋转经过 5 次迭代, 可以收敛

经过上面的统计分析, 结合各因子所含有的素质条目特征, 来对各因子进行命名。这对于了解一线生产技能型员工素质的内部构成具有重要作用。下面我们分别来解读这四大因子。

第一类因子主要指向了从业经历, 在这部分能力中, 我们会对男性员工与女性员工的素质要求进行区分, 所以我们将其归入能力类别当中。

第二类因子主要和员工的个人素质与潜在个性相关联, 比如责任感、吃苦精神、上进心、诚信等等, 我们将这部分因子命名为职业素养。

第三类因子需分成两大部分, 一部分是文化程度, 另一部分则指向了专业性更强的知识, 根据这两部分可以对一线男性技能型员工和女性技能型员工的素质进行区分, 所以将这一类因子命名为知识。

第四类因子主要包含学习能力、机器的基本原理、资质等级, 由于仅依靠它们不能够实现对男性员工与女性员工的区分, 所以称其也归入能力类别。

#### (4) 学历和工龄对一线生产技能型员工素质评价的影响

此次调查工作, 采取单因素方差分析法, 进一步了解学历、工龄变化的情况下, 一线生产技能型员工对不同素质的看法有何差异。

##### A、学历 (文化程度)

在问卷中, 对学历的分类有 4 个类别, 即初中、高中/中专/中技, 大专/高职以及本科。经过对这四个类别的员工评价的方差分析, 我们将结果整理如表 7:

表 7 方差分析 (学历)

	平方和	df	均方	F	显著性
知识组间	9.703	3	3.234	8.756	.000
	95.298	258	.369		
	105.001	261			
能力组间	5.464	3	1.821	5.896	.001
	79.704	258	.309		
	85.168	261			
职业素养组间	.134	3	.045	.288	.834
	40.123	258	.156		
	40.258	261			

对上表中结果进行深入分析, 可以发现: 知识、技能的显著性 P 值小于 0.05, 由此我们可以认为差异明显。换句话说, 学历高低有差别时, 员工对于知识及技能的认识有着十分明显地区别。在现今的生产体系中, 机器设备的性能逐步提高, 操作难度也逐渐加大, 这就对员工提出了新的挑战, 因此很多公司在录用员工时设置更高的学历门槛, 这

也是以后的发展方向。

##### B、工龄

在此次调查中, 对受访者的工龄进行了四个阶段的划分, 分别是 3 年以下, 3-5 年, 6-10 年, 10 年以上这四类, 并对其展开方差分析, 得到表 8 中的一系列结果。

表 8 方差分析 (工龄)

	平方和	df	均方	F	显著性
知识组间	7.833	3	2.611	8.161	.000
组内	67.823	258	.320		
总数	75.656	261			
能力组间	6.005	3	2.002	7.271	.000
组内	58.360	258	.275		
总数	64.365	261			
职业素养组间	.676	3	.225	1.445	.231
组内	33.088	258	.156		
总数	33.765	261			

对上表中结果深入分析, 可以发现: 知识、技能的显著性 P 值小于 0.05, 由此我们可以认为差异明显。换句话说, 工龄长短有差别时, 一线生产技能型员工对于知识及能力的认识有着显著差别。结合均值所给出的信息, 可以发现: 相较而言, 工龄在 3-5 年甚至是更短的员工, 对知识和技能的重视程度更高。

### 5、验证

在此次研究工作中, 受访者是公司全部一线生产技能型员工。对于调查所得的数据, 也使用了因子分析、两独立样本检验以及方差分析等多种统计学方法进行分析, 对于前文所提到的理论模型与各项研究假设进行了检验与验证。将研究所得的信息进行整理, 可以得出下面的几个结论:

(1) 对素质要素重要性的分析结果显示, 对一

线生产技能型员工来说, 有很多素质要素都是不可或缺的, 它们涉及到知识、技能、心态的各个方面, 例如专业知识、文化程度知识、学习能力、机器的基本原理、从业经历、资质等级、安全能力、学习能力等。

(2) 通过对素质要素差异性的探究, 能够发现: 一线男性技型能员工和女性技型能员工在专业知识、文化程度知识、从业经历这几项具有较大区别, 但是这种巨大区别在其他的一些素质方面, 例如资质等级等等没有明显表现。值得一提的是, 一线女性技能型员工在抛丸上的素质要求与男性技能型员工相比, 具有更高的标准, 但是在其他多数技能上, 比技能型员工的操作工略逊一筹。经过这些处理与分析, 我们拒绝了假设 H1.1 及 H2.1, 而通过了其它几条假设, 具体情形展示如下表 9:

表 9 研究假设的验证结果

序号	研究假设	验证结果
H1	一线技能型员工知识对产品品质及生产效率存在显著影响	支持
H1.1	一线技能型员工的文化程度对产品品质及生产效率存在显著影响	拒绝
H1.2	一线技能型员工的专业知识对产品品质及生产效率存在显著影响	支持
H2	一线技能型员工的能力对产品品质及生产效率存在显著影响;	支持
H2.1	一线技能型员工的资质等级对产品品质及生产效率存在显著影响	拒绝
H2.2	一线技能型员工的从业经历对产品品质及生产效率存在显著影响	支持
H2.3	一线技能型员工的学习能力对产品品质及生产效率存在显著影响	支持
H2.4	一线技能型员工的沟通能力对产品品质及生产效率不存在显著影响	支持
H3	一线技能型员工的素养对产品品质及生产效率存在显著影响	支持
H3.1	一线技能型员工的上进心对产品品质及生产效率存在显著影响	支持
H3.2	一线技能型员工的责任感对产品品质及生产效率存在显著影响	支持
H3.3	一线技能型员工的吃苦精神对产品品质及生产效率存在显著影响	支持
H3.4	一线技能型员工的团队精神对产品品质及生产效率存在显著影响	支持

(3) 因子分析方法的结果显示: 一线生产技能型员工的素质要素能够归类成四个因子, 分别是知识、职业素养、差别知识以及能力。

(4) 方差分析的结果显示, 学历与工龄的差异会造成员工对素质重要性看法的区别, 普遍来讲, 学历越高、工龄越低的员工更容易赋予知识和能力重要的地位。

## 结论

通过理论和实证研究, 本文获得主要结论如下:

第一, 中国制造企业一线技能型员工素质模型当中, 知识、职业素养、能力三个维度十个素质, 其

中资质等级与学历高低, 与产品品质、生产效率, 不成直接线性关系, 其他素质与产品品质及生产效率均成线性关系, 可以广泛应用。

第二, 中国制造企业一线生产技能型员工的素质模型当中, 与性别关联度不大, 通过比较分析, 没有发现显著差异。

第三, 中国制造企业一线生产技能型员工的素质模型元素的提炼, 一定要紧密结合中国制造企业发展的阶段, 进行针对性的使用。

但本研究涉及的范围与样本的普适性, 有待日后的研究当中去不断突破与创新。

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## 受众幽默风格与卷入对感觉型低卷商品广告效果研究

### THE INFLUENCE OF HUMOROUS STYLE AND DEGREE OF INVOLVEMENT ON EFFECTIVENESS OF SENSATIONAL LOW-INVOLVEMENT PRODUCT ADVERTISING

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#### 摘要

本文以受众幽默风格与卷入的研究入手, 将其对感觉型低卷入商品广告效果为研究对象。以中国在校大学生为样本对象, 通过问卷法对不同幽默风格及商品卷入程度对泰国感觉型低卷入商品广告效果影响进行研究。通过预调查、专家评议确定测试广告; 通过 SPSS 工具的运用, 最终发现性别、年龄、家庭年均收入及个人消费观念对感觉型低卷入商品广告效果的差异均不显著, 卷入程度对广告效果的五个维度有正向预测作用。指导企业在广告设计时, 对卷入程度要进行重点识别, 针对低卷入的广告要进行消费者特征的识别。由于本研究抽取的样本是在校大学生, 对整个消费者群体的覆盖存在一定的局限性, 研究结果的适配范围也受到一定制约。

**关键词:** 受众幽默风格, 卷入, 广告效果

#### Abstract

In this paper, the audience humor style and involvement of the study, to low-sensational effect of the involvement of commodity advertising for the study. The effect of different humorous styles and the degree of involvement of goods on the perceived low involvement of merchandise advertising in Thailand was investigated by using the questionnaire method in Chinese college students. Through the pre-survey, expert evaluation to determine the test ads; through the use of SPSS tools, and ultimately found that gender, age, household income and personal consumption perceptions of low involvement of merchandise advertising effectiveness of the difference was not significant, The five dimensions of the effect have positive predictive effects. Guide enterprises in the advertising design, the degree of involvement to focus on identification, for high involvement

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in advertising to identify the characteristics of consumers. Because the sample of this study is in college students, the coverage of the whole consumer group has some limitations, the scope of the research results are also subject to certain constraints.

**Keywords:** Audience humorous style, involvement, advertising effectiveness

## 前言

Cline, Moscs & Jame (2003) 发现, 高低幽默需求程度不同的受众, 幽默对其广告态度的影响不同, 其中对高幽默需求的受众来说, 幽默强度越大, 幽默对其广告态度的积极影响也就越大; 对于低幽默需求的受众来说, 幽默的程度不会对其广告态度产生影响。中国学者周象贤, 金志成 (2006) 对卷入进行了详细的研究, 得到相似的研究结论。前期的研究主要集中在幽默需求程度不同受众与广告效果的关系, 对幽默的风格和卷入研究不足, 尤其是思考性低卷入广告效果研究极少。本研究在前人基础上, 将受众分为不同性别、年龄、家庭收入、消费观念、幽默风格, 考察与广告效果五个维度: 广告认知; 广告态度; 品牌认知; 品牌态度; 购买意愿之间的关系。从而得到受众幽默风格与卷入对思考型低卷入商品广告影响效果。

## 文献回顾

根据 Martin (2003) 年提出的有关幽默风格的理论。以加拿大大学生为被试, 编制了幽默风格问卷 (HumorStyles Questionnaire, HSQ)。此问卷共包括有 32 个题项, 分四个维度, 即亲和型幽默、自强型幽默、嘲讽型幽默和自贬型幽默。第一次系统的将幽默的风格进行理论研究, 为幽默风格对广告效果研究奠定了基础。

加拿大学者马歇尔·麦克卢汉 (2000) 在《理解媒介——人的延伸》一书中使用了“卷入”一词, 卷入即吸引进去, 卷入度是吸引进去的程度。并且根据受众的不同卷入程度, 将媒介分为热媒

介和冷媒介。他第一次系统的将卷入引入到传播媒体中来。Anderson & Bushman (2002) 发现, 高低幽默需求程度不同的受众, 幽默对其广告态度的影响不同。结论表明幽默的高低对广告效果起到很大的影响。

陶化治 (2008) 发表的“基于卷入度的高卷入商品广告策略研究”中对“高卷入商品”进行界定。通过对商品卷入度及其广告的心理影响机制的分析, 从提供购买理由、拟定说服的重点、提供充分论据、运用双向信息交流、使用肯定与否定动机等几个方面提出了高卷入商品的广告劝服策略。

通过文献阅读发现已有文献研究卷入与情感诉求广告多针对幽默与非幽默两个维度进行研究, 区分高幽默与低幽默的研究较少, 研究对象没有涉及不同国度, 而本研究是用泰国广告对中国大学生受众进行跨域的研究, 因此本研究当前尚属空白。具有很强的理论与实践意义。

## 研究方法

### 第一、相关量表

Martin (2003) 考察幽默风格的不同维度与自尊、乐观、幸福感、社会支持以及焦虑、抑郁、敌对和攻击行为的关系。他们发现: 亲和型幽默与自尊、社会亲密感正相关, 与抑郁负相关; 攻击性幽默与敌对和攻击行为正相关; 自强型幽默与自尊、乐观和幸福感正相关, 与焦虑和抑郁负相关; 自贬式的幽默与自尊、幸福感、社会支持负相关, 与焦虑、抑郁、敌对和攻击行为正相关。自强型的幽默与自贬式的幽默有轻度的重叠。此研究表明问卷的内

部一致性信度很好, Cronbach a 系数从 0.77 到 0.81。亲和型幽默、自强型幽默、嘲讽型幽默和自贬型幽默的重测信度分别为 0.85、0.81、0.80 和 0.82 ( $p < 0.001$ ), 并且此问卷的理论模型拟合度很好 ( $GFI = 0.91$ ,  $FI = 0.90$ ,  $RMSEA = 0.048$ )。在相关研究中, 该量表被用于比利时、黎巴嫩的被试中, 也报告有良好的信、效度。

Vaughn (1986) 研究卷入的量表包含卷入、认知、情感三个分量表, 题项由 5 个维度构成: 商品重要性的认知、误购风险的认知、商品购买成本、商品新颖性、社会价值观。其中, 商品卷入分量表分为 3 项: 重要或是不重要的抉择; 如果选择错误品牌, 损失将会很大或是很小; 在做出决策的过程中需要的参考信息很多或是很少。

总结购买意愿维度, 归纳“没有购买可能性或是有购买可能性”, “最近不想买或是最近想买”两个题项。所有量表运用里克特 7 刻度量表进行测量。

## 第二、研究假设

基于文献综述, 本研究提出假设:

不同性别、年龄、家庭收入、个人消费观念的受众与广告效果关系的研究

H1a: 不同性别的中国受众对泰国感觉型低卷入商品广告效果差异不显著;

H1b: 不同年龄的中国受众对泰国感觉型低卷入商品广告效果差异不显著;

H1c: 不同家庭收入的中国受众对泰国感觉型低卷入商品广告效果差异不显著;

H1d: 不同个人消费观念的中国受众对泰国感

觉型低卷入商品广告效果差异不显著;

中国受众不同幽默风格及商品卷入程度与泰国感觉型低卷入商品广告效果关系的研究

H2a: 中国受众不同幽默风格与卷入程度对泰国感觉型低卷入商品广告认知有正向预测作用;

H2b: 中国受众不同幽默风格与卷入程度对泰国感觉型低卷入商品广告态度有正向预测作用;

H2c: 中国受众不同幽默风格与卷入程度对泰国感觉型低卷入商品品牌认知有正向预测作用;

H2d: 中国受众不同幽默风格与卷入程度对泰国感觉型低卷入商品品牌态度有正向预测作用;

H2e: 中国受众不同幽默风格与卷入程度对泰国感觉型低卷入商品购买意愿有正向预测作用;

## 第三、研究设计

预备实验: 实验目的为确定商品类别、品牌及与本类别相关的泰国大学生喜欢的广告。实验中及研究过程中不考虑由于太过广告应用泰语表达给中国大学生被试造成的影响。实验中要求参试者本科生, 人数的选择主要是基于实验室测试能力的限制, 以及抽样理论中预计回答率为 99% 以上, 置信度在 95%, 且可接受的误差 10%。进行最小随机采样。视力或矫正视力正常, 无色盲, 无色弱, 色觉正常。本实验使用上文提到的卷入量表, 每道题项询问这个商品相关的广告在哪里可以看到, 并用商品卷入量表询问。

参试者填写商品类别与上文卷入程度量表中各项目相符合的程度。回答用 7 点计分, 极不重要的购买决策记 1 分, 极重要的购买决策记 7 分, 实验结果根据测试结果。

表 1 泰国消费者卷入程度得分表

商品类别	汽车	手机	电脑	饮料	罐头	糖果	牛奶
卷入程度得分	351	362	320	143	114	128	152

由于在对 FCB 模型应用的数据选取存在限制。所以本研究将参试者提及频率较高的 4 个商品类别名称对 FCB 网格模型后分别作为高、低卷入程度的商品。由上表统计得出汽车、手机、罐头、糖果商品四类商品，与 FCB 网络模型将四类商品归类，其中汽车、罐头为思考型卷入商品、手机、糖果为感觉型卷入商品，汽车（思考型高卷入商品）；手机（感觉型高卷入商品）；罐头（思考型低卷入商

品）；糖果（感觉型低卷入商品）。

结合问卷所得品牌在 facebook、youtube 上找到以上四类商品对应品牌的视频广告，结合问卷所得百分之九十三的被试选择了喜欢幽默诉求广告，因此在网上将每类商品对应品牌的幽默广告找出来，经过本人初步筛选出 4 则视频广告，将四则广告播放给广告方面的 6 位专家，选出每类商品对应的高幽默诉求广告和低幽默诉求广告。

表 2 幽默程度得分表

商品类别	汽车	1	2	3	4	手机	1	2	3	4	罐头	1	2	3	4	糖果	1	2	3	4
幽默程度得分		38	26	29	35		24	38	21	40		39	23	26	37		36	39	27	29

通过专家打分确定高幽默与低幽默广告。将得到的每类商品对应品牌的高低幽默广告重新命名，汽车广告 1 为低幽默，2 为高幽默；手机广告 1 为低幽默，2 为高幽默；罐头广告 1 为高幽默，2 为低幽默；糖果广告 1 为高幽默，2 为低幽默，本研究以糖果广告即感觉型低卷入商品为实验材料用于正式实验。

正式实验。实验中要求参试者为中国在校大学生。观看广告之后进行问卷填写，每组被试只观看一则视频广告，完成问卷测试受众幽默风格和商品卷入程度对广告效果的影响。

## 结果分析

针对中国受众的基本情况描述，调查显示，男女性的比例分别为 34.5% 及 65.5%。由于本次受众对象主要是大学生，年龄分布在 19 岁以下及占 28.0% 20-34 岁占 72.0%。家庭年均收入的分布情况可知，5000 元以下占 29.5%，在 5001-20000 元之间占 28.5%，20001-50000 元占 15.0%，100001-200000 元占 12.5%，50001-100000 元及 200001 元以上占 14.5%。个人消费观念，理智型的消费者占 31.5%，习惯型消费观念占 24.5%，经济型消费者占 12.5%，其次为不定型消、冲动型、感情型、疑惑型。

表 3 受众的基本情况描述一览表 (N = 200)

属性	分类	频数	百分比 (%)
性别	男	69	34.5
	女	131	65.5
年龄	19 岁以下	56	28.0
	20-34 岁	144	72.0
家庭年均收入	5000 元以下	59	29.5
	5001-20000 元	57	28.5
	20001-50000 元	30	15.0
	50001-100000 元	16	8.0
	100001-200000 元	25	12.5
	200001 元以上	13	6.5
个人消费观念	习惯型	49	24.5
	理智型	63	31.5
	经济型	25	12.5
	冲动型	18	9.0
	感情型	15	7.5
	疑虑型	11	5.5
	不定型	19	9.5

1. 信度检验。对中国受众幽默风格及感觉型低卷入商品广告效果进行信度检验。受众幽默类型和风格的总量表的 Cronbach's Alpha 均大于 0.6, 认为受众的幽默风格的信度良好。广告效果

的五个测量维度的内部一致性结果高于 0.6, 显示中国受众对感觉型低卷入广告效果的评价具有良好的可靠性。

表 4 感觉型低卷入广告效果的信度检验

因素	Cronbach's Alpha	项数
亲和型幽默	.702	8
自强型幽默	.779	5
嘲讽型幽默	.839	7
自贬型幽默	.738	5
总量表	.808	25
广告认知	.831	3
广告态度	.941	7
品牌认知	.883	3
品牌态度	.674	3
购买意愿	.632	2

2. 效度检验。中国受众的幽默风格和感觉型低卷入商品广告效果整体数据进行效度检验。结果, 调查数据的 KMO 检验值均大于 0.70, 说明, 幽默风格和感觉型低卷入广告效果数据适合进行因

子分析。Bartlett 球度检验结果显示, 幽默风格和感觉型低卷入广告效果的显著性概率均为 0.000 ( $P < 0.01$ ), 本次调查数据的效度较好。

表 5 感觉型低卷入广告效果的效度检验

变量	KMO	Bartlett 球形检验值		
		卡方	自由度	显著性
幽默风格	.831	1726.034	300	.000
广告效果	.937	3320.333	171	.000

### 3. 人口变量学特征在感觉型低卷入商品广告效果上的差异分析

为检验中国受众的性别、年龄、家庭年均收入及个人消费观念对感觉型低卷入广告的广告效果五个维度: 广告认知、广告态度、品牌认知、品牌态度和购买意愿的影响, 对受众的人口变量学特征的广告效果进行差异分析如下:

#### 3.1 性别在感觉型低卷入商品广告效果上

#### 的差异分析

采用独立样本 T 检验分析性别在感觉型低卷入广告的广告效果上的差异, 以性别为自变量, 以广告效果五维度为因变量进行独立样本 T 检验。结果显示, 性别在感觉型低卷入商品广告的广告认知、广告态度、品牌认知、品牌态度和购买意愿上的差异均不显著 ( $p > 0.05$ )。

表 6 性别在感觉型低卷入商品广告效果上的差异分析

	性别	样本量	均值	标准差	t	p
广告认知	男	69	3.36	1.75	-.967	.335
	女	131	3.60	1.60	-.349	.727
广告态度	男	69	3.10	1.55	-.981	.328
	女	131	3.18	1.36	-.709	.479
品牌认知	男	69	3.27	1.61	.643	.521
	女	131	3.49	1.46		
品牌态度	男	69	3.18	1.40		
	女	131	3.31	1.20		
购买意愿	男	69	3.71	.92		
	女	131	3.63	.86		

### 3.2 年龄在感觉型低卷入商品广告效果上的差异分析

采用独立样本 T 检验分析年龄在感觉型低卷入广告的广告效果上的差异，以年龄为自变量，

以广告效果五维度为因变量进行独立样本 T 检验。结果显示，年龄在感觉型低卷入广告的广告认知、广告态度、品牌认知、品牌态度和购买意愿上的差异均不显著 ( $p > 0.05$ )。

**表 7** 年龄在感觉型低卷入商品广告效果上的差异分析

	年龄	样本量	均值	标准差	t	p
广告认知	19岁及以下	56	3.57	1.66	.282	.778
	20-34岁	144	3.50	1.66	-.391	.696
广告态度	19岁及以下	56	3.09	1.46	-.615	.539
	20-34岁	144	3.17	1.42	-.404	.687
品牌认知	19岁及以下	56	3.31	1.55	-1.018	.310
	20-34岁	144	3.46	1.50		
品牌态度	19岁及以下	56	3.21	1.31		
	20-34岁	144	3.29	1.26		
购买意愿	19岁及以下	56	3.55	.94		
	20-34岁	144	3.69	.85		

### 3.3 家庭年均收入在感觉型低卷入商品广告效果上的差异分析

采用单因素方差分析家庭年均收入在感觉型低卷入广告的广告效果上的差异，以家庭年均

收入为自变量，以广告广告效果五维度为因变量进行方差分析。结果显示，家庭年均收入在感觉型低卷入广告的广告认知、广告态度、品牌认知、品牌态度和购买意愿上的差异均不显著 ( $p > 0.05$ )。

表 8 家庭年均收入在感觉型低卷入商品广告效果上的差异检验

		样本量	均值	标准差	F	P
广告认知	5000元以下	59	3.90	1.53	2.025	.077
	5001-20000元	57	3.11	1.52		
	20001-50000元	30	3.93	1.66		
	50001-100000元	16	3.06	1.72		
	100001-200000元	25	3.37	2.04		
	200001元以上	13	3.46	1.54		
广告态度	5000元以下	59	3.47	1.34	1.345	.247
	5001-20000元	57	3.09	1.35		
	20001-50000元	30	3.07	1.17		
	50001-100000元	16	2.55	1.61		
	100001-200000元	25	2.93	1.80		
	200001元以上	13	3.29	1.52		
品牌认知	5000元以下	59	3.68	1.37	1.281	.273
	5001-20000元	57	3.27	1.47		
	20001-50000元	30	3.57	1.50		
	50001-100000元	16	3.15	1.67		
	100001-200000元	25	2.93	1.85		
	200001元以上	13	3.74	1.33		
品牌态度	5000元以下	59	3.50	1.19	.824	.534
	5001-20000元	57	3.13	1.35		
	20001-50000元	30	3.14	1.12		
	50001-100000元	16	3.31	1.15		
	100001-200000元	25	3.03	1.50		
	200001元以上	13	3.49	1.31		
购买意愿	5000元以下	59	3.52	1.07	.557	.733
	5001-20000元	57	3.65	.68		
	20001-50000元	30	3.80	.82		
	50001-100000元	16	3.72	.68		
	100001-200000元	25	3.70	1.09		
	200001元以上	13	3.81	.60		

### 3.4 个人消费观念在感觉型低卷入商品广告效果上的差异分析

采用单因素方差分析个人消费观念在感觉型低卷入广告的广告效果上的差异，以个人消费

观念为自变量，以广告效果五维度为因变量进行方差分析。结果显示，个人消费观念在感觉型低卷入广告的广告认知、广告态度、品牌认知、品牌态度和购买意愿上的差异均不显著 ( $p > 0.05$ )。

表 9 个人消费观念在感觉型低卷入商品广告效果上的差异检验

		样本量	均值	标准差	F	P
广告认知	习惯型	49	3.80	1.56	.489	.816
	理智型	63	3.40	1.49		
	经济型	25	3.52	1.59		
	冲动型	18	3.48	1.85		
	感情型	15	3.07	2.05		
	疑虑型	11	3.42	1.92		
广告态度	不定型	19	3.61	1.95	.357	.905
	习惯型	49	3.38	1.38		
	理智型	63	3.07	1.35		
	经济型	25	3.16	1.48		
	冲动型	18	3.16	1.29		
	感情型	15	2.97	1.81		
品牌认知	疑虑型	11	3.13	1.62	1.082	.374
	不定型	19	2.94	1.53		
	习惯型	49	3.79	1.49		
	理智型	63	3.29	1.40		
	经济型	25	3.49	1.47		
	冲动型	18	3.37	1.41		
品牌态度	感情型	15	2.80	1.90	.801	.570
	疑虑型	11	3.12	1.53		
	不定型	19	3.47	1.71		
	习惯型	49	3.59	1.28		
	理智型	63	3.12	1.20		
	经济型	25	3.11	1.45		
购买意愿	冲动型	18	3.11	1.11	.395	.882
	感情型	15	3.20	1.55		
	疑虑型	11	3.30	1.19		
	不定型	19	3.32	1.24		
	习惯型	49	3.60	.91		
	理智型	63	3.71	.83		
	经济型	25	3.52	1.03		
	冲动型	18	3.61	.87		
	感情型	15	3.80	.96		
	疑虑型	11	3.50	1.14		
	不定型	19	3.82	.58		

4. 中国受众幽默风格与卷入程度与感觉型低卷入商品广告效果的相关分析

采用皮尔逊相关对幽默风格与卷入程度与感

觉型低卷入广告效果五维度进行相关分析, 得到以下结果。

表 10 幽默风格与卷入程度与感觉型低卷入商品广告效果的相关分析

	亲和型幽默	自强型幽默	嘲讽型幽默	自贬型幽默	卷入程度
广告认知	-.083	.024	.095	.056	.516**
广告态度	-.138	.013	.120	.055	.633**
品牌认知	-.098	-.056	.020	-.012	.527**
品牌态度	-.145*	.028	.156*	.134	.594**
购买意愿	-.067	-.094	.050	.040	.325**

从上表相关分析结果可知:

(1) 卷入程度与广告认知呈显著正相关, 相关系数为 0.516, 达到 0.01 显著相关水平。表明受众卷入程度越高, 则对感觉型低卷入广告广告认知的评价越高。

(2) 卷入程度与广告态度呈显著正相关, 相关系数为 0.633, 达到 0.01 显著相关水平。表明受众卷入程度越高, 则对感觉型低卷入广告广告态度的评价越高。

(3) 卷入程度与品牌认知呈显著正相关, 相关系数为 0.527, 达到 0.01 显著相关水平。表明受众卷入程度越高, 则对感觉型低卷入广告品牌认知的评价越高。

(4) 亲和型幽默与品牌态度呈显著负相关, 卷入程度与品牌态度呈显著正相关, 相关系数为 -0.145, 达到 0.05 显著相关水平; 相关系数为 0.594, 达到 0.01 显著相关水平。表明受众在亲和型幽默倾向越低, 卷入程度越高, 则对感觉型低卷

入广告品牌态度的评价越高。

(5) 卷入程度与购买意愿呈显著正相关, 相关系数为 0.325, 达到 0.01 显著相关水平。表明受众卷入程度越高, 则对感觉型低卷入广告购买意愿的评价越高。

5. 中国受众幽默风格与卷入程度与感觉型低卷入商品广告效果的回归分析

(1) 中国受众的幽默风格与卷入程度与感觉型低卷入广告认知的回归分析

卷入程度为自变量, 以广告认知为因变量进行回归分析。标准系数  $\beta$  为 0.516, 表明卷入程度对感觉型低卷入广告的广告认知有正向预测作用。同时, 卷入程度解释了感觉型低卷入广告认知总变异的 26.6%。模型拟合优度检验结果  $F$  值为 71.828 ( $p < 0.001$ ), 说明受众的卷入程度对感觉型低卷入商品的广告认知的方程具有显著的统计学意义。

表 11 中国受众的幽默风格与卷入程度与感觉型低卷入商品广告认知的回归检验

	非标准化系数		t	P	R <sup>2</sup>	F
	B	标准错误				
常量	2.020	.203	9.936	.000***		
卷入程度	.583	.069	.516	8.475	.000***	.266
						71.828***

(2) 中国受众的幽默风格与卷入程度与感觉型低卷入广告态度的回归分析

卷入程度为自变量, 以广告态度为因变量进行回归分析。结果显示, 卷入程度对广告态度的标准系数  $\beta$  为 0.633, 表明卷入程度对感觉型低卷

入广告的广告态度有正向预测作用。同时, 卷入程度解释了感觉型低卷入广告态度总变异的 40.1%。模型拟合优度检验结果 F 值为 132.619 ( $p < 0.001$ ), 说明受众的卷入程度对感觉型低卷入广告的广告态度方程具有显著的统计学意义。

表 12 中国受众的幽默风格与卷入程度与感觉型低卷入广告广告态度的回归检验

	非标准化系数		t	P	R <sup>2</sup>	F
	B	标准错误	β			
常量	1.567	.158	9.908	.000***		
卷入程度	.616	.053	.633	11.516	.000***	.401
						132.619***

(3) 中国受众的幽默风格与卷入程度与感觉型低卷入广告品牌认知的回归分析

卷入程度为自变量, 以品牌认知为因变量进行回归分析。结果显示, 卷入程度对品牌认知的标准系数  $\beta$  为 0.527, 表明卷入程度对感觉型低卷

入广告的品牌认知有正向预测作用。同时, 卷入程度解释了感觉型低卷入广告品牌认知总变异的 27.7%。模型拟合优度检验结果 F 值为 76.043 ( $p < 0.001$ ), 说明受众的卷入程度对感觉型低卷入广告的品牌认知方程具有显著的统计学意义。

表 13 中国受众的幽默风格与卷入程度与感觉型低卷入广告品牌认知的回归检验

	非标准化系数		t	P	R <sup>2</sup>	F
	B	标准错误	β			
常量	2.019	.184	10.958	.000***		
卷入程度	.543	.062	.527	8.720	.000***	.277
						76.043***

(4) 中国受众的幽默风格与卷入程度与感觉型低卷入广告品牌态度的回归分析

亲和型幽默和卷入程度为自变量, 以品牌态度为因变量进行回归分析。

结果显示, 亲和型幽默对对品牌态度的标准系数  $\beta$  为  $-0.078$ , 卷入程度对品牌态度的标准系数  $\beta$  为  $0.585$ , 表明卷入程度对感觉型低卷入

广告的品牌态度有正向预测作用, 亲和型幽默对感觉型低卷入广告的品牌态度没有显著预测作用。卷入程度解释了感觉型低卷入广告品牌态度总变异的 35.8%。模型拟合优度检验结果  $F$  值为 55.040 ( $p < 0.001$ ), 说明受众卷入程度对感觉型低卷入广告的品牌态度方程具有显著的统计学意义。

表 14 中国受众的幽默风格与卷入程度与感觉型低卷入广告品牌态度的回归检验

	非标准化系数		t	P	R <sup>2</sup>	F
	B	标准错误				
常量	2.401	.369	6.511	.000***		
亲和型幽默	-.094	.069	-.078	-.178		
卷入程度	.507	.050	.585	.000***	.358	55.040***

(5) 中国受众的幽默风格与卷入程度与感觉型低卷入广告购买意愿的回归分析

卷入程度为自变量, 以购买意愿为因变量进行回归分析。结果显示, 卷入程度对购买意愿的标准系数  $\beta$  为  $0.325$ , 表明卷入程度对感觉型低

卷入广告的购买意愿有正向预测作用。同时, 卷入程度解释了感觉型低卷入广告购买意愿总变异的 10.6%。模型拟合优度检验结果  $F$  值为 23.428 ( $p < 0.001$ ), 说明受众的卷入程度对感觉型低卷入广告的购买意愿方程具有显著的统计学意义。

表 15 中国受众的幽默风格与卷入程度与感觉型低卷入广告购买意愿的回归检验

	非标准化系数		t	P	R <sup>2</sup>	F
	B	标准错误				
常量	3.153	.119	26.457	.000***		
卷入程度	.195	.040	.325	.000***	.106	23.428***

通过以上实验数据分析, 受众卷入程度越高, 则对感觉型低卷入广告认知的评价越高。卷入程度与广告态度呈显著正相关。另外受众卷入程度越高, 对感觉型低卷入广告广告态度的评价越高。卷入程度与品牌认知呈显著正相关, 受众卷入程度越高, 则对感觉型低卷入广告品牌认知的评价

越高。亲和型幽默与品牌态度呈显著负相关, 卷入程度与品牌态度呈显著正相关, 受众在亲和型幽默倾向越低, 卷入程度越高, 则对感觉型低卷入广告品牌态度的评价越高。卷入程度与购买意愿呈显著正相关, 受众卷入程度越高, 则对感觉型低卷入广告购买意愿的评价越高。卷入程度对感觉型

低卷入广告的广告认知有正向预测作用。同时,受众的卷入程度对感觉型低卷入商品的广告认知的方程具有显著的统计学意义。

## 结论

本文研究结果在理论上说明,性别、年龄、家庭年均收入及个人消费观念对感觉型低卷入商品广告效果的差异均不显著。卷入程度对广告效果的五个维度有正向预测作用。

从实践指导意义上看,本文研究成果对指导泰国商品进入中国市场进行广告开发具有非常强的指导意义,从品牌的建设,态度的度量及购买意愿

方面进行考量将十分有利于产品市场的接受程度和广告效果的度量。

由于受样本数量的限制,研究结论有一定的局限性。另外,在本文研究实验中,涉及到的广告由于语言原因的限制,中国大学生作为被试并不能完全听懂或者充分理解泰国广告的寓意,以及受到文化背景的限制,生层次的理念可能并不能够被发觉。会对最终的测试结果造成一定的偏差。不过本文作为一个跨域背景下从幽默风格与卷入对低卷入商品广告效果研究的开篇研究,对后续的研究将具有非常强的指导和借鉴意义。

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**PANYAPIWAT**

INSTITUTE OF MANAGEMENT

สถาบันการจัดการปัญญาภิวัฒน์

## HOW IS THE THAI RED CROSS SOCIETY PERCEIVED IN THE SIGHT OF EMPLOYEES

การรับรู้ของพนักงานต่อสภากาชาดไทย

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### Abstract

Whatever people perceive can directly and indirectly cause a corporate image problem. The Thai Red Cross Society a national, nonprofit organisation, needs to know how the publics, especially employees perceive the organisation so that an effective communication campaign can be developed. The purpose of this study was, therefore, to study how employees perceived the Thai Red Cross Society systematically. The in-depth interviews were conducted with those who were from public organisations, private companies, state enterprises, and nongovernmental organisations. The findings revealed three sections of perception, i.e. the perception towards the Thai Red Cross Society, the Principles of Red Cross, and the Thai Red Cross Society's organisations. In general, it was happy to say that the sampled employees had shared, correct perception toward the Thai Red Cross Society. That is to say, the Thai Red Cross Society is a national, nonprofit, neutral, independent, and governmental-support organization where targets to giving assistance to society. In contrast, limited perception and misperception towards the Thai Red Cross Society were, somewhat, discovered as follows. Thus, correct information via appropriate platforms shall be disseminated so that correct experiences can be created and confusion and rumours can also be avoided.

**Keywords:** public relations, perception, the Thai Red Cross Society

## บทคัดย่อ

การรับรู้ของบุคคลสามารถถกก่อปัญหาให้เกิดขึ้นกับภาพลักษณ์ขององค์กรได้ทั้งทางตรงและทางอ้อม สภาภาคชุมชนไทยถือเป็นองค์กรสาธารณะกุศลระดับชาติ ซึ่งการรับรู้ของประชาชน โดยเฉพาะอย่างยิ่งพนักงานมีประโยชน์นั้น ต่อการพัฒนาโครงการและกิจกรรมเพื่อการสื่อสารให้มีประสิทธิภาพ ดังนั้นวัตถุประสงค์ของงานวิจัยนี้คือ เพื่อศึกษา การรับรู้ของพนักงานต่อสภาภาคชุมชนไทย การวิจัยนี้ใช้การสัมภาษณ์เชิงลึกกับพนักงานของ 4 หน่วยงานใหญ่ ได้แก่ หน่วยงานราชการ หน่วยงานเอกชน หน่วยงานธุรกิจ หน่วยงานนอกรัฐ ผลการวิจัยพบการรับรู้ 3 ส่วน ได้แก่ การรับรู้ต่อสภาภาคชุมชนไทย การรับรู้ต่อหลักการชุมชน 7 ประการ และการรับรู้ต่อหน่วยงานของสภาภาคชุมชนไทย เป็นที่น่าอภิญญาติที่พนักงานจากทั้ง 4 หน่วยงานมีการรับรู้ต่อสภาภาคชุมชนไทย การรับรู้ต่อหลักการชุมชน 7 ประการ และ การรับรู้ต่อหน่วยงานของสภาภาคชุมชนไทยได้อย่างถูกต้อง อย่างไรก็ตามพนักงานยังมีการรับรู้ที่จำกัด และผิดไปเบ้างาน ดังนั้น จึงจำเป็นอย่างยิ่งที่สภาภาคชุมชนไทยจะต้องสื่อสารข้อมูลที่ถูกต้อง โดยเลือกใช้ช่องทางการสื่อสารที่เหมาะสมกับกลุ่มเป้าหมาย เพื่อสร้างประสบการณ์ที่ถูกต้อง และเพื่อหลีกเลี่ยงความสับสน และข่าวลือที่จะเกิดขึ้นเช่นเดียวกัน

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## Introduction

Whatever people perceive can directly and indirectly cause a corporate image problem. Certainly, a perceived corporate image plays vital roles of good or bad behaviour indication and value-added (Wongontha, 2003; Pookasawat, 2013: 37). An image building is shaped by an individual's hearing, seeing, knowledge, social system, touching, impression, tasting, attitude, smelling, and understanding and such elements are mutually affected by external environments and situations (Kesaprakorn, 2011: 9).

Although some previous studies showed different perceptions towards, in particular, the Thai Red Cross Society, a highly-respected, nonprofit organisation which gives humanity, impartiality, neutrality, independence, voluntary service, unity and universality, or, in short, the seven Principles or Red Cross (The Thai Red Cross Society, 2013b), which little is known. For example, the recent research, namely, 'Giving supports to the Thai Red Cross Society',

revealed that altruism is always attached to Thai people's perception towards the organisation. That is to say, most people provide their supports on blood donation (78 percent), money donation (7 percent), body donation (5 percent), organ donation (4 percent), eye donation (3 percent), volunteering (2 percent), and other supports (1 per-cent) (The Thai Red Cross Society, 2014). In addition, Phetwong (2014), a professional from the Thai Red Cross Society commented that:

Most people have perceived that the Thai Red Cross Society is a part of Chulalongkorn Hospital. Conversely, in fact, the Hospital is under the umbrella of the Thai Red Cross Society. The next problem is that some people use her emblem wrongly misleading the people about justice of the Thai Red Cross Society.

Also, statements shown above are not studied systematically. Further examination and investigation are, therefore, called for.

The scope of this study is to compare perception of employees in Bangkok toward the Thai Red Cross Society. This is because they occupy the largest market share (Summary of people's working states, 2014). The specific samples of this study were those who were government officials and worked in governmental-based organisations, without concerning benefits; private company employees and worked in organisations mainly focusing on earning benefits; state enterprise officials and worked in organisations owned by the government (holding more than 50 per cent shares), but focusing on earning benefits; and non-profit organisations' officers and worked in benevolent organisations and foundations.

## Literature Review

By analysis, perception is framed by internal and external factors. The five senses and interpretation (Cherry, 2015; Pattanaitikul, 2002; Satawedin, 2003) and acceptance and response to what being seen (Cherry, 2015.) are the internal factors. Individuals are also influenced by external factors like experiences and environments (Cheoichanya, Wiwatnanukul & Anawatsiriwong, 1995; Cherry, 2015; Satawedin, 2003). Satawedin (2003: 76) further explained that, when individuals have experienced something in environments, they have different perceptions. After that, meanings and attitudes are created. These later affect on individuals' behaviour.

The process is not time-consuming, according to Cherry (2015). This scholar also proposed more details on perception-building that, apart from the environmental stimulus, the so-called attended stimulus-familiar or stage people's facial expression and the tendency to perceive innovation and the image on the retina also play the vital roles of creating perception. It is then time to the neutral process. However, individuals do not interpret everything, selective perception towards what they think and are interested in is behaved, though. It is not odd if the retortion and different interpretation happen because different people have different attention and experience (Cheoichanya, Wiwatnanukul & Anawatsiriwong, 1995).

Especially during a crisis, building correct, good perception towards corporates can lead and rehabilitate their good image. Ferguson, Wallace & Chandler (2012) conducting a study, 'Rehabilitating Your Organization's Image: Public Relations Professionals' Perceptions of the Effectiveness and Ethicality of Image Repair Strategies in Crisis Situations' found that in order to manage a crisis, public relations strategy is employed because it can build perception by providing internal and external people information and publicity for the ultimate purpose of maintaining good image.

In summary, perception is an interpretation process affected by various factors including environment, people, experience, and motivations. Nevertheless perception is selected following to their own attention and interest.

## Research Methodology

The qualitative study employed in-depth interviews. They were conducted with three government officers, three private company employees, three state enterprise employees, and three employees in non-governmental organisations. The following were the details of the interviewees:

**Table 1** Gender and age of the interviewees

Occupation	Initial	Gender	Age
Government officers	K.	Male	24
	B.	Female	25
	P.	Female	37
Private company employee	P.	Female	54
	N.1	Female	34
	N.2	Female	25
State enterprise employees	T.1	Female	40
	T.2	Female	30
	E.	Male	24
Employees in nongovernmental organisations	K.	Male	27
	C.	Male	34
	P.	Male	30

It was important to note at this point that, in respect to the interviewees' privacy and reputation protection, the initials would be represented. Although generalisability could be questioned, more attention was paid to triangulation and the success in giving the answers. The main goal of this research, also, was to give the contribution to the Thai Red

Cross Society so that an effective communication campaign could be developed and improved, according to the conversation between Phetwong (2014), a professional from the Thai Red Cross Society and the researchers.

## Research Findings

The researchers shall divide the research findings into three parts including the perception towards the Thai Red Cross Society, that towards the Principles of Red Cross, and that towards the Thai Red Cross Society's organisations.

### *Perception towards the Thai Red Cross Society*

The Thai Red Cross Society is a national, nonprofit organisation where the people can depend. Its operation and implementation are based upon the Principles of Red Cross (more details were provided in the next section). According to the Thai Red Cross Society Act (Issue 5) 2007, the Thai Red Cross Society is 'a juristic person who gives publics help and works on the Principles of Red Cross. It should be supported by the government.' She is also committed to 1) the giving of medical and health services, 2) the giving of physical and mental relief, 3) the provision of blood services, and 4) the improvement of quality of life (The Thai Red Cross Society, 2015).

In any walk of life, all the interviewees perceived the Thai Red Cross Society as a nonprofit organisation which aimed to help society and give social contributions. It was not different from the vision of the Thai Red Cross Society defined.

However, there were only three participants, i.e. N.1, private company employee, female, 34, N.2, private company employee, female, 25, T.1, state enterprise employee, female, 40, and T.2, state enterprise employee, female, 30 talking about the role of the government. In details, while the first three ladies from private companies and state enterprises correctly perceived the Thai Red Cross society as the organisation the government should give the support, '[the Thai Red Cross society] is controlled by the government, mirrored by the last woman coming from the state enterprise sector. The following statement showed an example of correct perception:

I think the government should give [the Thai Red Cross Society] support because [I] have ever heard that the Thai Red Cross Society uses the same operation and implementation as other Red Cross Societies. Because the Thai Red Cross Society has to give its hands throughout the country, support from the government is necessary.

(N.1, private company employee, female, 34)

Yes, I think she should be [non-governmental organisation]. There should not be a governmental organisation. However, the government should give [the Thai Red Cross society] supports.

(T.1, state enterprise employee, female, 40)

In consideration of the mission of the Thai Red Cross Society the interviewees viewed, more interestingly, there were only three issues, i.e. 1) the giving of medical and health services, 2) the giving of physical and mental relief, and 4) the improvement of quality of life the interviewees projected. The government officers, i.e., B., government officer, female, 25 and P., government officer, female, 37, and K., nongovernmental employee, male, 27 agreed on the two roles of the Thai Red Cross Society. On the contrary, 1) the giving of medical and health services was of the high interest of T.1, state enterprise employee, female, 40. For 4) the improvement of quality of life, there was only B., government officer, female, 25, projecting.

#### *Perception towards the Principles of Red Cross*

There are the seven fundamental Principles of Red Cross as follows: 1) humanity, 2) impartiality, 3) neutrality, 4) independent, 5) voluntary service, 6) unity, and 7) universality (The Thai Red Cross Society, 2013b).

The principles of 1) humanity, in particular, 2) impartiality, 3) neutrality, 4) independent, and 5) voluntary service were of high perception. For example,

... [The Thai Red Cross Society] gives assistance to society including ailment, physical checks, helping those who are in danger, both physical and mental health, taking care of those who are poor and suffer from disasters.

(K., government official, male, 24)

... [The Thai Red Cross Society] is an independent and neutral organisation giving social contributions and helps to all the people, with no discrimination.

(B., government official, female, 25)

... [The Thai Red Cross Society] is an independent organisation giving assistance and relief to those who suffers from disasters. She is also a nonprofit organisation.

(P., government official, female, 37)

... [The Thai Red Cross Society] is an independent and neutral organisation. When there is a war, a Red Cross flag will be placed at the site declaring that [the Thai Red Cross] gives assistance to

all parties, with no discrimination. She is a voluntary and nonprofit organisation.

(T.1., state enterprise employee, female, 40)

... [The Thai Red Cross Society] is a nonprofit and voluntary organisation. She aims to giving people health and human rights. It is neutral.

(P., nongovernmental organisation, male, 30)

### *Perception towards the Thai Red Cross Society's Organisations*

To be more obvious, how the interviewees perceived the Thai Red Cross Society's organisations was presented in Table 2.

**Table 2** The perception of the interviewees towards the Thai Red Cross Society's organisations

Organisation	Government			Private company			State Enterprise			Nongovernmental		
	K.	B.	P.	P.	N.1	N.2	T.1	T.2	E.	K.	C.	P.
Administration Office												
Personnel Bureau												
Red Cross College of Nursing	4		8	3	5	4	4			5		7
Red Cross Youth Bureau			7									
King Chulalongkorn Memorial Hospital	2	4	2	2		5	8	1	2	4		2
Relief and Community Health Bureau	5									7		3
Queen Saovabha Memorial Institute		2	5	4		6	5			6	4	

**Table 2** The perception of the interviewees towards the Thai Red Cross Society's organisations (cont.)

Organisation	Government			Private company			State Enterprise			Nongovernmental		
		5	3	5	2	2	2	3	3	2	2	4
Thai Red Cross Eye Bank		5	3	5	2	2	2	3	3	2	2	4
The Thai Red Cross AIDS Research Center												
Internal Audit Bureau												
First Aid and Home Health Care Training Center												
Finance Bureau												
Fund Raising Bureau												
Central Bureau												
Red Cross Volunteer Bureau	6		6	7	4		7	5	5	3	6	
Queen Savang Vadhana Memorial Hospital												
National Blood Center	1	1	1	1	1	1	1	2	1	1	1	1
Thai Red Cross Rehabilitation Center												
Organ Donation Center	3	6	4	6	3	3	3	4	4	3		5
Nutrition Development Chitralada Palace												
Information Technology Center												
Thai Red Cross Children's Home		3		8			6	6				
Thai Red Cross E-Musem												
Rh-negative Club												
Rajakarun, Thai Red Cross Center, Khaolan												

Information source of the Thai Red Cross Society's organisations: Thai Red Cross Society (2013a)

Table 2 showed that all of the interviewees perceived the Thai Red Cross Society as composed of the National Blood Center most. It was followed by the Thai Red Cross Eye Bank, Organ Donation Center, King Chulalongkorn Memorial Hospital, Red Cross Volunteer Bureau, Red Cross College of Nursing, Queen Saovabha Memorial Institute, Thai Red Cross Children's Home, Relief and Community Health Bureau, Red Cross Youth Bureau. For the rest of the organisations, nonetheless, there was no evidence displaying the interviewees' recognition.

As stated above, although the National Blood Center got high popularity, there was an exception of T2, (state enterprise employee, female, 30,) who gave her priority to the King Chulalongkorn Memorial Hospital, instead.

Perceived confusion and reluctance was noticed when the interviewees were talking about the Chulalongkorn Memorial Hospital, Thai Red Cross Eye Bank, Organ Donation Center, and Red Cross College of Nursing.

In regards to the Chulalongkorn Memorial Hospital, the interviewees, especially the government officials and state enterprise employees perceived that the Hospital was an independent organisation or an organisation under Chulalongkorn University. Follows were the statements quoted:

... Is the Chulalongkorn Memorial Hospital an organisation under the Thai Red Cross Society?

(K., government official, male, 24)

... [I] perceive the Chulalongkorn Memorial Hospital as an organisation of Chulalongkorn University.

(P., government official, female, 37)

... Is the Chulalongkorn Memorial Hospital an organisation of the Thai Red Cross Society? I think the Hospital is closed to the Thai Red Cross Society. But, I do not know whether the former is under the latter.

(T., state enterprise employee, female, 40)

The interviewee whose occupation was a private company employee, i.e., N.2, (female, 25) was also curious whether or not the Red Cross College of Nursing is an organisation of the Thai Red Cross Society.

B., (government official, female, 25) always perceived that the Thai Red Cross Eye Bank and Organ Donation Center were, likewise, under the Chulalongkorn Memorial Hospital.

The main reasons of such perception and remembrance were personal experiences and various channels of communication.

## Discussion/Conclusion

Undoubtedly, corporate image is directly and indirectly framed by an individual's perception. In general, the sampled employees had shared, correct perception toward the Thai Red Cross Society. That is to say, the Thai Red Cross Society is a national, nonprofit, neutral, independent, and governmental-support

organisation which targets to give assistance to society.

In contrast, limited perception and misperception towards the Thai Red Cross Society were, somewhat, discovered as follows.

First, the government controlled the Thai Red Cross Society.

The mission regarding the provision of blood services was not perceived, when asking the interviewees about the organisation in an overall picture, moreover although the first top-of-mind, perceived that organisation under the umbrella of the Thai Red Cross Society was the National Blood Centre. This research finding was not different from the report of the Thai Red Cross Society (2014) which revealed blood donation is the most favourable activity that people give to the Thai Red Cross Society.

It could be far from an individual's daily life, thus, the Principles of Red Cross, especially 6) unity and 7) universality were not perceived among the sampled employees.

Especially when thinking of the Chulalongkorn Memorial Hospital, Thai Red Cross Eye Bank, Organ Donation Center, and Red Cross College of Nursing, last but not least, uncertainty and hesitance happened. In details, the perception

towards the Chulalongkorn Memorial Hospital is an independent organisation, not an organisation under the umbrella of the Thai Red Cross Society. Also, one perceived the hospital as an organisation of Chulalongkorn University. One had no idea that the Red Cross College of Nursing is an organisation of the Thai Red Cross Society. More interestingly, one stated that the Chulalongkorn Memorial Hospital is composed of the Thai Red Cross Eye Bank and Organ Donation Center.

All the limited perception and misperception could cause a challenge with the Thai Red Cross Society's image. Thus, correct information via appropriate platforms shall be disseminated so that correct experiences can be created and confusion and rumours can also be avoided.

It is suggested that future studies should contribute to study perception of internal employees of the organisations under the Thai Red Cross Society. This is because there are the odds to mention that wrong and misperception towards the organisation presented in this study can be reasoned by the perceived understanding of the internal Thai Red Cross Society employees.

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**PANYAPIWAT**

INSTITUTE OF MANAGEMENT

## UNIVERSITY STUDENTS' PERCEPTIONS TOWARDS A GOOD UNIVERSITY EFL TEACHER

อาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศที่ดีในทัศนะของนักศึกษาไทย  
ในมหาวิทยาลัยแห่งหนึ่ง

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### ABSTRACT

This study investigated how Thai university students in one Thai university context identified the characteristics of a good university English as a foreign language (EFL) teacher. To collect data, a questionnaire was employed with 403 students [175 English major students and 228 non-English major students at Albus University (pseudonym) in order to perceive the characteristics of an effective EFL teacher. The returned questionnaire allowed a researcher to list the top 5 effective EFL teacher characteristics of each group of participants. English major students listed (1) explaining clearly, (2) knowing the subject well, (3) entertaining, (4) motivate students to learn language, and (5) having good teaching methods as the characteristics of an effective EFL teacher. According to non-English major students' responses, they were the same to some extent, i.e. explaining clearly, entertaining, and having good teaching methods. Also there were some different characteristics to some extent such as having impartiality, having sense of humor, and creating a comfortable atmosphere. Moreover, altogether 27 students at Albus University (a pseudonym) agreed to be interviewed. Findings from the interview allowed the researcher to identify what these students perceived as the characteristics of a good university EFL teacher. They were: (1) ability to explain clearly, (2) knowledge of the subject matter, (3) ability to entertain students, (4) ability to motivate students to learn, (5) ability to teach, (6) fairness, and (7) sense of humor.

**Keywords:** perceptions, characteristics, EFL teachers

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## บทคัดย่อ

งานวิจัยฉบับนี้เป็นการศึกษาทัศนะของนักศึกษาไทยในมหาวิทยาลัยแห่งหนึ่งของประเทศไทยที่มีต่อบุคลิกลักษณะของอาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศ โดยมีการเก็บข้อมูลจากแบบสอบถามและการสัมภาษณ์ นักศึกษาจำนวน 403 คน ของมหาวิทยาลัยอัสสัมชัญ (นามสมมติ) จำแนกเป็นนักศึกษาสาขาวิชาภาษาอังกฤษจำนวน 175 คน และเป็นนักศึกษาจากสาขาวิชาอื่นๆ จำนวน 228 คน นักศึกษาทั้งหมดได้มีการทำแบบสอบถามเกี่ยวกับทัศนะที่มีต่อบุคลิกลักษณะที่ดีของอาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศ โดยผลจากการตอบแบบสอบถามทำให้ผู้วิจัยสามารถจำแนกบุคลิกลักษณะที่ดีของอาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศ 5 อันดับแรก ดังนี้ นักศึกษาสาขาวิชาภาษาอังกฤษมีความเห็นว่า อาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศที่ดีนั้นต้องมีบุคลิกลักษณะต่อไปนี้ 1) สามารถอธิบายความได้อย่างชัดเจน 2) มีความรู้ด้านวิชาที่สอนเป็นอย่างดี 3) สามารถสร้างความสนุกสนานได้ 4) สามารถกระตุ้นให้ผู้เรียนอยากรอเรียนรู้ภาษา และ 5) มีวิธีการสอนที่ดี ส่วนทัศนะของนักศึกษาจากสาขาวิชาอื่นๆ นั้นมีบางคำตอบที่คล้ายกับนักศึกษาสาขาวิชาภาษาอังกฤษ คือ สามารถอธิบายความได้อย่างชัดเจน สามารถสร้างความสนุกสนานได้ และมีวิธีการสอนที่ดี ส่วนทัศนะของนักศึกษาที่มีต่อบุคลิกลักษณะที่ดีของอาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศที่ไม่เหมือนทัศนะของนักศึกษาสาขาวิชาภาษาอังกฤษ คือ อาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศที่ดีนั้น จำเป็นต้องมีความยุติธรรม มีอารมณ์ขัน และต้องสร้างบรรยากาศการเรียนรู้ภายในห้องเรียน นอกจากนั้นการสัมภาษณ์นักศึกษาจำนวน 27 คน ทำให้ผู้วิจัยได้ข้อมูลเชิงลึกของทัศนะของนักศึกษาที่มีต่อบุคลิกลักษณะที่ดีของอาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศ ซึ่งคำตอบที่ได้ก็คล้ายคลึงกับคำตอบในแบบสอบถาม ดังนี้ 1) สามารถอธิบายความได้อย่างชัดเจน 2) มีความรู้ด้านวิชาที่สอนเป็นอย่างดี 3) สามารถสร้างความสนุกสนานได้ 4) สามารถกระตุ้นให้ผู้เรียนอยากรอเรียนรู้ภาษา 5) มีวิธีการสอนที่ดี 6) มีความยุติธรรม และ 7) มีอารมณ์ขัน

**คำสำคัญ:** ทัศนะ บุคลิกลักษณะ อาจารย์ผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศ

## Introduction

One chapter of the book - Holler If You Hear Me: The Education of a Teacher & His Students, Michie shared with a reader a story of one grade seven student, Ruby Anaya. Anaya believed that good teachers were passionate in their job, and attentive and fair to their students. In her interview, she said,

Some teachers would tell us, “Hey you can do something with your life,” but I’m pretty sure that when they would come out of school, they would think, “She’s a slow student, she’s never gonna do anything”.

You could feel that they were lying to you, you know? They couldn’t look you in the eyes and say you can be somebody in life, because they didn’t mean it. One of my teachers even compared us to his dogs. He would tell us that his dogs could do something that we couldn’t do.

But there were some teachers who were different, like Mr. Z. He would look into your eyes and really talk to you. He didn’t teach the high groups any different from the low groups. He treated us all the same. Plus, Mr. Z would listen to you. If a

teacher doesn't listen, the kids gonna think, "Why should I try to learn this?" Teachers should take the time with each student so they understand it. But some teachers don't really care.

I don't want to say that they're bad teachers. I guess they're trying their best. But the way I see it, they're just there to get paid. I think Mr. Z would teach school even if he didn't get paid. It's like his life. He loves teaching kids. He cares. And if you see the teacher cares, and listens to you, you try to repay him by listening and studying hard in his class. (Michie, 1999: 124)

Michie (1999) also interviewed with Juan, another one of his former student, defined similar characteristics of a good teacher. A good teacher was attentive to his/her students.

To me what makes a good teacher is someone who understands the students. If the teacher knows how the students are thinking, you can teach a class more easily. I mean, if you see the kids are dead, common sense will tell you you better change your strategy, you know? If all these kids are looking at you like a bunch of zombies, common sense will tell you you're doing something wrong.

In the classroom, teacher plays an important role in teaching-learning processes. Teacher has to have the knowledge of the subject matter, well-prepared for teaching, and so on. However, teacher's characteristics are also very important in teaching-learning processes. Agreeing with

this, some educators said that teacher has an impact on students' performances Gillard (2010) said that teacher characteristic had the largest impact on students' performances. Moreover, Darling-Hammond (1999) further noted that understanding characteristics of effective teachers could help teachers to develop their relationship between teachers and students. In the past, there were some studies that explored the characteristics of effective teachers but those studies just look into the general educational field. So, the finding cannot be used to identify the characteristics of an effective foreign language (FL) teacher. This is because a language field is different from other fields (Borg, 2006). To understand better, Borg (2006) listed five factors distinguishing foreign language teachers from teachers of other subjects as follows: (1) the nature of the subject matter itself, (2) the interaction patterns necessary to provide instruction, (3) the challenge for teachers of increasing their knowledge of the subject, (4) isolation, and (5) the need for outside support for learning the subject.

In particular field of foreign language (FL) teachers, Brosh (1996) conducted a mixed-methods study to identify the perceived characteristics of an effective FL teacher. The participants of the study were 200 FL teachers (of Arabic, English, French, and Hebrew) and 406 ninth-grade high school students (from different schools). The returned questionnaires and interview allowed him to list several characteristics of an effective FL teacher. Similarly, an effective FL teacher needed to have

(1) ability to command of four basic language skills (listening, speaking, reading, and writing), (2) ability to transmit knowledge in a way that was easy to understand, and (3) ability to motivate students to do their best. Differently, FL language teachers defined that an effective FL teacher needed to have an ability to provide students with experiences of success. A contrary point of view, the students expressed that an effective FL teacher needed to have fairness and availability after class time. The studies including Intraboonsom (2007) and Sriprasert (2011) findings replicated the study of Brosh were similar to some extent. Most students noted that an effective EFL teacher should have: (1) ability to command of four language skills, (2) ability to transmit knowledge, (3) fairness, (4) availability after class time, and (5) ability to provide students with experiences of success. Furthermore, similar characteristics of an effective EFL teacher were revealed in Hongboontri, Prakongchati & Trirakunkovit (2010) mixed-methods study. Their finding perceived three main characteristics that were (1) teacher personality, (2) good instructional practice, and (3) good knowledge of subject matter.

Other studies of effective EFL teachers were also proposed by Banno (2003), Wichadee's (2009), and Chen & Lin (2009). The quantitative findings were more or less the same as those of Brosh. Banno assigned 313 students who were living in Japan (98 Americans, 105 Chinese, and 110 Japanese) to complete a questionnaire to perceive characteristics of an effective FL teacher. The results of the study revealed that

students perceived different characteristics of an effective FL teacher. To illustrate, American students agreed that an effective FL teacher was patient and creative while Chinese students expressed that having good pronunciation was the most important characteristic. On the other hand, Japanese students noted that an effective FL teacher should have these four characteristics: (1) ability to entertain, (2) fairness, (3) open-mindedness, and (4) reliability. Moreover, Wichadee conducted her study by requiring 453 participants (200 students and 53 teachers) in one Thai university to do the questionnaire. According to her findings, the student participants listed three characteristics of an effective EFL teacher including: (1) good preparation, (2) effective communication ability, and (3) pleasant personality. As teacher participants, they indicated that an effective EFL teacher needed to have (1) a good command of four basic English language skills, (2) ability to communicate with students, and (3) ability to plan clear and appropriate goals. In terms of Chen and Lin's findings, data collected from junior high school Taiwanese students reported that instructional competence, personality, and teacher-student relationship were perceived characteristics of an effective EFL teacher. With these lists of the characteristics of an effective EFL teacher, they could help EFL teachers to be aware of other's expectations of them Hongboontri, Prakongchati & Trirakunkovit (2010). As Banno (2003) noted, "students have their own expectations towards teachers, and it is important for teachers to know what they are" (p.345). To do so, this

study was conducted as a mixed-methods study to explore university students' perceptions towards the characteristics of an effective EFL teacher.

### Research Question

What are the characteristics of a good university English as foreign language (EFL) teacher?

### Methodology and the Research Participants

According to the importance of EFL teacher characteristics, myriad studies, i.e. Borg (2006), Gillard (2010) and Hasekawa (2004), noted that teacher characteristics had a great impact on students' performances. Hence, looking for good EFL teacher characteristics was necessary to the EFL teachers to meet the students' desires. In doing so, I employed a mixed-methods approach to collect and analyze data. A questionnaire and an interview were used to collect data. Altogether 403 students (175 English major students and 228 non-English major students) at Albus University were administered to complete a questionnaire. Twenty-seven students (19 English major students and 8 non-English major students) allowed a researcher to interview. Before the interview was conducted, the researcher had looked into the studies of Brosh (1996), Hongboontri, Prakongchati & Trirakunkovit (2010), Intraboonsoom (2007), Sriprasert (2011), and Wall et al. (2002) in order to develop the

interview questions. The questions were piloted on five Thai university students. After that the questions were reworded and rearranged in order of important. The actual interviews took approximately 30 minutes depending on the participant's responses.

With all responses to the questionnaire were tallied, tabulated, and enter into SPSS to calculate for their frequencies. In terms of interview, all interviews were transcribed and later analyzed with Strauss & Corbin's (1990, 1998) open and axial coding techniques.

### Findings

In terms of quantitative result, the numeric data demonstrated the five perceived characteristics that an effective EFL teacher needed to have rated by both English major students and non-English major students. The analyzed data revealed that English major students chose ability to explain clearly as the most important characteristic; the other four characteristics included knowledge of the subject matter, ability to entertain students, ability to motivate students to learn, and ability to teach. Interestingly, non-English major students also perceived ability to explain clearly as the most important characteristic that an effective EFL teacher should have. The other traits were ability to entertain students, ability to teach, fairness, and sense of humor.

**Table 1** The Top Five Characteristics of a Good EFL Teacher Chosen by Each Group of Participants

English major students	Non-English major students
1. Explaining clearly (54.90%)	1. Explaining clearly (53.10%)
2. Knowing the subject well (42.30%)	2. Entertaining (46.50%)
3. Entertaining (40.60%)	3. Creating a comfortable atmosphere, Having good teaching methods, and Preparing and organizing the lesson (42.40%)
4. Motivate students to learn language (37.70%)	4. Having impartiality (28.10%)
5. Having good teaching methods (34.90%)	5. Having sense of humor (27.20%)

As a part of qualitative result, all analyzed interview data revealed the insightful participant's descriptions of an effective EFL teacher. Overall, these students' descriptions of an effective EFL teacher were in line with their responses to the questionnaire. Most students (both English major student and non-English major students) agreed that an effective EFL teacher needed to have ability to explain clearly. One participant said that;

“In my opinion, an effective EFL teacher was a person who could explain what he/she knew well. So, he/she was able to explain any difficult lessons or complicated content to be easy to understand. Also, he/she could give the examples related to the lessons. Moreover, an EFL teacher should teach and assign works using simple words. If students get what a teacher taught, they would apply the knowledge beyond the classroom”.

The knowledge of the subject matter was also important quality of an effective EFL teacher. A participant explained that;

“For an effective EFL teacher, his knowledge of the subject matter was the first point I thought of. I believed that a smart teacher could consider his thoughts and his teaching reasonably. If he had good consideration, he could prepare good teaching. If he conducted good teaching, the classroom would be enjoyable. If the classroom was enjoyable, students would pay more attention to their studies”.

Moreover, an effective EFL teacher should have ability to entertain students also. One participant said;

“I wanted to learn with an EFL teacher who conducted an attractive classroom. The attractive classroom, in my opinion, included a creative teacher, various English materials, and fun. From my experience, I used to learn with an EFL teacher who was very creative. He had many teaching styles. For example, he taught me to learn vocabulary through songs and movies. Sometimes, he attracted me by his dressing styles. He then taught me vocabulary about

his dressing. He always told the jokes to decrease my stress. Especially, he kept trying to make every class full of laugh and fun. I liked him very much because I felt I could learn English".

Importantly, ability to motivate students to learn was one of qualities that students concerned. One participant told me that;

"...Prof. I admired was a person who took care every step of students' learning, i.e. his teaching preparation, learning activities, and students' comprehension. In his classroom, he firstly realized to students' learning performances. He would give examples of successful senior to will students to learn. He always encourages students all the time. Especially, he never looked down on any low proficiency students. Not only, he never bring students under the pressure, but also tried to make the relax atmosphere. I believed that if students were relax, they would gain more what the teacher taught".

Another quality that an effective EFL teacher should have is ability to teach. A participant explained that;

"...An effective EFL teacher should give students the feedback of their assignments. The teacher had to be able to explain and to give examples on incorrect issues to clear understand. Importantly, an effective EFL teacher had to be up-to-date. He/she should bring the recent events or real situation to teach in class to students to learn beyond the classroom. For me, I decided to learn

English because I needed to learn, to make good consideration, and to use it in the real life".

For the basic quality that every effective teacher should have was fairness. One participant said;

"...Scoring had to be clear. I did not serious whether my score was high or low. I just needed to review the score details because I could know what points I missed. For instance, some teachers had good teaching, but there was no assignment feedback. So, I did not know that I did it right or wrong. When the score was shown, I wondered about my score. Did I do something wrong? I did not know because there was no feedback, as well as, explanation".

Sense of humor was one quality that an effective EFL teacher should be qualified. One participant told that;

"...Sense of humor was important to an EFL teacher because it was a needed tool to make relax classroom atmosphere. Most students needed to learn English without pressure. As a student, I wanted to learn the target language with the EFL teacher who always smiled. For me, smiling meant to be cheerful and humorous. I used to learn with Prof. Star (pseudonym) who qualified this characteristic. He made me love and respect. So, I promised myself that I would study hard for paying respect to him".

## Conclusion and Recommendation

It is no doubt that an EFL teacher, particularly teacher's personality, plays an important role in a language classroom. Emphasizing the contribution of teachers' personalities to students' performances, Hasekawa (2004) noted that teacher's personalities determined students' motivation or demotivation to learn. Along with another researcher the understanding on this topic, to some extent, allowed teachers not only to become more aware of other expectations but also to have better relationship between teachers and students (Darling-Hammond, 1999). An analysis of returned questionnaires and transcribed interview data from English major students and non-English major students at Albus University (pseudonym) revealed nine perceived characteristics of an effective EFL teacher and answered the research question. The nine characteristics of an effective EFL teacher were: (1) explaining clearly, (2) knowing the subject well, (3) entertaining, (4) creating a comfortable atmosphere, (5) having good teaching methods, (6) preparing and organizing the lesson, (7) motivating students to learn

language, (8) having impartiality, and (9) having sense of humor. These perceived characteristics were, to some extent, similar to those listed by Brosh (1996), Hongboontri, Prakongchat & Trirakunkovit (2010), Intraboonsom (2007) and Sriprasert (2011). More importantly, the study not only raises awareness among EFL teachers about the characteristics of an effective EFL teacher but also helps EFL teachers in Thailand to improve their instructional practices during in the classroom. As Rhee wrote;

Students are very serious about wanting to learn from the best. During an announcement visit to one high school, I noticed that many classroom were nearly empty. I saw only one that was full, an English class in which the students were actually engaged in discussion. As I left the school an hour later, I noticed that three young men who had been in the English class were leaving as well.

“Where are you going?” I asked one.

“We came to school because the first period teacher is a good one,” he said.

“The second isn’t, so we’re rolling.”

(Rhee, 2010: 133)

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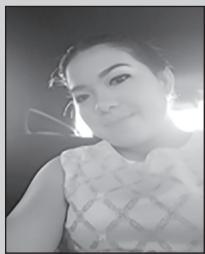
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## THE ENGLISH LISTENING-SPEAKING CORNERSTONES

### หลักสำคัญพื้นฐานในการสร้างเสริมทักษะการฟัง-พูดภาษาอังกฤษ

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#### Abstract

This quantitative research aims to improve students' language competency. Four-different-area focus tools: "True Calling" (pronunciation), "Drop Me Off" (stressing), "Pick Me Up" (listening comprehension), and "Speak It Out" (speaking) were used to help students mitigate their weak learning areas and strengthen both receptive (listening) and productive (speaking) skills. Prior to the experiment, TOEIC test were used as a pretest and post test. Sixty-seven students in the Conversational English classes were chosen to be participants. This research began with the pronunciation, stressing, Listening comprehension, speaking tools consecutively. This research also includes the interview sessions of three American educators. In addition, the questionnaire helped the researcher understand the participants' background language competency and individual interests towards the focused communicative skills. The results show that the participants performed better in some areas. In further research, some factors should be focused more on the background environment, with native English speakers (as peers) and on more demanding immersion situations.

**Keywords:** Listening-speaking skills, scaffolding, English communication

#### บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อพัฒนาความสามารถทางภาษาของนักศึกษา โดยการเน้นทักษะการฟัง การออกเสียง การเน้นเสียงหนัก-เบาและการพูด โดยใช้เครื่องมือ 4 ชนิด คือ "True Calling" (การออกเสียง) "Drop Me Off" (การเน้นเสียงหนัก-เบา) "Pick Me Up" (การฟัง) และ "Speak It Out" (การพูด) เครื่องมือเหล่านี้จะช่วยลดจุดอ่อนในการเรียนของนักศึกษา ในงานวิจัยนี้คือ นักศึกษา จำนวน 67 คน ที่เรียนในรายวิชาสนทนาภาษาอังกฤษ การวิจัยมีการสอบ pre-test และ post-test โดยใช้ข้อสอบ TOEIC หลังจากนั้นเครื่องมือ 4 ชนิดตั้งกล่าวไว้ด้วยคำให้ได้ถูกนำไปใช้โดยเริ่มจากการออกเสียง การเน้นเสียงหนัก-เบา การฟัง และการพูดโดยลำดับ ในงานวิจัยนี้มีการสัมภาษณ์ผู้ให้การศึกษาชาวอเมริกัน 3 ท่าน นอกจากนี้แบบสอบถามภูมิหลังความสามารถในภาษาอังกฤษของนักศึกษาทำให้เข้าใจ ความสนใจด้านทักษะการฟัง-พูดของนักศึกษาแต่ละคน ผลการวิจัยแสดงให้เห็นว่า กลุ่มตัวอย่างมีพัฒนาการในบางทักษะ

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แต่ขณะเดียวกันมีความก้าวหน้าอยู่ในการใช้เครื่องมือบางอย่าง แต่ถึงกระนั้น กลุ่มตัวอย่างต้องการเวลามากกว่านี้ เพื่อพัฒนาทักษะทางภาษาของตนเอง ในการศึกษาครั้งต่อไป ควรมีการพัฒนาปัจจัยที่เกี่ยวข้องกับสิ่งแวดล้อมภูมิหลัง โดยผู้ใช้ภาษาอังกฤษเป็นภาษาแม่ (เป็นผู้ประเมิน) และใช้สถานการณ์ที่ทำให้กลุ่มตัวอย่างตั้งใจปฏิบัติมากขึ้น

**คำสำคัญ:** ทักษะการฟัง-พูด วิธีการที่ช่วยพัฒนาทักษะ การสื่อสารภาษาอังกฤษ

## Introduction

Inappropriate pronunciation, the problems of stressing, problem in listening and in speaking often occur among EFL students and seem to be a multi-dimensional task in EFL classroom teaching. Brown (2001) wrote that communicative competence should be the goal of a language classroom and the focus should be on using language in “fluency, accuracy in authentic language and contexts, and real world” (p. 69).

Accordingly, several problems of majority EFL students are in listening and speaking. First, young EFL students start absorbing the deviant pronunciation/enunciation from some non-native English speakers. Some theories postulate that young children have great advantages in learning languages, normally at the age of 12-15. After puberty, the ability to acquire language skills gradually declines and the learners almost never “sound like natives or foreign accent” or it is said “the number of years of exposure contributes greatly to the overall communicative fluency of the learners, starting age determines the levels of accuracy achieved, particularly in pronunciation” (Brown, 2000: 59; O’Brien, 2004: 1; Nunan, 1999: 41). The second problem is the inadequate teaching of the stresses, pronunciation, and sound systems resulting in “faulty stress, rhythm, and intonation patterns

cause greater difficulty for hearers...” (Nunan, 1999: 107; Elliott, 1997: 95).

Finally, some EFL students’ listening comprehension has been hindered on the continuum. Basic pronunciation has not been taught in a technical manner resulting in being unable to divide words into syllabic units and to pronounce each syllable of the words correctly in an EFL environment. This situation is a serious impediment to EFL students’ learning English; their English competency eventually reaches a plateau.

## Literature Review

Real world content plays a major role in second language acquisition, foreign programs: *Friends* or *CSI Miami*. These real world contents indicated that the value of visual learning through video helps second language learners to develop their listening-speaking and vocabulary skills and have a mind-set of cultural knowledge in communication called “indiscrimination” in the concept of communicative competence: words, sounds, and structure of the language (Weyers, 1999: 340; Saville-Troike, 2006: 100).

Theoretically, Krashen’s Input Hypothesis (Richards & Rodgers, 2001: 182; Saville-Troike, 2006: 45; Brown, 2000: 278; 2001: 361; Lightbown & Spada, 2003: 39; Rost, 2008: 8-9) focuses on

the production of a language, several stages in the acquisition of a second language. First, learners perceive all types of information “input” or “zero option.” Learners perceive and understand data (comprehensible input) with their own interpretation. Second, all data are recorded and internalized as learners’ acquiring the language, also called *intake* (Grove, 1999: 819); they understand an advanced message compared to their competencies. Finally, the learners are able to produce the meaningful language fluently through interaction in order for accomplishing tasks (Lightbown & Spada, 2003: 40). However, similar to Savignon’s interpretation of form and accuracy without the provision for opportunities improving communication skills in the target language; Brown (2000) believed target language may possibly be far from learners’ competencies expressed as *i+2* or *i+0* being either overwhelming or totally not challenging (p. 278).

Tananuraksakul (2013: 105, 112) believed that power distance (PD) and positive reinforcement directly affected the improvement of students’ listening-speaking skills in her research. PD, developed by Hofstede in 1970, refers to “the degree a society accepts differences in power” which is divided into high PD, authoritative position, and low PD, the self-governing and personal responsibilities. The researcher found that a high PD influenced specifically the students’ confidence in their oral skills. At a low level of high PD together with positive reinforcement, it evidently builds up students’ positive beliefs in their phonetic skills reinforces and improves those skills.

## Objectives

This research attempted to improve each skill of EFL students: pronunciation/enunciation, stressing, listening comprehension, and speaking and to strengthen them with related skills. The intent of the research includes the following:

1. To discover EFL students’ strengths and weaknesses in communication skills
2. To strengthen and constantly develop their listening-speaking skills for their future progress in English.
3. To monitor and use effective methods of teaching as creative modals suitable for facilitating the students’ learning abilities.

## Research Methodology

### Participants

All 67 freshmen English major students at Huachiew Chalermprakiet University (HCU), taught in semester 2 (2010, 2011 academic years) were the subjects.

### Instruments

This research looks at the tools as scaffolding that aim to alleviate the problems as well as to develop the students’ learning at their level of development (zone of proximal development [ZPD]) (Ko, Schallert & Walters, 2003: 303; Lightbown & Spada, 2003: 65; Saville-Troike, 2006: 72). The instruments are the combination of pronunciation and stressing tools “True Calling-Drop Me Off,” listening comprehension “Pick Me Up,” and speaking “Speak It Out.”

### “True Calling-Drop Me Off”

This tool adopted the combination concept of Natural Approach and Communicative Competence in terms of accuracy (Elliott, 1997:

95; Weyers, 1999: 340) in the way of accentuating on sound of syllables. It is a vocabulary sheet with unfamiliar words (for the students) in real life situations written by Goodman D.J. et al in *Advancing Vocabulary Skills* published by Townsend Press in 1990. The list is divided into items. Each item contains a word and multiple choices which show separated syllables of the word differently. All participants listen to their instructor's pronunciation three times then repeat the word and draw a stress sign above the syllable of the word stressed. The learners "hear before they try to produce language" and "know how to say it appropriately and accurately in any given situation" (Richards & Rogers, 2001: 179; Brown, 2001: 24; Saville-Troike, 2006: 55). This tool also adopts the concept of imitation from parents or caretakers' correct pronunciation, even though learners may not understand the meaning (Brown, 2000: 38), yet assimilate "a phonological code" (Pinker, 1994: 156).

#### **"Pick Me Up"**

The "Pick Me Up" tool design was based on the real-life situations of a native English speaker and a graduate non-native English student of a university in Minnesota and the communicative approach with grammatical abilities, understanding the relationships of interlocutors, meaningful contents, and communicative circumstances (Brown, 2000: 38; Richards & Rodgers, 2001: 35; Saville-Troike, 2006: 44; Taguchi, 2005: 5). In this research, ten questions for listening comprehension were raised. The participants had to answer the

questions after hearing a message read, and the correct answers were calculated for scores. The comprehensible contents with expressions and idioms, including vocabulary (as the content tools) conjoined in the listening were the focus. Key words played another major role in order for students to be ready for the listening practice and to use "content schema" (Jung, 2003: 563) to help master the tasks. Then, they can improve and elevate their listening skills in the later listening sets.

#### **"Speak It Out"**

After experiencing and understanding the concept of the pronunciation-stressing and listening tools, the participants had to demonstrate the progress of their speaking skills with proper pronunciation, stressing, and listening comprehension. This required proper pronouncing, accurate academic speaking, and fluency with meaningful contents. The evaluation was based on scoring in the form of pronunciation/enunciation (sounds), accurate generalizations based on outside sources, speaking with supporting evidences, the elements of academic speaking (consequences), and clarity of expressions.

#### **TOEIC**

The listening sections of the aptitude test were used for pretest and post test. The scores of the tests detected the participants' abilities before and after the experiment, this showed the progress of the participants' English competency.

#### **Procedures**

Participants took the pretest of the TOEIC aptitude test (64 items of pictures, questions

to answer, short conversations, and short talks). The scores were allocated and kept confidential. The test was reused for the post test. The scores showed the tendency of the skills cultivation from the four tools.

In the first week, the “True Calling-Drop Me Off” tools were used in the pronunciation section. The participants had the vocabulary sheets with multiple choices of syllabic division. They have to distinguish sounds on a regular basis. Carruthers (1987) points out, “Pronunciation...should be isolated and taught one at a time...attention paid to voicing...will result in immediate improvement in the pronunciation” (p. 193).

In the second week, the participants had to divide the words into syllables on the pronunciation-stressing Set II (40 items) and again mark the stressing sign on stressed syllables in the words.

From week 3-10, the participants spent eight weeks experiencing listening different true stories of a native English speaker and a graduate non-English speaker. The researcher created ten questions from the story each week. Each participant had only a blank paper to respond to questions 1-10 and to answer the questions briefly but to the point. At this point, taking notes was introduced and highly recommended. Arnold, 2000: 778, 784; Kwai, 2011: 78; Gannaway, 2011: 9; Moore & Carreon, 2011: 7 states that ... listening is the core of language acquisition in terms of gaining comprehensive input as “raw materials” necessary for the speaking process to begin, understand the contents, and “pay attention.” The par-

ticipants basically experienced new vocabulary, proper names, phrasal verbs, idiomatic expressions in everyday lives of the native English speaker.

At the end of the semester, the last couple of weeks were reserved for speaking. Each participant made his own individual speech (in the class) under categories: adventure, stories, travel, basically from applicable commercials, related to the course. The evaluation used to measure the progress concentrated on grammar, pronunciation, appropriate word choice, and speaking techniques. The speaker raise questions for the participants to clarify because “the listener had a task to perform and could not do so without clarity on the part of the speaker” and to “express meaning spontaneously creating language (Grove, 1999: 826; Salaberry & Lopez-Ortega, 1998: 518).

## Results and Findings

The outcome of this research was on the positive side on the continuum. At this point, the results and findings will be analyzed in different organizational formats, based on pronunciation, listening, speaking, pretest-post test, and statistical grade results and their summary.

A question is raised: What effective teaching methods will help solve the problems? Brown (2001) wrote that communicative competence should be the goal in “fluency, accuracy in authentic language and contexts, and real world” (p. 69). The problems of stressing, listening, and speaking seem to be a multi-dimensional task in the EFL classroom teaching:

First, EFL students started absorbing the deviant pronunciation and enunciation from non-native English speakers. Second, the teaching of stressing at fundamental levels is insufficient

(supra-segmental phonology). Last, basic pronunciation has never been taught properly and in a technical manner.

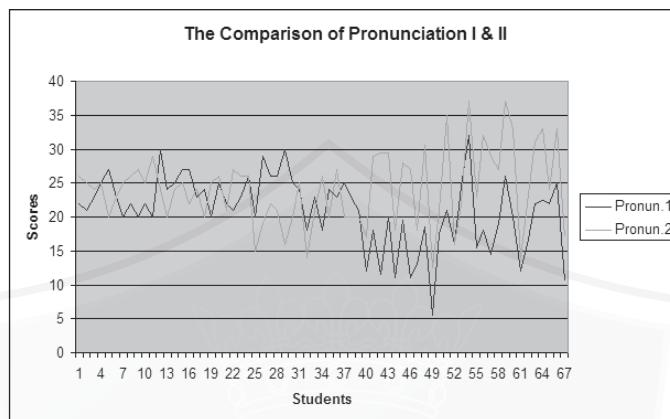


Figure A The Comparison of Pronunciation I & II

These participants were unfamiliar with the syllabic units when working on the pronunciation tasks. Three interesting issues must be analyzed, based on the above graph. The pronunciation I and II (*True Calling-Drop Me Off*) consisted of 40 items. Both tests had exactly the identical items. A score of 24 items correct was passing. On pronunciation test I, 23 students scored

$\geq 24$  (60% or more). On pronunciation test II, 37 students scored  $\geq 24$  for a percent of 60%. A comparison between test I and II showed a gain of 14 students passing (20.9%). The majority of participants' scores under 24 points may be attributed to three different factors in the matter of new unknown words, liaison, and background syllabic unit experience.

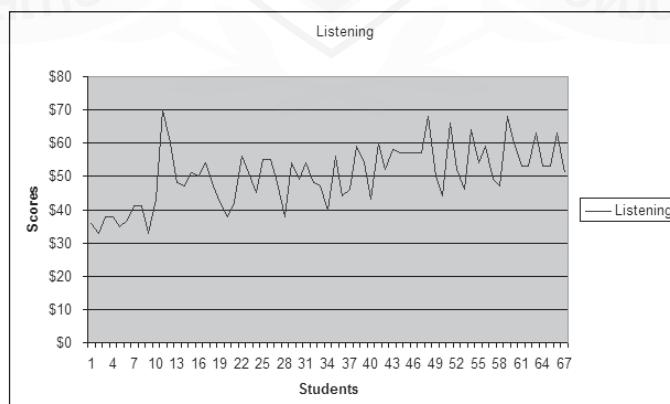


Figure B Listening

The listening tool (*Pick Me Up*) consisted of eight formal tests with one total score of 80. A score of 40 points correct was passing. 58 students (86.56%) scored  $\geq 40$  (50% or more), showing a good level of listening comprehension. This revealed that the majority of the participants understood the contents and answered the questions satisfactorily. This is matched to question 11 on the questionnaire in that participants (42.5% (34) of all participants) paid close attention to pronunciation, stressing, and vocabulary when listening. And 41.25% of the participants (33) preferred jotting down key

words while listening as well.

In 1987, Richards explained that listeners generally focus on prepositions when expressing and making use of knowledge to decode the meaning and use the knowledge of syntax (dividing clusters) together with grammatical skills in the target language and “real world knowledge” to construct their own comprehension. Yet, both syntax and grammatical skills are complicated for some listeners. Hence, listeners may apply the knowledge of the real world as a “bypass” to help them understand incoming discourse (p. 162).

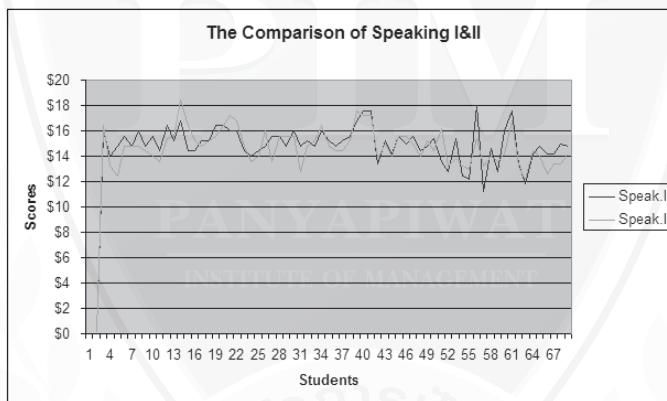


Figure C The Comparison of Speaking I & II

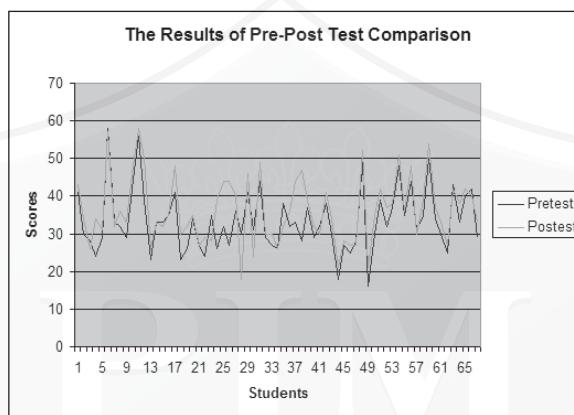
The speaking test (*Speak It Out*) I and II each total score was 20. A score of 15 (75%) was passing. On speaking test I, 34 (50.75%) students scored  $\geq 15$  (75% or more). On speaking test II, 29 students scored  $\geq 15$  for a percent of 43.28%. A comparison between test I and test II of each student showed that 5 students' scores lower than 15, for a percentage of -7.46%. Interestingly, a few participants showed small progress in 2-3 scores—the participants at 12<sup>th</sup>,

24<sup>th</sup>, and 49<sup>th</sup>. 16.4% difference between these two groups can be analyzed in that the gap of speaking competency is significant but reveals the readiness of participants to improve their speeches. Considering the categories of speaking, the topics were general and of wide choice for the participants. Also these topics were relevant to their interests. This would give more self-confidence for the participants when they spoke with opportunity and freedom to use the second

language in an open-ended setting...to elicit the greatest amount of speech production" (Weyers, 1999: 342).

As Gannaway (2011) mentioned in the interview, Scarcella (1987) also suggested that the possible activity that promotes social interaction of language learners is through

"social-drama" (student-centered). It may help the learners to develop "vocabulary, grammar, discourse strategies, and strategies for social interaction, to promote cultural understanding, and to elicit oral production" (p. 208-9) and "to emancipate the language barrier," besides learning the language in regular classrooms.



**Figure D** The Results of Pre-Post Test Comparison

The pretest and post test consisted of identical 64 items. A score of 32 (50%) correct was passing. On the pretest, 37 (55.22%) students scored  $\geq 32$  (50% or more). On the post test, 47 students scored  $\geq 32$  for a percent of 70.15%. A comparison between pretest and post test showed a gain of 10 students passing, for a percent gain of 14.93%. This percentage implies that most participants comprehend and know how to apply the skills they have practiced in pronunciation, stressing, and listening comprehension into the post test.

Similar to these participants' language improvement, the graph displays the 24<sup>th</sup>-27<sup>th</sup> and 37<sup>th</sup>-38<sup>th</sup> participants' large scores of nine to fourteen scores improvement on the post

test (14-20%). 7.5% of participants showed elevation of language competency. Statistically, these scores reveal that the tools helped the participants improve their language competency. These participants were exposed to English when they were younger than seven years old, focusing on all English skills and socializing with native English speakers, according to the questionnaire. The result confirms that in this group the participants' language background was built properly, including their interests in the English language field.

Unfortunately, there were two (the 28<sup>th</sup> and 30<sup>th</sup>) participants, (around 3% of 67 participants) who had decreased scores at eight to twelve scores (10.9% and 18.75%) respectively on the

post test. This signifies that the two participants may need extra hours of consistent exposure to the English language.

## Conclusion

The four scaffolding tools played some significant roles in these participants' learning progress. Several factors: "Practice, time, and environment settings" (Kwai, 2011; Gannaway, 2011) may have contributed to the results found in this study. New vocabulary caused the participants struggled new vocabulary in listening, in terms of comprehension. In regular language classrooms, instructors must provide a lecture based on the strategies of word guessing and based on context to the learners.

As a consequence, this research specifically responded to the objectives in discovering the students' competencies, refreshing knowledge and improving the students' skills, and searching for effective methods of teaching the second language learners:

1. The scaffolding tools helped find individual's target language ingenuity and pinpointed precise levels of the skills: syllabic units, pronunciation, stressing, listening comprehension, and speaking that the students primarily need in order to enhance their language learning reaching individual ultimate goals.

2. The scaffolding tools allowed the students to revive/practice/improve how to distinguish syllabic sounds, word pronunciation, and stressing through vocabulary to explore the main contents in listening practices and utterances.

3. The scaffolding tools were creative

methods to rectify such skills barriers, even though it takes times to cultivate and improve. The results elicit earning progress of the students. Hence, the students enable to apply the skills to deal with a bewilderment of pragmatic, phonetics, and semantics in complicated academic contents at a higher level of language competency.

In the light of a second language learning progress, educators have to realize the needs of learners as a whole and endeavor to help them ameliorate their English competency by creating related programs and learning environments (immersion) which are "feasible, cost-effective or context-appropriate learning is possible in most L2 teaching/learning situations" (Arndt, Harvey & Nuttal, 2000: 62). These key elements are, for example, native English speakers (native English teachers and peers), an English-speaking environment, and facilities accessing the target language.

In the interviews with American educators, both Kwai and Gannaway agreed on the value of the immersion setting. Kwai saw it as an "English Zone, International Campus, or International Building" where everything is in an English environment that would help second language learners to acquire "enunciation of pronunciation that is actually very native, very local to English." On the other hand, Gannaway focused mainly on the instructional aspect. She believed that immersion is the key to helping students' language improvement, especially when it is implemented through regular classroom teaching—the target language

used in the instruction. However, Vogel (2009) concentrated on low-English-competency students, insisting that there must be moments when the students can use their first language to assist their target language learning—immersion with some usage of a first language in clarifying in the learning process.

For further research, it would be interesting to concentrate on an immersion setting in our institution. The institution may consider positive outcomes (and also risk factors) which can contribute to and enhance the effective domain in language teaching through immersion education.

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## 基于自然语料的泰国学生汉语“了”字句习得跟踪研究

### A LONGITUDINAL STUDY ON ACQUISITION OF “LE” CONSTRUCTION OF THAI STUDENTS BASED ON NATURALISTIC DATA

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#### 摘要

基于同一组泰国大学生在各年级时的作文语料,我们考察与探讨了泰国大学生汉语“了”与“了”字句的习得情况。研究结果发现:泰国大学生“了”字句使用频率较高,但总体习得效果并不理想,偏误率随着学时等级的提高而略微上升。泰国大学生习得“了”字句时,使用频率和偏误率最高的句式都是“动+了1+宾”,主要的偏误类型为“了”的冗余与错位偏误。在习得顺序方面,我们发现泰国大学生先习得“了2”,各句式的习得顺序为: IV>VI>V>II>III>I。最后,我们建议先教学句式IV、VI、V,然后教学句式II,接着教学句式I,最后教学句式III。

**关键词:** 泰国学生,“了”字句,偏误分析,习得顺序,教学建议

#### Abstract

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Based on the same group of Thai university students' compositions at each grade. The study investigates and analyzes the acquisition of “le” and “le” constructions by Thai university students. The study found that the “le” constructions frequency of use is quite high, but the effect of the acquisition of “le” constructions is not ideal, the rate of errors of “le” constructions slightly increase with the grade raise. The sentence pattern “V+ le1 +O” of the frequency of use and rate of errors is highest when Thai university students learn the “le” constructions. The main error types is addition and sequential of “le” . On the acquisition of “le” and “le” constructions, we found that Thai university students first acquire “le2” and their acquisition orders of the “le” constructions can roughly be expressed as: IV>VI>V>II>III>I. Finally, we suggest first teach the sentence pattern “IV”, “VI” and “V”, then teach the sentence pattern “II”, and then teach the sentence pattern “I”, finally teach the sentence pattern “III”.

**Keywords:** Thai students, “le” constructions, error analysis, acquisition orders, teaching suggestions

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## 引言

在现代汉语中,“了”是一个使用频率极高的虚词。又因其自身的复杂性,“了”一直是对外汉语教学中的重点与难点,长期备受学界关注。在“了”的国别化习得研究方面,目前针对母语为英语、俄语、越南语、日语、韩语的研究取得了不少成果,如:孙德坤(1993)、李大忠(1996)、赵立江(1997)、杨素英&黄月圆&孙德金(1999)、王媚&张艳荣(2007)、肖任飞(2010)、玄美兰(2011)、王艺文(2015)等。据中国知网检索,现专门针对泰国学生的“了”的习得研究却不多,主要有Sasarux Petchedchoo(2004, 2005)、刘敏&陈晨(2012)等,且这些研究中前者主要以从语法、语义和语用方面对“了”的考察之本体研究为主,基于问卷调查之习得分析为辅;后者是基于HSK动态语料库的泰国留学生习得“了”的偏误分析。可见,目前针对泰国学生特别是泰国本土学生汉语“了”字句之习得缺乏藉自然语料的系统性分析,还有待于做进一步的深入细致的研究。

施家炜(2002:34)认为“对个别或若干被试进行长时间的跟踪研究,其结论比较有说服力”。加之我们在实际汉语教学中发现泰国学生习得“了”之偏误明显存在于各阶段学生的习作中,且呈现出一定的规律性。故本文拟以泰国高校中汉语办学规模最大的皇太后大学为例,基于该校汉语师范专业同一组学生在各年级时的作文语料,藉以偏误分析理论、中介语理论与比较法来考察泰国大学生汉语“了”字句的习得状况及发展的规律与特点,并运用正确使用相对频率法(relative frequency method)和蕴涵量表法(implicational scaling)来推导“了”字句各句式的习得顺序,进而提出相应的教学分级,以期为泰国本土汉语大学生有关“了”的教学提供有针对性的参考。

## 1. 语料来源及分类标准

本研究的语料来自皇太后大学汉学院汉语师范专业2013级80名学生分别在二、三、四年级上学期时的期中期末考试作文,共计约14.8万字。之所以选择80名且均为各年级上学期,是因为四年级上学期时该届学生只剩下80人学习四年级的《汉语写作技巧》课,故以此为据再从其二三年级上学期考试试卷中抽取这80名学生的考卷作文,已达到对象与时间间隔一致及整体跟踪研究之目的。从语料字符数来看,二、三、四年级语料分别约为3.1、5.4、6.3万字。出现这样的差异主要是由于各阶段要求书写字数不同引起的(二、三、四年级分别要求书写180、250、300字以上)。从作文文体来看,二年级的作文包括了记叙文和应用文,三年级作文全部为记叙文,四年级的作文包括了应用文、记叙文和议论文。在人工检索与收集处理语料时,我们将含有“为了、了(lǎo)、临了、对了(作动词用时)”等词语的语句扣除在外,不作为有效语料。同时,我们按照二年级上学期为初级、三年级上学期为中级、四年级上学期为高级的程度分级标准将这些语料相应归为初、中、高级学生的自然语料。

关于现代汉语“了”的分类,学者们分别从位置和功能的角度将“了”二分甚至多分,如:吕叔湘(1980)、马希文(1983)、徐家祯(1988)、金立鑫(1998)等。依其功能来看,吕叔湘(1980)在《现代汉语八百词》中指出,“了”有两个。“了<sub>1</sub>”用在动词后,主要表示动作的完成。“了<sub>2</sub>”用在句末,主要肯定事态出现了变化或即将出现变化,有成句的作用。刘月华(2001)在《实用现代汉语语法》中也将“了”二分,即用在动词后的为动态助词和用在句末的为语气助词。主张二分的学者还有黎锦熙(1924)、王力(1944)、Chao(1968)、朱德熙(1982)等。他们都同意将“了”分成表示完成的时体助词和表示语气的语气助词。李敏(2012)

在纵观了“了”的研究现状后指出,以上关于“了”的划分得到学界的普遍认可,许多与“了”有关的研究都是在这一基础上进行的。吕叔湘(1980)和朱德熙(1982)进一步指出,用在句末的“了”除了表示情况有变化或即将出现变化外,有时还表示动作完成且情况有改变,吕叔湘(1980)将这个“了”标示为“了<sub>1+2</sub>”。我们赞同并将采用吕叔湘(1980)等关于将“了”二分的分类标准的观点,但“了<sub>1+2</sub>”是一个学术上纠缠不清的问题,作为教学语法是应该回避的(刘勋宁,1990)。因此,基于对外汉语教学语法的角度和鉴于下文对研究对象所用基础汉语教材考察,我们从位置的角度将“了<sub>1+2</sub>”这种情况仍归入句尾“了”。也就是说,本文将“了”分为两类,即词尾“了<sub>1</sub>”和句尾“了<sub>2</sub>”。另外,关于“了”字句的分类情况,吕叔湘(1980)根据“了”在句法上的搭配,把“了”字句分成以下六大类:动+了<sub>1</sub>+宾、动+宾+了<sub>2</sub>、动+了<sub>1</sub>+宾+了<sub>2</sub>、动+了(不带宾语)、形+了、名词/数量词+了<sub>2</sub>。鉴于下文对作文语料情况的考察,本研究将采用吕叔湘先生的关于“了”字句分类标准来对所得作文语料进行分类处理与统计。结合我们关于“了”的分类标准,“了”字句的具体分类如下(以下例句均来自吕叔湘(1980:351-356)):

#### 句式I: 动+了<sub>1</sub>+宾

如: 我已经问了老汪。/我买了三张票。/这个月只晴了三天。

#### 句式II: 动+宾+了<sub>2</sub>

如: 小明也喜欢跳舞了。/他同意我去了。/你该回

家了。

#### 句式III: 动+了<sub>1</sub>+宾+了<sub>2</sub>

如: 我已经买了车票了。/我教了二十年书了。/这孩子又高了一寸了。

#### 句式IV: 动+了<sub>1</sub>/了<sub>2</sub>

如: 我听了很高兴。/这本书借出去了。/这道题我会做了。

#### 句式V: 形+了<sub>2</sub>

如: 这地方比以前热闹多了。/这双鞋太小了。/头发快全白了。

#### 句式VI: 名词/数量词+了<sub>2</sub>

如: 中学生了,还这么淘气?/半个月了,还没回来信。

## 2.“了”及“了”字句的使用情况

经过考查与辨识,我们在约14.8万字的学生作文语料中获得1600例有效的自然语料,其中“了”字句的正确用例966例,偏误用例634例。在自然语料中,来自初、中、高级学生的语料分别占371例、665例、564例,使用率依次为1.197%、1.232%、0.895%,远高于汉语母语者“了”的使用率(0.651%)(陈春燕,2011)。这表明泰国学生“了”字使用的回避现象并不明显。导致高级阶段学生语料字符数最大而“了”字句出现率最低的原因与其语料来源主要为议论文关系密切。因为“了”字叙述性语篇中的出现频率远远高于其他类型的文章(陈楚芬,2005;屈承熹,2006等)。“了”及“了”字句的具体使用与分布状况如下:

表1 自然语料中泰国学生“了”字句的总体分布情况

	初级	中级	高级	合计
总例数	371	665	564	1600
偏误用例数	137	251	251	634
偏误率	36.93%	37.74%	44.5%	39.63%

从表 1 可知, 泰国学生使用“了”字句的总体偏误率为 39.63%。这说明泰国学生习得“了”字句的情况并不理想, 远低于 Brown (1973) 90% 和施家炜 (1998) 80% 的准确率之习得成功的标准。这说明“了”字句对泰国学生来说是困难度高的语法点。同时, 我们还发现, 随着学生学时等级程度的提高, 学生习得“了”字句的总体偏误率却越来越高, 学生学时等级与“了”字句的习得效果成反比。这似乎不符合语言学习的自然规律。我们认为出现这种现象的原因主要是因为二年级学生刚从汉语基础课学完“了”字句并且正在学习汉语基础课, 所以对“了”字句这一语法知识的使用规则等还比较熟悉, 而三年级已经不再学习汉语基础课了, 转向学习文化课, 该语法点相关知识遗忘现象严重, 四年级更是如此。这也是我们

在跟学生交谈时得到的回答。其实, 这种现象符合 Rumelhart & McClellan (1986) 和 Bowerman (1982) 关于“U-型学习效应 (U-shaped learning)”三个阶段即机械学习 (rote learning)、泛化 (over-generalization)、恢复 (recovery) 机制的论述。只是我们的学生虽然到了四年级, 但由于学生汉语水平还不够高, 与三年级的差异也并不明显, 对重难点语法知识的把握仍处于第二阶段且遗忘程度更甚, 当然会犯更多错误。王建勤 (1997) 在谈论“不”“没”否定结构习得的消长过程时也有类似论述。他指出, 习得发展的水平不是一成不变的, 而是有消有长。他进一步将习得过程分为三个阶段, 即发生期、高涨期、稳定期。而在升入稳定期之前, 一般都会经历目的语规则泛化这一特定时期。这一时期的滞后会直接影响到习得的速度。

表 2 各学时等级上“了”字句各句式偏误分布情况

等级 句式	初级			中级			高级			总例数	平均偏误 率
	总例	误例	比率	总例	误例	比率	总例	误例	比率		
I	110	42	38.2%	231	101	43.7%	163	104	63.8%	504	48.6%
II	100	44	44%	128	70	54.7%	172	68	39.5%	400	46.1%
III	7	4	57.1%	27	9	33.3%	5	2	40%	39	43.5%
IV	119	33	27.7%	183	52	28.4%	166	55	33.1%	468	29.7%
V	26	10	38.5%	83	15	18.1%	51	15	29.4%	160	28.7%
VI	9	3	33.3%	13	4	30.8%	7	2	28.6%	29	30.9%

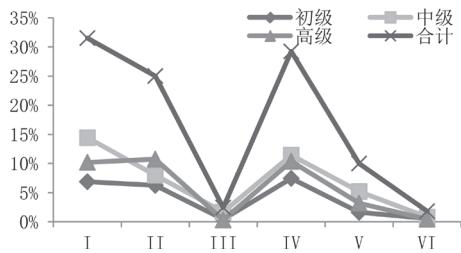


图 1 各学时等级各句式的使用率情况

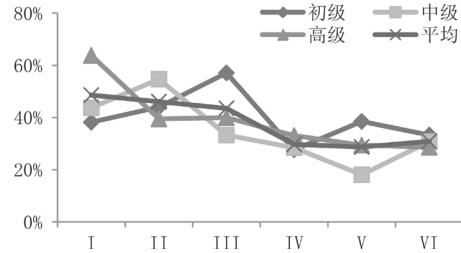


图 2 各学时等级各句式的偏误率情况

据表 2 可知, 总体上泰国学生最常使用的是句式 I “动+了<sub>1</sub>+宾”, 然后依次是句式 IV、II、V、III、VI。其中, 学生较少使用的句式是句式 III “动+了<sub>1</sub>宾+了<sub>2</sub>” 和句式VI “名词/数量词+了<sub>2</sub>”。这一现象与 Teng (1999) 针对母语为英语的汉语学习者 “了” 字句各句式的使用率排序情况非常相似。而与汉语母语者 “了” 字句各句式的使用率排序情况 (陈春燕, 2011) 也基本一致。只是泰国学生 “了<sub>2</sub>” 句总体使用率明显高于后两者, 这与学生直接简单地将 “了” 与泰语中的高频语气词 “ແລ້ວ” 对应有关 (陈楚芬, 2004)。再由图1来看, 泰国学生在各学时等级使用 “了” 字句各句式的总趋势基本趋于一致。也就是说, 泰国学生在各阶段对于 “了” 字句各句式的使用分布情况大致相同。我们进一步考察发现, 泰国学生在使用句式I时, 动词性成分主要包括了三种形式: V+了<sub>1</sub>+0、V+结果补语+了<sub>1</sub>+0、V+趋向补语+了<sub>1</sub>+0。其中, 在504例句式I中, “V+了<sub>1</sub>+0” 占绝大多数 (439例), “V+结果补语+了<sub>1</sub>+0” 和 “V+趋向补语+了<sub>1</sub>+0” 分别占61例 (补语以 “到、上、完、见” 为主)、4例。需要说明的是, “V+了<sub>1</sub>+0” 结构也包含了极少量的 “形+了<sub>1</sub>+0” (如: 我最近胖了三公斤) 结构。再就宾语成分来看, 句式I中一般名词性宾语占绝大多数, 同时也有少量的数量宾语、双宾语。其实, 学生使用句式II和句式III时与使用句式I的情况基本一致, 即动词性成分以 “光杆” 动词为主, 动词后带结果补语与趋向补语的情况较少, 而宾语也以一般名词性宾语为主。从平均偏误率来看, 句式I的偏误率 (48.6%) 最高, 其次为句式II (46.1%), 然后依次为句式III、VI、IV、V。从各学时等级与各句式

的偏误率来看 (见图2), 随着学生学时等级的提高, 句式I、句式IV的偏误率呈一直上升趋势, 句式VI的偏误率呈一直下降趋势, 句式II则呈先升后降趋势, 其他两类句式都呈先降后升趋势。也就是说, 在初级阶段偏误率相对最高的句式为句式III、V、VI, 在中级阶段偏误率相对最高的句式为句式II, 在高级阶段偏误率相对最高的句式包括句式I、IV。由此可知, 泰国学生在各学时等级上习得 “了” 字句的难点差异明显。在各学时等级上, 除了句式IV、VI在各阶段的偏误率基本一致以外, 其他句式在不同学时阶段偏误率差距明显。同时, 我们还详细考察了 “了<sub>1</sub>” 句和 “了<sub>2</sub>” 句的分布情况。结果显示, “了<sub>1</sub>” 句、 “了<sub>2</sub>” 句分别占615例、985例, “了<sub>2</sub>” 句总体使用频率明显高于 “了<sub>1</sub>” 句。从总体偏误数量来看, “了<sub>2</sub>” 句的偏误数量 (338 例) 高于 “了<sub>1</sub>” 句 (281 例)。按各学时等级来看, “了<sub>1</sub>” 句的偏误率在初、中、高阶段都高于 “了<sub>2</sub>” 句的偏误率, 且差距越来越显著。“了<sub>1</sub>” 句偏误率随着学生学时等级的提高而呈一直上升的趋势, 且上升幅度明显, “了<sub>2</sub>” 句的偏误率随着学生学时等级的提高而出现了先降后升的发展过程, 但变化幅度极小。结合总体平均偏误率来看, “了<sub>1</sub>” 句的总体平均偏误率 (45.69%) 明显高于 “了<sub>2</sub>” 句的总体平均偏误率 (34.3%)。这符合邓守信 (2009) 关于语法点困难度的定义标准, 即困难度低的语法点具有使用频率高、病句出现频率低的特征。这说明, “了<sub>1</sub>” 句是泰国学生的习得难点, 泰国学生不易掌握, 其难度明显大于 “了<sub>2</sub>” 句, 但 “了<sub>2</sub>” 句偏误数量不少, 也不容忽视。

表 3 各学时等级上“了<sub>1</sub>”和“了<sub>2</sub>”的偏误用例分布情况

	“了 <sub>1</sub> ”的偏误		“了 <sub>2</sub> ”的偏误		合计	
	例数	比率	例数	比率	例数	比率
初级	28	22.05%	43	17.62%	71	19.14%
中级	72	25.09%	52	13.76%	124	18.65%
高级	79	39.3%	62	17.08%	141	25%
合计	179	29.11%	157	15.94%	336	21%

从表 3 来看, 泰国学生习得“了”的总体偏误率为 21%, 且随着学生学时等级的提高, 学生习得“了”的总体偏误率呈现为先降后升的发展趋势。刘敏 & 陈晨 (2012) 基于北京语言大学 HSK 动态语料考察了泰国留学生汉语“了”的习得情况后指出, 学生的汉语水平越高, 对于“了”的掌握程度和熟练程度越好。可见, 本研究出现的这种现象与刘敏&陈晨 (2012) 针对泰国留学生的相关研究结论存在不一致之处。具体来看, “了<sub>1</sub>”和“了<sub>2</sub>”的总偏误用例分别为 179 例、157 例, “了<sub>1</sub>”的总体偏误率 (29.11%) 明显高于“了<sub>2</sub>”(15.94%)。这说明对于泰国本土学生来说, “了<sub>1</sub>”的习得难度大于“了<sub>2</sub>”, 这与刘敏&陈晨 (2012) 研究结论一致, 与其他针对外国学生 (孙德坤, 1993; Teng, 1999 等) 关于“了<sub>1</sub>”和“了<sub>2</sub>”的习得难度的结论也相同。这也说明, 泰国本土学生对于“了<sub>1</sub>”和“了<sub>2</sub>”的习得与在中泰国留学生及其他外国学生具有共性。从学生的学时等级来看, “了<sub>1</sub>”的偏误率在初、中、

高阶段都高于“了<sub>2</sub>”的偏误率, 且差距越来越显著。“了<sub>1</sub>”偏误率随着学生学时等级的提高也呈一直上升的趋势, 且上升幅度明显, “了<sub>2</sub>”的偏误率随着学生学时等级的提高也出现了先降后升的发展过程, 但变化幅度较小。可见, “了<sub>1</sub>”和“了<sub>2</sub>”的偏误分布情况与“了<sub>1</sub>”句和“了<sub>2</sub>”句的偏误分布情况具有明显的一致性。

### 3. “了”字句的偏误类型与分析

Dulay, Burt & Krashen (1982) 从语法形式上把第二语言习得中的偏误类型分为遗漏 (omission)、冗余 (addition)、混淆 (substitution)、错位 (sequential) 四大类。Carl (1998、2001) 把杂糅 (Blends) 列为第五种类型。本文借鉴前人偏误类型的分类标准, 同时结合学生的实际偏误, 将泰国学生使用汉语“了”字句的偏误主要分为两大类: 一类是“了”的偏误, 一类是“了”字句的其他偏误。

### 3.1 “了” 的偏误

表 4 各学时等级上“了”的偏误类型分布情况

	冗余		错位		混淆		
	了1	了2	了1	了2	“了1”与动词后补语的混淆	“了1”与其他语法结构混淆	“了2”与其他语法结构混淆
初级	22	31	3	11	3	0	1
中级	57	30	7	21	5	3	1
高级	61	54	10	8	3	4	1
合计	140	115	20	40	11	7	3
比率	41.67%	34.23%	5.95%	11.9%	3.27%	2.08%	0.89%

从表 4 可知, 泰国学生使用“了”字句时“了”的偏误共有 336 例, 占“了”字句总偏误例数的 52.99%。其中此类偏误中的最主要的偏误类型为冗余类偏误, 占该类偏误的 75.89%。其次是错位类偏误, 占 17.86%。混淆类偏误只占 6.25%。就各学时等级来看, 冗余类偏误在各学时等级上所占比率都最高且随着学生学时等级的提高而增加, 错位类偏误在中级阶段所占比率最高, 混淆类偏误在中高级阶段所占比率基本一致且最高。具体如下:

#### (1) “了<sub>1</sub>”、“了<sub>2</sub>”的冗余

\*①我希望在这里实现了自己的理想。

\*②他天天都在饭店等了我。

\*③我听到了他这样说, 我就放弃了。

\*④现在我知道了我的理想就是当一个汉语老师。

\*⑤时间过得真快了, 下个星期就要放假了。

\*⑥从小我就很喜欢跟妈妈聊天了。

李大忠 (1996) 指出, 当谓语动词前有表示多次性、反复性或经常性的词语修饰时, 谓语动词后不能有动态助词“了”。因为“多次性”与“了<sub>1</sub>”表示动作完成的动态意义是有矛盾的。同时, 他还

指出, 按汉语的规则, 带宾语小句的谓语动词后一般不应当有动态助词“了”。王媚&张艳荣 (2007) 也提到, 如果语义表达的重点放在由动词或主谓短语等担任的谓词性宾语, 而不强调谓语动词的完成, 则谓语动词后边一般不加“了<sub>1</sub>”。同时他们还指出, 表示动作完成并不一定要用“了<sub>1</sub>”, 结果补语有时也可以表示动作完成。赵立江 (1997) 也观察到学生在过去发生的事件中尽可能使用“了”而出现冗余偏误的现象。以上误例中, 前四例为“了<sub>1</sub>”的冗余, 依次包括了不表示动作完成而用“了<sub>1</sub>”、动词谓语前有多次性或经常性的词语 (如: 天天、年年、每天、每次、晚晚、一般等) 而用“了<sub>1</sub>”、动词后有表示完成的结果补语 (如: 遇到、听到、回到、听见、看见、遇上等) 而用“了<sub>1</sub>”、谓语动词 (如: 知道、听说、发现、决定等) 后带宾语小句而用“了<sub>1</sub>”四种情况。在“了<sub>1</sub>”所有的冗余类偏误语料 (140 例) 中, 例①类偏误明显最多 (99 例), 其次是例③类偏误 (20 例), 例②类偏误 (15 例), 例④类偏误最少 (6例)。例⑤-⑥为“了<sub>2</sub>”的冗余, 其中例⑤的偏误为学习者将表示“叙述段落”的“了<sub>2</sub>”误置于语段中间, 造成句子整体不连贯。汤廷池 (1999) 指出, “了<sub>2</sub>”常用于主句,

而不同于从句中。陈俊光 (2008) 也认为“了<sub>2</sub>”具有表示“叙述段落”的篇章功能，应置于主句中。例⑤的偏误就在于将“了<sub>2</sub>”置于从句中而造成语病。例⑥并不表示状态的变化，句尾不需要加“了<sub>2</sub>”。在“了<sub>2</sub>”所有的冗余类偏误语料 (115 例) 中，例⑤类偏误所占比例相对较多 (59 例)，例⑥类偏误所占比例也不少 (56 例)。

### (2) “了”的错位

“了”的错位的偏误，实际上属于混用句式I和句式II的偏误。这类偏误包括了应该用“了<sub>1</sub>”而误用成“了<sub>2</sub>”、应该用“了<sub>2</sub>”而误用成“了<sub>1</sub>”两种情况，其中以前一种情况居多。如：

- \*①来皇太后大学以后，我病三次了。
- \*②她教我了半个月，我的汉语。
- \*③如果你坐飞机去，一个小时就到了曼谷。
- \*④我听说老师生了孩子。

关于句式I和句式II的区别，郭继懋&郑天刚 (2002) 指出，如果说话人想详细说明这个情况 (包括其中的过程与事物)，他就倾向于使用句式I；而当说话人只想概括地说明这个情状，他就倾向于不使用句式I，或使用句式II。也就是说，“V+了<sub>1</sub>+0”表示明确、具体的动作，而“V+0+了<sub>2</sub>”只是对动词表示的动作情况进行比较概括笼统的说明。从原语料来看，例①-②的本意是想详细说明动作的数量情况，应该用“V+了<sub>1</sub>+0”结构，而学生误用成了“V+0+了<sub>2</sub>”结构。所以例①-②中的偏误处应该改为：我病了三次、她教了我半个月。例③-④的偏误情况刚好相反，文章原意只想对动作情况概括地说明，并不为了表示明确具体的动作，所以应该用“V+0+了<sub>2</sub>”结构。因此例③-④的偏误处应改为：一个小时就到曼谷了、我听说老师生孩子了。

### (3) “了<sub>1</sub>”与动词后补语的混淆

经考察，只在句式I中出现了这类偏误，共11例，包括了“了<sub>1</sub>”与作结果补语的“到 (6 例)、会

(1例)、完 (2 例) 和程度补语的“得 (2 例)”的混淆，如：

- \*①说了她的名字，我相信每个人都认识她。
- \*②我没想到在这里会遇了我的好朋友。
- \*③我学了游泳，就不怕下大雨有洪水了。
- \*④我很想大家，考了期末考试我就回家。
- \*⑤时间过了很快，是不是啊？老师。

前两例的“了<sub>1</sub>”都应改为“到”，后三例的“了<sub>1</sub>”应该依次改为“会、完、得”。

### (4) “了”与其他语法结构混淆

赵立江 (1997) 指出，与“了”相关的语法结构有“是……的”结构、动态助词“着、过”、进行态“正在……呢”及结果补语和程度补语。外国学生在使用“了”时也会与这些语法结构混淆。泰国学生的这类偏误表现在用“了<sub>1</sub>”代替“是……的”结构 (5例)、“了<sub>2</sub>”代替“的”字结构 (1例)、用“了<sub>1</sub>”代替动态助词“过” (3例)、用“对……了”代替“对……来说” (1例)、与结果补语和程度补语混淆 (11例)。其中，与结果补语和程度补语混淆类偏误在 (3) 中已经讨论过，在此不再赘述。其他类偏误的语料如下：

- \*①小王生病了，我们在房间里给他准备了生日晚会。
- \*②我知道我的想法是对了。
- \*③对我了，我的想法却跟他们不一样。
- \*④很有名的人也遇到了困难。
- \*⑤我的生活中遇到了成功的人和失败的人，他们都很努力。

“是……的”结构是强调过去发生的时间、地点、方式等，“是”常常可以省略。例①是为了强调动作发生的地点，应该改为“我们在房间里给他准备的生日晚会。”例②实为“形容词+的”组成“的”字短语作谓语，应改为“我知道我的想法是对的。”刘月华等 (2001) 指出，动态助词“了”表示动作发生、出现 (包括完成)，“过”表示曾经发

生, 在意义上相近之处。但是它们的区别在于前者表示的动作或状态到说话时可能已经不存在也可能仍然存在, 而后者只表示动作曾经发生或状态曾经存在, 但现在动作已经不再进行或状态不再存在。例③应改为“对我来说”, 汉语中没有“对我了”这种表达方式。而从例④-⑤所要表达的语义来看, 句中的“了”都应改成“过”。

### 3.2 “了”字句的其他偏误

杨寄洲(2000)把助词“了”作为分界线, 将初级阶段教学语法项目分成“了”前语法项目和“了”后语法项目两部分。他指出, “了”前语法与“了”后语法环环相扣, 相互关联, 前后制约。也就是说, 学生“了”字句习得的好坏跟“了”前语法的习得效果密切相关。也因此, 学生在习得“了”字句时, 除了“了”的冗余、错位和混淆偏误外, 还出现了“了”字句中动词混淆、宾语混淆、宾语的修饰成分的遗漏或错位、动词后补语的混淆、句内其他部分遗漏、冗余、错位、杂糅等偏误。这类偏误用例也不少, 占“了”字句偏误的47%左右。其中以句内除“了”外的杂糅、错位、冗余偏误为主。

\*①无论通过了多少事情, 我就是我, 小狗就是小狗。

\*②昨天我们一起去见了他的家庭。

\*③虽然看了书很多次, 但是我还是记不住。

\*④有人给了一些菜, 又给了水喝。

\*⑤我和她没有见面了十多年。

\*⑥现在是十点了, 但是我还是觉得冷。

\*⑦她说着说着就哭出来了。

\*⑧听到她那样说, 我就生了气起来。

在以上八例中, 例①属于“了”字句动词混淆偏误, 应改为“经历”。例②属于“了”字句宾语混淆偏误, 应改为“家人”。例③属于宾语的修饰成分的错位, 应分别改为“虽然看了很多次书”。例④属于宾语修饰成分的遗漏, 应改为“又给了”。例⑤属于句内其他部分的错位偏误,

应改为“我和她十多年没见面了”。例⑥属于句内成分的冗余, 应去掉“是”。例⑦属于动词后补语的混淆, 应改为“她说着说着就起来了”。例⑧属于句内成分杂糅的偏误, 应改为“我就生气了”或“我就生起气来。”

综上所述, 泰国学生在使用汉语“了”字句时的主要偏误是“了”的偏误, 特别是“了”的冗余类偏误。除“了”的偏误外, “了”字句的其他偏误, 尤其是“了”字句中其他相关成分的杂糅、冗余和错位偏误也不容忽视。

### 4. “了”字句的习得顺序与教学分级建议

研究第二语言学习者对某一语法项目的习得顺序, 可以帮助我们确定语法点的难易等级, 从而指导与提高教与学的效率。下面我们将主要采用基于句式使用率高低的正确使用相对频率法(relative frequency method)和基于句式正确率高低的蕴涵量表法(implicational scaling)来探讨泰国学生汉语“了”字句的习得顺序, 进而提出相关的教学分级建议。

#### 4.1 正确使用相对频率法

施家炜(1998: 79)指出: “正确使用相对频率法是为解决语料分布不均, 且有些句式样本容量小, 无法进行等量随机抽样的问题, 从而使数据具有可比性。该算法可建立在如下假设上: 在语料库出现的语料中, 句式的正确使用频次或正确使用相对频率越高, 就越容易, 越早习得。方法是: 各句式在各学时等级上的正确使用相对频率=各句式在各学时等级上的正确使用频次/某学时等级上句式的出现频次之和。”黄自然&肖奚强(2012)指出, 句式正确使用相对频率计算的是句式在整个语料库中的使用情况, 反映的是句式交际需求的大小。冯丽萍&孙红娟(2010)认为该方法的优势首先在于不再以目的语规范作为参照标准, 而是将语法结构的使用置于学习者的中介语系统中加以

考虑,其次通过频率变化的描写可以揭示语法结构被逐渐习得的过程。根据表2,我们计算出泰国学生习得“了”字句各句式的正确使用相对频率为:I(0.161)、II(0.136)、III(0.015)、IV(0.205)、V(0.074)、VI(0.013)。从正确使用相对频率推导出的泰国学生习得“了”字句的习得顺序为:IV>I>II>V>III>VI。

## 4.2 蕴涵量表法

蕴涵量表 (implicational scaling) 是一种在一系列二分变量中发现等级的研究方法，在语

言习得研究中广泛运用。用蕴涵量表分析语料库语料,既可以寻找语法结构的习得进程,又可以显示不同学习者群体的类型或特征(施家炜,1998)。下面我们用此方法来考察泰国学生“了”字句的习得顺序。具体步骤如下:

(1) 计算出各句式在每一个学时等级上的正确使用频率。计算方法为: 某句式在某学时等级上的正确使用频次 $\div$ 该句式在该学时等级上的出现频次。泰国学生使用“了”字句各句式在各学时等级上的正确使用频率如表5所示。

表 5 “了”字句各句式在各学时等级上的正确使用频率

	I	II	III	IV	V	VI
初级	0.618	0.560	0.429	0.723	0.615	0.667
中级	0.563	0.453	0.667	0.716	0.819	0.692
高级	0.362	0.605	0.600	0.669	0.706	0.713

(2) 由表1已知, 泰国学生习得“了”字句时, 各学时等级的正确率和总正确率都未达到0.7, 因此我们以0.60为标准分界, 表5正确使用率可转换为二分变量(0, 1)。正确使用率 $\geq 0.60$ , 则默认

值为1, 认为该句式在该阶段已经习得; 正确使用率 $<0.60$ , 则默认值为0, 认为该句式在该阶段未被习得。我们把表5中的正确使用率转换为二分变量(0, 1), 并排列成蕴涵量表矩阵, 如表6所示:

表 6 泰国学生“了”字句各句式习得的蕴涵量表矩阵 (以 60% 为标准的二维量表)

		Difficult ← ----- → Easy						
Most ↑     ↓ Least	句式	I	II	III	VI	V	IV	TOTAL
	高级	0	1	1	1	1	1	
	中级	0	0	1	1	1	1	
	初级	1	0	0	1	1	1	
Least	Correct	1	1	2	3	3	3	13
	Errors	2	0	0	0	0	0	2

## (3) 计算蕴涵量表的相关系数指标

①伽特曼再生系数 (Guttman Coefficient of Reproducibility, Crep)

$$\text{Crep} = 1 - \text{偏误数值} \div (\text{类型数目} \times \text{等级数目})$$

$$\text{Crep} = 1 - 2 \div (6 \times 3) = 0.889$$

②最小边缘再生系数 (Minimal Marginal Reproducibility, MMrep)

MMrep = 正确使用数目和  $\div$  (类型数目  $\times$  等级数目)

$$\text{MMrep} = 13 \div (6 \times 3) = 0.722$$

③再生修正百分比指标 (Percent Improvement in Reproducibility)

%Improvement in Reproducibility = Crep - MMrep

$$\% \text{Improvement in Reproducibility} = 0.889 - 0.722 = 0.167$$

④可分级系数 (Coefficient of Scalability, Cscal)

Cscal = %Improvement in Reproducibility  $\div$  (1-MMrep)

$$\text{Cscal} = 0.167 \div (1 - 0.722) = 0.601$$

## (4) 根据蕴涵量表相应系数指标做出的推论

蕴涵量表的伽特曼再生系数 Crep 为 0.889, 表明我们大约有 88% 以上的把握依据学习者在该矩阵中所处等级位置准确地预测其语言表现。蕴涵量表的可分级系数 Cscal 为 0.601, 大于统计学规定的可分系数有效临界值 0.60, 因此本蕴涵量表中的数据确实蕴涵有真正的等级 (难易等级与水平等级), 是有效的、可分级的, 在预测性上具有一定的参考价值。

从表6的蕴涵量表矩阵来看, 泰国学生对于“了”字句各句式的习得情况大致为:

最容易习得的句式是: IV、V、VI;

较容易习得的句式是: III、II;

难习得或未习得的句式是: I

现在我们将根据两种习得顺序推导方法得出的“了”字句的习得顺序放在一起进行比较:

正确使用相对频率推导法所得习得顺序: IV>I>II>V>III>VI。

蕴涵量表法所得习得顺序: IV>V>VI>III>II>I。

通过比较, 我们不难发现, 蕴含量表法得出的习得顺序与正确使用相对频率法得出的习得顺序差异明显, 主要表现在句式VI、V、III的习得顺序发生了前移, 句式I、II的习得顺序发生了后移。其中句式VI的前移和句式I的后移幅度非常大, 而句式V、III分别前移了两个和一个次序, 句式II后移了两个次序。这是因为句式VI的用例虽然在六类“了”字句中最少, 但是该句式在各学时等级上都出现了正确用例, 并且正确使用频率都在 66% 以上且其偏误率从初级到高级一直呈下降趋势, 它的正确使用频率在各学时等级都明显高于句式I、II、III。也因此, 句式VI它在根据正确使用频率得出的蕴涵量表中排序靠前。句式V与句式VI相比, 虽然句式V的使用率和在中级阶段的正确使用频率明显高于句式VI且其总体平均偏误率也低于句式VI, 但句式VI在初高级阶段的正确使用频率都高于句式V, 所以我们认为句式VI的习得顺序应相对靠前。句式III与句式I、II相比, 句式III的习得难度并不低, 虽然学生习得句式III的平均偏误率略低于句式I、II, 但我们发现学生对句式III的使用只停留在机械模仿阶段, 24 例正确用例中意义与结构基本雷同的句子 (即学了+年数+汉语了) 高达 17 例。所以我们认为句式III的习得顺序应相对靠后。

综合上述两种语料统计方法的研究结果, 并结合前面对“了”字句纵向发展情况的考察, 可知泰国学生习得“了”字句大致存在以下的习得顺序:

较早习得的句式为: IV、VI、V

中期习得的句式为: II、III

较晚习得或未习得的句式为: I。

Teng (1999) 以中介语数据库为基础, 探讨了母语为英语的汉语学习者“了”字句的习得情况后得出的习得顺序为: II>IV>VI>V>III>I。由此他提出在教授汉语“了”时, 应先教授“了<sub>2</sub>”, 再教“了<sub>1</sub>”, 最后教授“了<sub>1</sub>”和“了<sub>2</sub>”同时出现的句式。丁崇明 (2012) 在通过问卷调查所得外国留学生“了”字句的习得情况后得出了外国留学生习得“了”字句各句式的难度值, 反映出来的“了”字句各句式从易到难的顺序为: III>V>VI>IV>II>I。将本研究与 Teng (1999)、丁崇明 (2012) 所得结论稍加比较可以看出, 相同之处表现为句式IV、V、VI的习得顺序明显靠前, 而句式I的习得难度最大。相异之处则表现在句式为 II、III 的具体习得次序。可见, 泰国学生与母语为英语的汉语学习者或外国留学生在习得“了”字句时同中有异, 但同大于异。

### 4.3 教学分级建议

在讨论教学分级前, 我们先考察几本权威性的大纲和研究对象所使用的基础汉语教材关于“了”的设置情况。具体如下:

(1) 《汉语水平等级标准和语法等级大纲》(1996: 61–62, 123)

甲级语法大纲: 动作的态

1. 表示完成的动态助词“了”及其否定式。  
2. 表示已经或将要发生变化的语气助词“了”。

丙级语法大纲: 动作的态

1. 形容词+了。  
2. 名/数量词+了。  
3. 句尾“了”(管全句和管属于宾语的主谓词组)。

(2) 《高等学校外国留学生汉语言专业教学大纲》(2002: 34–37)

44. 表示完成的语气助词“了”的动词谓语句

及其否定式。

47. 动作的完成: 动态助词“了”及其否定式。

48. 语气助词“了”: 表示肯定的语气。

79. 表示情况变化的语气助词“了”。

(3) 《国际汉语教学通用课程大纲》(2008: 86, 89–90)

### 三级语法项目表

助词“了”的基本用法: 数量词/名词+了、主语+形容词/动词+了、小句+了、主语+动词+了+数量/动量+ (名)。

### 四级语法项目表

助词“了”的用法: 该+名词短语/动词短语+了、(就/快)要+动词短语+了、能愿动词+动词短语+了、不+动词短语+了、主语+动词+了+名词+就/再+动词短语。

(4) 杨寄洲《汉语教程》(修订本) (2006: 43–44, 149–151, 166–168)

第一册下第26课: 语气助词“了”(1) 用在句尾, 表示肯定的语气。

第一册下第27课: 动作的完成: 动词+了。包括动+了+宾、动+了+宾+了、连动句与“了”、否定式。

第二册上第3课: 语气助词“了”(2) 用在句尾表示变化、“不……了”也表示变化、要/就要/快/快要……了“表示动作即将发生。

由上可知, 三套大纲和学生所用基础汉语教材对“了”字句语法项目的选取和编排情况既有相同之处, 又有差别。相同之处表现在: 语法意义的选择基本相同; 都列出了语气助词“了”与“快、要、就要”等组成的表示动作将要发生的次结构; 都对“了”的否定形式做了要求与介绍; 都在汉语教学的初级阶段就涉及到“了”这一语法点。不同之处表现在: 对助词“了”所属的语法项目归类不一样。前两套大纲都把助词“了”归入“动作的态”这一语法点中, 后一套大纲未明确给助词“了”分类, 教材只是把“了”归入语气助词“了”

和表示动作的完成这一语法点中；各大纲与教材中助词“了”的语法点数目、描写体例、描写方式不一样。根据上面我们对泰国学生“了”字句的习得顺序的探讨，我们会发现我们不能完全按照上述任何一种大纲及学生所用基础汉语教材关于“了”的编排顺序来教授学生，我们应对各大纲与教材作出一定的修订和调整。根据学生“了”字句的使用情况与习得顺序，我们赞 Teng (1999) 提出的在教授汉语“了”时，应先教授“了<sub>2</sub>”，再教“了<sub>1</sub>”，最后教授“了<sub>1</sub>”和“了<sub>2</sub>”同时出现的句式。而在具体编排的时候同时要考虑到泰国学生“了”字句的习得顺序。因此，我们建议先教学句式IV、VI、V及相关次结构，然后教学句式II，接着教学句式I及其次结构，最后教学句式 III。

## 5. 结语

本文基于同一组泰国大学生在各年级时的作文语料，考察与探讨了泰国大学生汉语“了”与“了”字句的使用情况及特点、偏误类型、习得顺序等问题。考察结果发现，泰国大学生“了”字句使用频率较高，回避现象并不明显，但总体习得效果并不理想，各学时等级的偏误率都不低且随着学时等级的提高而偏误率呈现略微上升的趋势。可见，泰国大学生习得“了”及相关句式的偏误问题较为顽固，不容忽视。在各句式的使用方面，泰国大学生“了<sub>2</sub>”句的总体使用频率明显高于

“了<sub>1</sub>”句。而“了”字句各句式的使用频率由高到低依次为：I>IV>II>V>III>VI，且前三者的使用率远远高于后三者，而具体到各学时等级各句式的使用率顺序又存在明显的差异。在各句式的偏误率方面，在各学时阶段泰国大学生使用“了<sub>1</sub>”句的偏误率明显高于“了<sub>2</sub>”句。而总体上“了”字句各句式偏误率从高到低依次为：I>II>III>VI>IV>V，且在各学时阶段“了”字句偏误最高的句式及数量都不相同，呈现出各阶段各有各的习得难点。在使用“了”字句的偏误类型方面，泰国大学生使用“了”字句主要存在两类偏误：“了”的偏误和“了”字句的其他偏误。其中以“了”的偏误为主。“了”的偏误又包括了冗余、误代、混淆三类偏误，冗余类占绝大多数，而“了”字句的其他偏误则显得十分繁杂。在“了”及“了”字句习得顺序探讨方面，我们所得的结论为：泰国大学生习得“了<sub>2</sub>”比习得“了<sub>1</sub>”容易，同时习得汉语“了”字句的顺序大致为：IV>VI>V>II>III>I。这一习得顺序与母语为英语的汉语学习者和在中国的外国汉语留学生同大于异。最后，我们在考察与分析了三套语法等级大纲与学生所用基础汉语教材的基础上对“了”字句的教学提出了这样的教学分级顺序：先教学句式IV、VI、V及相关次结构，然后教学句式II，接着教学句式I及其次结构，最后教学句式 III。

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## THE STUDY OF AN EDO KERNEL AND $M_0$ PARAMETER FOR A SI-SRR<sup>2</sup>

การศึกษาผลกระทบต่อประสิทธิภาพของค่าเคอร์เนลของ EDO และตัวแปร  $M_0$   
ที่มีผลต่อการสร้างคืนภาพความละเอียดสูงยิ่งแบบ SI-SRR<sup>2</sup>

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### Abstract

Because of a run on high spatial resolution images, the fabulous analysis exertions in the field of Digital Image Processing (DSP), especially in single image Super Resolution Reconstruction (SI-SRR) algorithms, have ultimately inflated during this era. Hence, the uncomplicated and rapid SI-SRR algorithms have been dramatically intrigued for applying on commercial digital camera embedded equipment for instance, digital camera, smart phone, CCTV, etc. The SI-SRR based on high-frequency image prediction technique, one of the practical and effective SI-SRR algorithms, is the uncomplicated and powerful algorithm for increasing the image spatial resolution but this algorithm severely hinges upon two main factors:  $M_0$  parameter and the Edge Detection Operator (EDO) kernel. Hence, this paper rigorously enquires into the performance of this SI-SRR algorithm for 14 standard tested images for the proposing of experimentally obtaining the value of two parameters ( $M_0$  parameter and the EDO kernel), which give the highest PSNR under several environments: noiseless, several blurred environments at many blurred variances and several noisy environments at many Gaussian noise power levels.

**Keywords:** SI-SRR (Single Image Super Resolution Reconstruction), Digital Image Reconstruction, High-Frequency Image Prediction

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## บทคัดย่อ

เนื่องจากภาพที่มีความละเอียดสูงยังมีความต้องการในการประยุกต์ใช้งาน ดังนั้นจึงมีการวิจัยเกี่ยวกับการประมวลผลสัญญาณภาพดิจิทัลโดยเฉพาะอย่างยิ่งเกี่ยวกับอัลกอริทึมการสร้างภาพความละเอียดสูงยิ่งที่สร้างขึ้นจากภาพความละเอียดต่ำ (SI-SRR) เพียงภาพเดียวอย่างแพร่หลายในช่วงเวลาหนึ่ง และเนื่องจากอัลกอริทึมการสร้างภาพความละเอียดสูงยิ่งแบบ SI-SRR จะมีความรวดเร็วในการคำนวณสูงและมีความซับซ้อนต่ำ ดังนั้นจึงเหมาะสมสำหรับประยุกต์ใช้งานกับอุปกรณ์ฝังตัวของกล้องดิจิทัลอย่างเช่น กล้องดิจิทัลทั่วไป โทรศัพท์มือถือ กล้องแบบ CCTV เป็นต้น อัลกอริทึมการสร้างภาพความละเอียดสูงยิ่งแบบ SI-SRR ที่กล่าวถึงในบทความนี้จะเป็นอัลกอริทึมที่ใช้เทคนิคการประมาณข้อมูลความถี่สูงของภาพ ถึงแม้ว่าอัลกอริทึมดังกล่าวจะมีประสิทธิภาพสูงและเหมาะสมสำหรับการประยุกต์ใช้งานแต่ประสิทธิภาพของอัลกอริทึมการสร้างภาพความละเอียดสูงยิ่งแบบ SI-SRR แบบนี้จะขึ้นอยู่กับตัวแปรหลักที่ใช้ในการคำนวณจำนวนสองตัวคือ ตัวแปร  $M_0$  และค่าเคอร์เรนลของ EDO ดังนั้นบทความนี้จะนำเสนอผลการศึกษาของอัลกอริทึมการสร้างภาพความละเอียดสูงยิ่งแบบ SI-SRR กับภาพทดสอบจำนวน 14 ภาพเพื่อหาค่าตัวแปร  $M_0$  และค่าเคอร์เรนลของ EDO ที่ทำให้ภาพที่สร้างคืนมีค่า PSNR สูงสุดภายใต้สภาวะแวดล้อมแบบภาพที่ความละเอียดต่ำที่บันทึกได้ไม่มีสัญญาณรบกวน ภาพที่ความละเอียดต่ำที่บันทึกได้ไม่คมชัด และภาพที่ความละเอียดต่ำที่บันทึกได้มีสัญญาณรบกวน

**คำสำคัญ:** การสร้างภาพความละเอียดสูงยิ่งแบบใช้ภาพเดียว (SI-SRR) การประมวลผลสัญญาณภาพดิจิทัล วิธีการประมาณข้อมูลความถี่สูงของภาพ

## Introduction and Related Works

This section presents the related works of a SI-SRR based on high-frequency image prediction for enhancing a spatial resolution (Jeon, Park & Yang, 2006), which was introduced in 2006. Later, this SI-SRR algorithm is experimentally analyzed of its performance influence by both interpolation techniques (nearest interpolation techniques, bilinear interpolation techniques and bicubic interpolation techniques) and the number of gradient directions of sobel kernel edge detection under noiseless, blurred and noisy environments in 2013 (Patanavijit, Pirak & Ascheid, 2013). Moreover, the  $M_0$  parameter, which is used in the control function, is also experimentally investigated for the proposing

of obtaining the maximum PSNR for each environment cases. In 2014, the SI-SRR performance influence by an edge detection kernels (such as Roberts kernel, Prewitt kernel, Sobel kernel, Laplacian kernel and Laplacian of Gaussian (LOG) kernel) has be experimentally investigated under noiseless, blurred and noisy environments (Patanavijit, Pirak & Ascheid, 2014). Hence, this paper presents a the unify framework of the a simulation performance influence of a number of gradient directions,  $M_0$  parameter and the edge detection kernel for the SI-SRR based on the high-frequency image prediction under noiseless, blurred and noisy environments.

## Framework Prospect of A SI-SRR Based on High Frequency Prediction with A Laplacian Pyramid

This section briefs the general idea of the SI-SRR based on high-frequency image prediction with a Laplacian Pyramid algorithm (Jeon, Park & Yang, 2006). The framework prospect of this SI-SRR is hinge upon the concept of a Laplacian pyramid algorithm (Jeon, Park & Yang, 2006), Burt & Adelson (1983), which can apply for divorcing the image  $G_0(x, y)$  (the image dimension is  $m \times n$  pixels), so called the input image, into high frequency part  $L_0(x, y)$  (the image dimension is  $m \times n$  pixels) and low frequency part  $G_0(x, y)$  (the image dimension is  $m \times n$  pixels). Because of the mathematical limitation of classical interpolations (Burt & Adelson, 1983; Gonzalez & Woods, 2002), the

upsampling image  $G_{-1}(x, y)$  (the image dimension  $2m \times 2n$  pixels), which is traditionally the desired reconstructed image, is generally loss high frequency part  $L_{-1}(x, y)$  (the image dimension is  $2m \times 2n$  pixels) and contains only a low frequency part  $G_{-1}(x, y)$  (the image dimension is  $2m \times 2n$  pixels). Thereby, the proposing of this SI-SRR algorithm is to reconstruct the high frequency part  $L_{-1}(x, y)$  (the image dimension is  $2m \times 2n$  pixels) for generating a desired reconstructed image  $G_{-1}(x, y)$ . As shown in Fig. 1 (Patanavijit, Pirak & Ascheid, 2014), this SI-SRR algorithm can be depicted into a unify framework block diagram, which comprises of 2 principle processes: the prediction of a high frequency image process and a control function process.

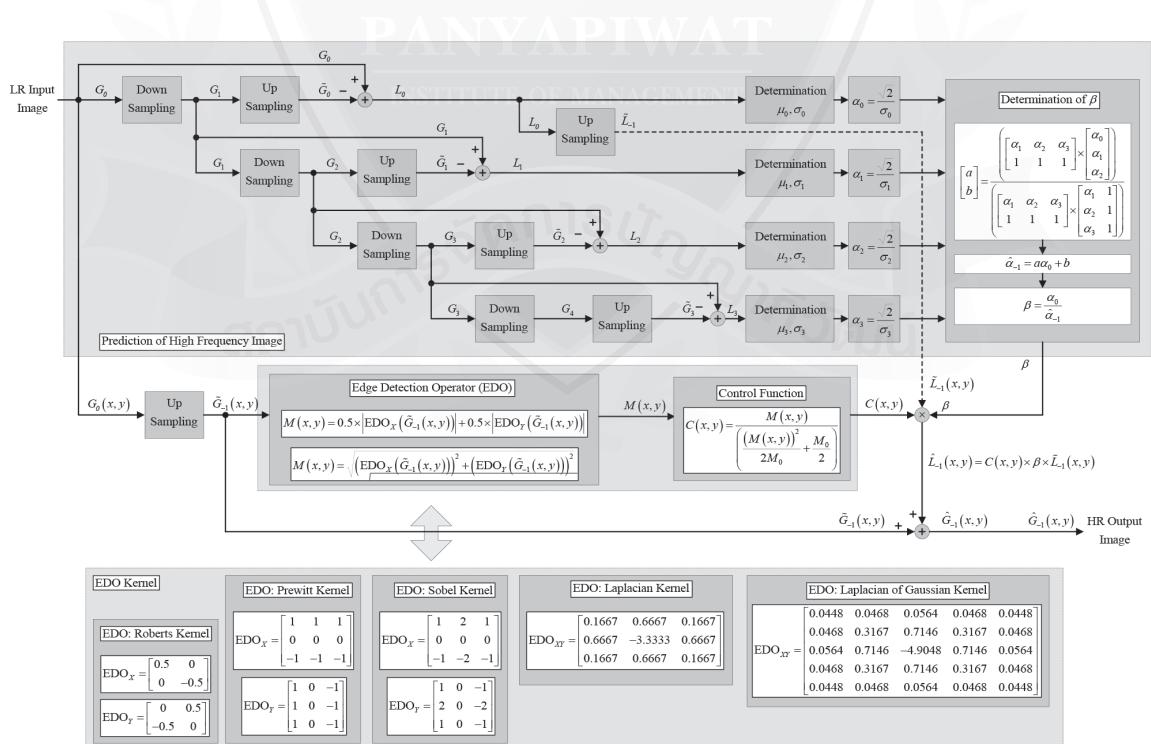


Figure 1 A unify framework block diagram of a SI-SRR algorithm (Patanavijit, Pirak & Ascheid, 2014)

### Prediction Process

The proposing of the prediction of a high frequency image process is to determine  $\tilde{L}_1(x, y)$  and  $\beta$ .

#### 1. $G_i$ Generation of SI-SRR

The four resolutions of downsampling input images are first determined as following

$$G_1(x, y) = \text{DOWNSAMPLING}(G_0(x, y)) \quad (1.1)$$

$$G_2(x, y) = \text{DOWNSAMPLING}(G_1(x, y)) \quad (1.2)$$

$$G_3(x, y) = \text{DOWNSAMPLING}(G_2(x, y)) \quad (1.3)$$

$$G_4(x, y) = \text{DOWNSAMPLING}(G_3(x, y)) \quad (1.4)$$

#### 2. $G_i$ Generation of SI-SRR

Next, all downsampling input images are upsampling to generate low frequency parts of four resolutions as following

$$\tilde{G}_0(x, y) = \text{UPSAMPLING}(G_1(x, y)) \quad (2.1)$$

$$\tilde{G}_1(x, y) = \text{UPSAMPLING}(G_1(x, y)) \quad (2.2)$$

$$\tilde{G}_2(x, y) = \text{UPSAMPLING}(G_1(x, y)) \quad (2.3)$$

$$\tilde{G}_3(x, y) = \text{UPSAMPLING}(G_1(x, y)) \quad (2.4)$$

#### 3. $\tilde{L}_i$ Generation of SI-SRR

Later, from framework prospect of Laplacian pyramid, the four resolutions of high frequency parts (so called Laplacian image data)  $\tilde{L}_1(x, y)$ , which are determined by upsampling process, are determined by subtraction between the image  $G(x, y)$  and its low frequency part  $\tilde{G}_i(x, y)$ , which is determined by up as following.

$$L_0(x, y) = G_0(x, y) - \tilde{G}_0(x, y) \quad (3.1)$$

$$L_1(x, y) = G_1(x, y) - \tilde{G}_1(x, y) \quad (3.2)$$

$$L_2(x, y) = G_2(x, y) - \tilde{G}_2(x, y) \quad (3.3)$$

$$L_3(x, y) = G_3(x, y) - \tilde{G}_3(x, y) \quad (3.4)$$

#### 4. Calculation $\mu_n$ and $\sigma_n^2$ of SI-SRR

Subsequently, each normalized histograms are determined from each high frequency parts ( $L_0(x, y)$ ,  $L_1(x, y)$ ,  $L_2(x, y)$ ,  $L_3(x, y)$ ) for the

proposing of using in the Gaussian fitting process.

The mean  $\mu_n$  and variance  $\sigma_n^2$  of each normalized histograms are determined from the previous process. Hence, four groups of statistical parameters  $(\mu_0, \sigma_0^2), (\mu_1, \sigma_1^2), (\mu_2, \sigma_2^2), (\mu_3, \sigma_3^2)$  are determined as following equation.

$$\sigma_n^2 = \sum_{l=-\infty}^{+\infty} (l - \mu_n)^2 h(l) \quad (4)$$

where  $n$  denotes the level of the pyramid and  $h(l)$  denotes the normalized histogram of each level Laplacian image.

#### 5. Calculations $\alpha_n$ and $\beta$ of SI-SRR

In general, the Laplacian pdf  $f_p(p)$  (Jeon et al. (2006) can be specifically modeled from the Gaussian pdf for reducing the calculation complexity as following equation.

$$f_p(p) = 0.5\alpha e^{-\alpha|p|} \quad (5)$$

where  $p$  denotes the pixel intensity of the Laplacian image with zero mean and variance  $\sigma^2 = 2/\alpha^2$  hence the group of Laplacian parameters  $\alpha_n$  ( $\alpha_0, \alpha_1, \alpha_2, \alpha_3$ ) can be specifically modeled as.

$$\alpha_n = \sqrt{2}/\sigma_n \quad (6)$$

Finally, the  $\beta$  can specifically modeled as following equation.

$$\begin{bmatrix} a \\ b \end{bmatrix} = \left( \begin{bmatrix} \alpha_1 & \alpha_2 & \alpha_3 \\ 1 & 1 & 1 \end{bmatrix} \times \begin{bmatrix} \alpha_0 \\ \alpha_1 \\ \alpha_2 \end{bmatrix} \right) \left/ \left( \begin{bmatrix} \alpha_1 & \alpha_2 & \alpha_3 \\ 1 & 1 & 1 \end{bmatrix} \times \begin{bmatrix} \alpha_1 & 1 \\ \alpha_2 & 1 \\ \alpha_3 & 1 \end{bmatrix} \right) \right. \quad (7)$$

$$\hat{\alpha}_{-1} = a\alpha_0 + b \quad (8)$$

$$\beta = \alpha_0/\hat{\alpha}_{-1} \quad (9)$$

### Control Function Process

The control function process is shown in Fig. 1. The input image  $G_0(x, y)$  is upsampling to reconstruct  $\tilde{G}_{-1}(x, y)$  and, then,  $M(x, y)$  can be specifically modeled by the following equation.

$$M(x, y) = 0.5 |EDO_x(\tilde{G}_{-1}(x, y))| + 0.5 |EDO_y(\tilde{G}_{-1}(x, y))| \quad (10.1)$$

$$M(x, y) = \sqrt{\left(EDO_x(\tilde{G}_{-1}(x, y))\right)^2 + \left(EDO_y(\tilde{G}_{-1}(x, y))\right)^2} \quad (10.2)$$

where Eq. (10.1) is usually applied for the purpose of accelerating the computational time and Eq. (10.2) is usually applied for the purpose of achieving the highest PSNR.

where  $EDO(\cdot)$  denotes the Edge Detection Operator: Roberts kernel, Prewitt kernel, Sobel kernel, Laplacian kernel and Laplacian of Gaussian (LOG) kernel as shown in Fig. 1.

The  $C(x, y)$  can be determined from the control function of  $M(x, y)$ , which can be specifically modeled by the following equation.

$$C(x, y) = (M(x, y) + b) / (k(M(x, y))^2 + h) \quad (11-1)$$

where  $b = c_0 M_0 / 2(1 - c_0)$ ,  $h = M_0 / 2(1 - c_0)$  and  $k = 1/2M_0$

$$C(x, y) = M(x, y) / ((M(x, y))^2 / 2M_0 + 0.5M_0) \quad (11-2)$$

After  $\beta$ , and  $\tilde{L}_{-1}(x, y)$  are  $C(x, y)$  determined by the previous process, Later, the high frequency (Laplacian) part  $\tilde{L}_{-1}(x, y)$  of the reconstructed image can be specifically modeled by the following equation.

$$\tilde{L}_{-1}(x, y) = C(x, y) \times \beta \times \tilde{L}_{-1}(x, y) \quad (12)$$

where  $\tilde{L}_{-1}(x, y)$  is determined by upsampling the  $L_0(x, y)$

The reconstructed image  $\hat{G}_{-1}(x, y)$  can be specifically modeled by adding between the low frequency part  $\tilde{G}_{-1}(x, y)$  and high frequency (Laplacian) part  $\hat{L}_{-1}(x, y)$  as the following equation.

$$\hat{G}_{-1}(x, y) = \tilde{G}_{-1}(x, y) + \hat{L}_{-1}(x, y) \quad (13)$$

### Experiment of Performance Exploration on Noiseless Environment

For experimental exploration of the performance of this SI-SRR algorithm, all 14 experimental images are down-sampled by a 2x2 factor from their origin images in both vertical and horizontal direction for the proposing of producing synthesized low resolution images. For the purpose of exploring the experimental performance, these low resolution images are used in both the SI-SRR algorithm based on nearest, bilinear and bicubic interpolation techniques and classical interpolation methods (such as nearest, bilinear and bicubic) to reconstruct the higher resolution image.

#### 1. Experimental Performance Interpolation Techniques for the SI-SRR (Patanavijit, Pirak & Ascheid, 2013)

First, this simulation experimental section explores the optimal interpolation technique based on Sobel EDO, which makes the best performance of this SI-SRR algorithm under the noiseless environment. For the purpose of

accelerating the computational time,  $M(x, y)$  is determined by Eq. (10.1) and experimental results (in PSNR) of both SRR algorithms and

classical interpolation techniques are illustrated in Table 1.

**Table 1** Experimental result of interpolation technique (Nearest, Bilinear and Bicubic) influence on the performance of SI-SRR based on Sobel EDO under noiseless environment.

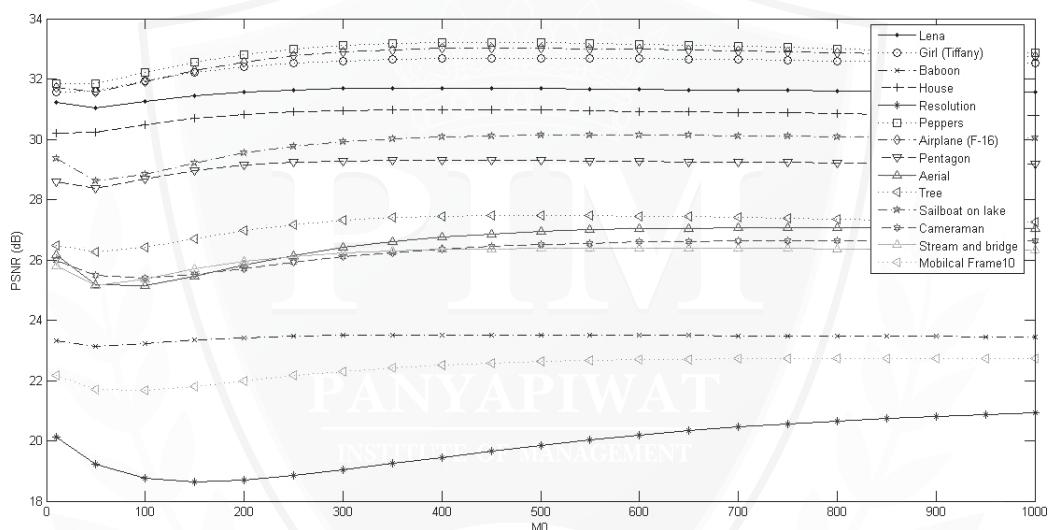
PSNR (dB)	Interpolation Technique			SI-SRR Algorithm Based on HF Prediction			
	nearest	bilinear	bicubic	nearest (4D)	bilinear (4D)	bicubic (2D)	bicubic (4D)
Lena 256	30.7847	30.7347	31.3214	30.7495	31.5311	31.6945	31.6936
Girl (Tiffany) 256	30.9354	31.4980	31.7950	31.2921	32.4923	32.6922	32.6842
Baboon 256	23.2556	22.9367	23.2961	23.2830	23.4064	23.5115	23.5144
House 128	29.5053	29.8193	30.3867	29.4662	30.8498	30.9812	30.9818
Resolution chart 128	19.5643	19.7281	20.4723	19.3622	21.1248	21.0611	20.9360
Peppers 256	30.9254	31.4634	32.0118	31.0780	32.9292	33.2031	33.2093
Airplane (F-16) 256	30.2861	31.2441	31.8386	30.6068	32.7622	33.0256	33.0238
Pentagon 512	28.8039	28.4625	28.9424	28.7798	29.1615	29.2991	29.3013
Aerial 512	25.6730	25.6624	26.4399	25.5599	26.7666	27.0678	27.0700
Tree 128	25.5058	25.8486	26.5660	25.4747	27.2875	27.4515	27.4706
Sailboat on lake 256	28.7881	28.8842	29.5903	28.7647	29.9330	30.1228	30.1374
Cameraman 128	25.4884	25.4579	26.1642	25.0816	26.5282	26.6526	26.6491
Stream & bridge 256	25.6787	25.5129	26.0307	25.5753	26.2325	26.3921	26.3918
Mobilcal Frame 10	22.0863	21.7225	22.3167	22.0512	22.5955	22.7310	22.7327

Under the noiseless environment, the experimental result of interpolation technique (Nearest, Bilinear and Bicubic) indicates that the SI-SRR algorithm using a bicubic (2D and 4D) interpolation technique gives the higher PSNR than the SI-SRR algorithm using bilinear interpolation technique about 0.12-0.30 dB and gives the higher PSNR than the SI-SRR algorithm using nearest interpolation technique about 0.23-2.41 dB. Furthermore, the SI-SRR algorithm

using a bicubic (2D and 4D) interpolation technique gives the higher PSNR than the classical interpolation using nearest, bilinear and bicubic about 0.26-2.74, 0.58-1.78 and 0.22-1.20 dB, respectively. Hence, from PSNR perspective, it can be inferred that the bicubic interpolation technique is an optimal interpolation technique for this SI-SRR algorithm under the noiseless environment. Nevertheless, a bicubic interpolation technique is more

complex and more implementing difficulty than a bilinear interpolation technique for real-time implementation hence the SI-SRR algorithm using bilinear interpolation technique is more suitable from the real-time perspective. Finally, this simulation experimental section explores the optimal  $M_0$  parameter (from 0 to 1000) for this SI-SRR algorithm (the 2 gradient directional Sobel EOD), which gives the maximum PSNR under the noiseless environment. For the

purpose of analyze the performance influence  $M_0$  parameter for this SI-SRR algorithm from PSNR perspective, the correlation of the simulation performance in PSNR and  $M_0$  parameter is portrait in Fig. 2. From the simulation experimental result in Fig. 2, it can be inferred that an optimal value of  $M_0$  is 400-600 for general images with non-strong or non-sharp edge and an optimal value of  $M_0$  is 800-1000 for strong-edge.



**Figure 2** The correlation of the simulation performance in PSNR and  $M_0$  parameter (using Sobel kernel [1]) under the noiseless environment.

### Simulation Performance of An Edge EDO and $M_0$ parameter for The SI-SRR (Patanavijit, Pirak & Ascheid, 2014)

This section explores the EDO (Edge Detection Operator) for this SI-SRR algorithm, which gives the highest PSNR under the noiseless environments. In this experiment, Roberts kernel, Prewitt kernel, Sobel kernel (Jeon, Park & Yang, 2006; Patanavijit, Pirak & Ascheid, 2013) Laplacian kernel and Laplacian of Gaussian

(LOG) kernel are used in SI-SRR algorithm and  $M(x, y)$  is determined by Eq. (10.2) for the purpose of achieving the highest PSNR, and the correlation results of the simulation performance in PSNR and  $M_0$  parameter (which is varied from 0 to 2000) of the SI-SRR algorithm using Roberts kernel, Prewitt kernel, Sobel kernel, Laplacian kernel and Laplacian of Gaussian (LOG) kernel EDO are illustrated in Fig. 3(a) - Fig. 3 (e), respectively.

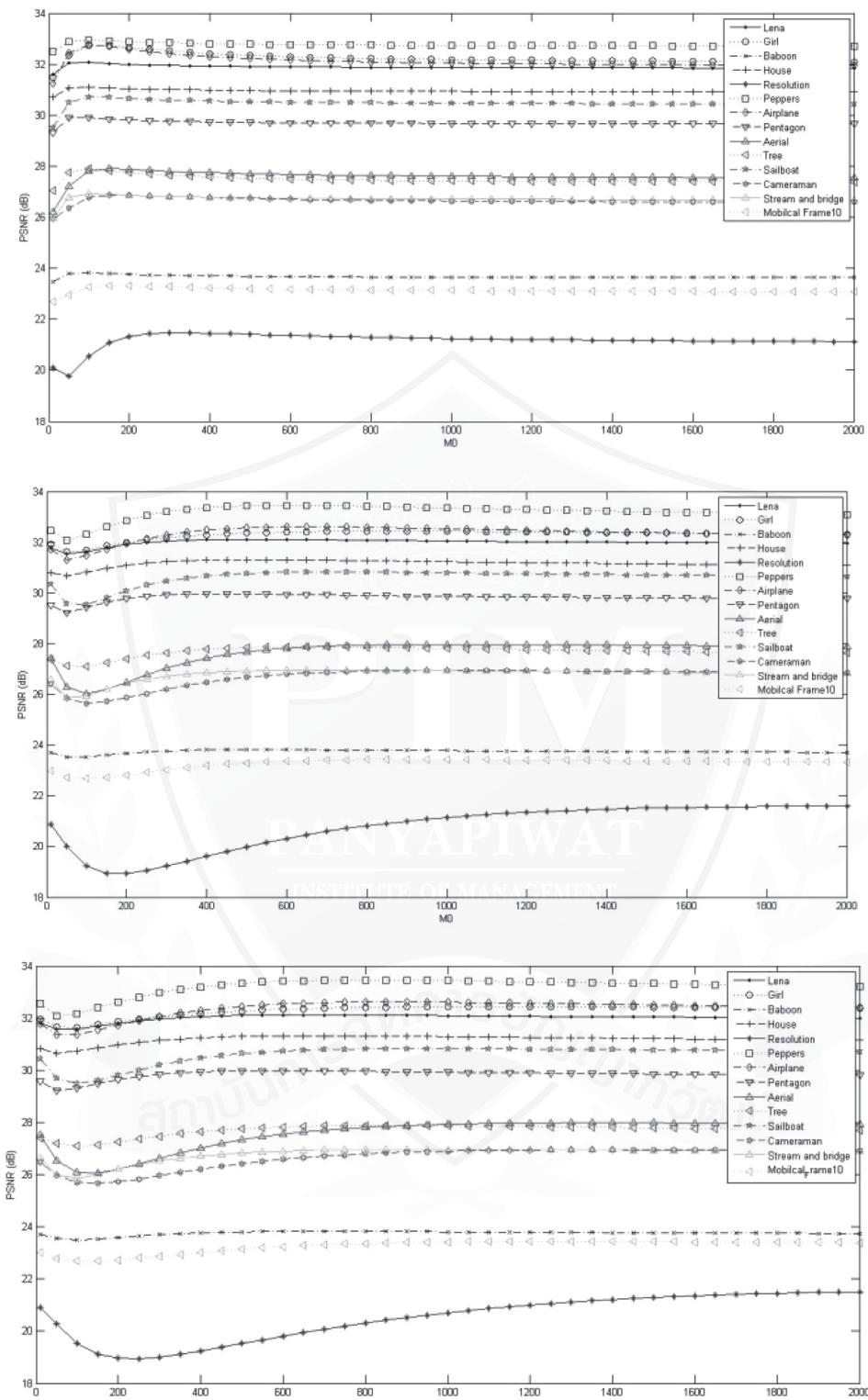
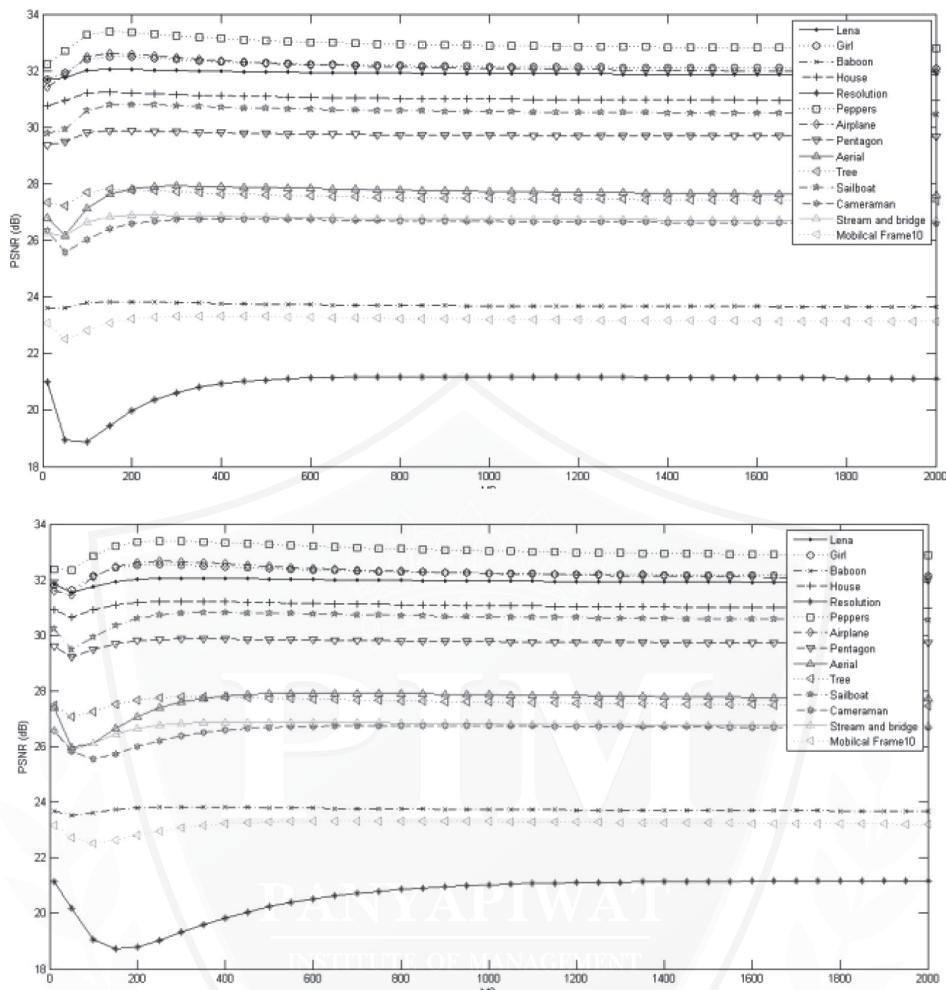


Figure 3 (a-c) The correlation of the simulation performance in PSNR and M0 parameter (based on Roberts (top), Prewitt (mid) and Sobel (bottom) under the noiseless.



**Figure 3 (d-e)** The correlation of the simulation performance in PSNR and M0 parameter (based on Laplacian (top) and Laplacian of Gaussian (LOG) kernel (bottom) under the noiseless.

From this simulation experimental result it can be inferred as following

- The best value of  $M_0$  for Roberts kernel in Fig. 3(a) (top) is 100-150 for general images with both strong-edge and smooth texture.
- The best of  $M_0$  for Prewitt kernel in Fig. 3(b) (mid) is 500-700 for common images with non-sharp edge and a best value of  $M_0$  is 850-1050 for images with strong-edge.

- The best value of  $M_0$  for Sobel kernel (Patanavijit, Pirak & Ascheid, 2013) in Fig. 3(c) (bottom) is 650-850 for common images with non-sharp edge and a best value of  $M_0$  is 1250-1450 for images with sharpen-edge.
- The best value of  $M_0$  for Laplacian kernel in Fig. 3(d) (top) is 150-200 for common images with non-sharp edge and a best value of  $M_0$  is 300-400 for images with sharpen-edge.

- The best value of  $M_0$  for LOG in Fig. 3(e) (bottom) is 250-400 for common images with non-sharp edge and a best value of  $M_0$  is 650-800 for images with sharpen-edge.

Subsequently, the optimal  $M_0$  for each EDO is experimentally picked for the purpose of

achieving the highest PSNR. The simulation experimental results of all EDO (Roberts kernel, Prewitt kernel, Sobel Kernel (Jeon et al. (2006), Laplacian kernel and Laplacian of Gaussian (LOG) kernel) under noiseless environment are illustrated in Table 2.

**Table 2** Experimental result of EDO (Roberts kernel, Prewitt kernel, Sobel kernel, Laplacian kernel and Laplacian of Gaussian (LOG) kernel) influence on the performance of SI-SRR using Bicubic (2D) interpolation under noiseless environment.

PSNR (dB)	Interpolation			SI-SRR Algorithm Based on HF Prediction				
	nearest	bilinear	bicubic	Robert	Prew	Sobel	Lap	LOG
Lena 256	30.7847	30.7347	31.3214	32.0759	32.1122	32.1163	32.0560	32.0539
Girl 256	30.9354	31.4980	31.7950	32.7268	32.4364	32.4382	32.5056	32.5408
Baboon 256	23.2556	22.9367	23.2961	23.8215	23.8195	23.8230	23.8358	23.8275
House 128	29.5053	29.8193	30.3867	31.0975	31.3147	31.3150	31.2362	31.2196
Resolution chart 128	19.5643	19.7281	20.4723	21.4676	21.5889	21.5146	21.1809	21.1681
Peppers 256	30.9254	31.4634	32.0118	32.9523	33.4561	33.4564	33.3826	33.3963
Airplane 256	30.2861	31.2441	31.8386	32.7594	32.6116	32.6135	32.6180	32.6598
Pentagon 512	28.8039	28.4625	28.9424	29.8987	29.9670	29.9707	29.8708	29.8717
Aerial 512	25.6730	25.6624	26.4399	27.8944	27.9805	27.9839	27.9236	27.9179
Tree 128	25.5058	25.8486	26.5660	27.9077	27.8746	27.8764	27.8040	27.7830
Sailboat on lake 256	28.7881	28.8842	29.5903	30.7170	30.8236	30.8233	30.8099	30.8169
Cameraman 128	25.4884	25.4579	26.1642	26.8735	26.9445	26.9492	26.7553	26.7464
Stream & bridge	25.6787	25.5129	26.0307	26.9202	26.9636	26.9658	26.8851	26.8773
Mobilcal Frame	22.0863	21.7225	22.3167	23.3324	23.4330	23.4345	23.3255	23.3280

From this simulation experimental result in Table 2, it can be inferred that the best EDO from PSNR perspective is Sobel kernel because this SI-SRR using Sobel kernel gives the higher PSNR than PSNR than other kernel EDO in almost cases. Nevertheless, there are some

experimental cases that the SI-SRR using Roberts kernel, Prewitt kernel and Laplacian kernel gives the higher PSNR. Because of page constraint, some of virtual simulation experimental results of images, which are reconstructed by the SI-SRR algorithm, are illustrated in Fig. 4. (The left in

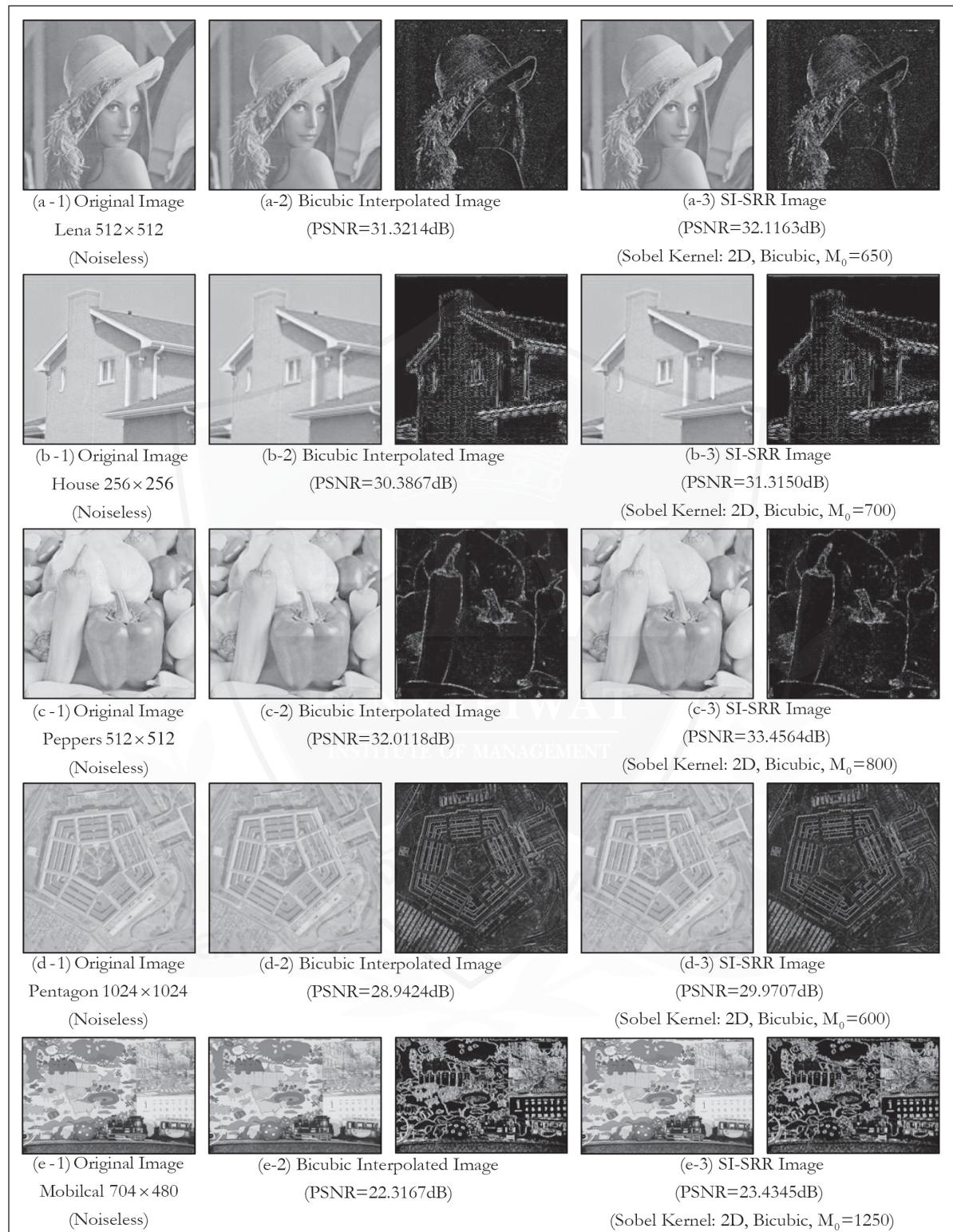


Figure 4 The simulation experimental results of the SI-SRR algorithm under the noiseless environment.

position portrait on our simulated result of each sub-portrait is the absolute difference between it's correspond the right in position (SR) and the original image, which are multiplied by five for the purpose of clearly virtualization.)

### Experiment of Performance Exploration on Blurred Environment

This simulation experimental section explores the optimal EDO for the SI-SRR algorithm, which makes the best performance (in PSNR) under the six Gaussian blurred environments.

In this experiment, each original image (12 tested

images) is first down-sampled by a factor 2x2 in both horizontal and vertical direction. Later, each down-sampled image is blurred by these six Gaussian blurred kernels (3x3 with sigma = 0.5, 3x3 with sigma = 1.0, 3x3 with sigma = 2.0, 5x5 with sigma = 0.5, 5x5 with sigma = 1.0 and 5x5 with sigma = 2.0.) for generating blurred down-sampled images. Because of page constraint, only PSNR results of these reconstructed images at 3x3 with sigma=0.5 and 5x5 with sigma = 2.0 are illustrated in Fig. 5(a)-Fig. 5(b) respectively.

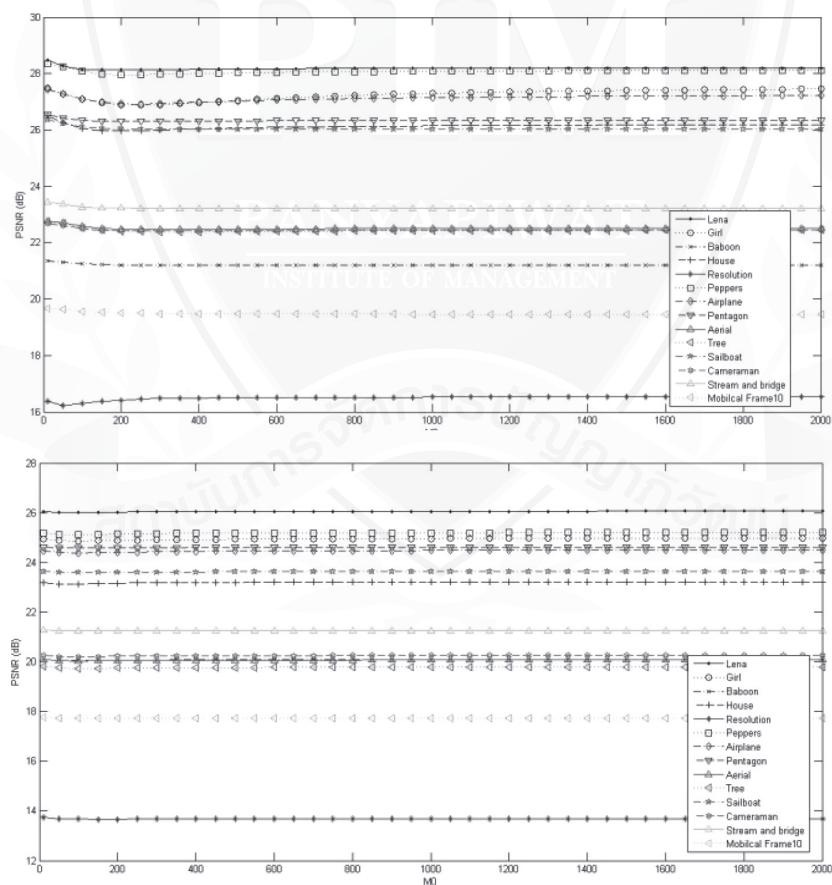


Figure 5 The correlation of the simulation performance in PSNR and M0 parameter (based on LOG kernel) under the blurred environments: 3x3 with sigma = 1.0 (left) and 5x5 with sigma = 2.0 (right).

From this simulation experimental result, it can be inferred that the best EDO from PSNR perspective is Laplacian of Gaussian (LOG) kernel because this SI-SRR using Laplacian of Gaussian (LOG) kernel give the higher PSNR than PSNR than other kernel EDO in almost cases, especially, under the high blurred environments (at 5x5 with sigma = 0.5-2.0). Nevertheless, there are some experimental cases that the SI-SRR using Sobel kernel and Laplacian kernel gives the higher PSNR under less blurred environments (at 3x3 with sigma = 0.5-2.0).

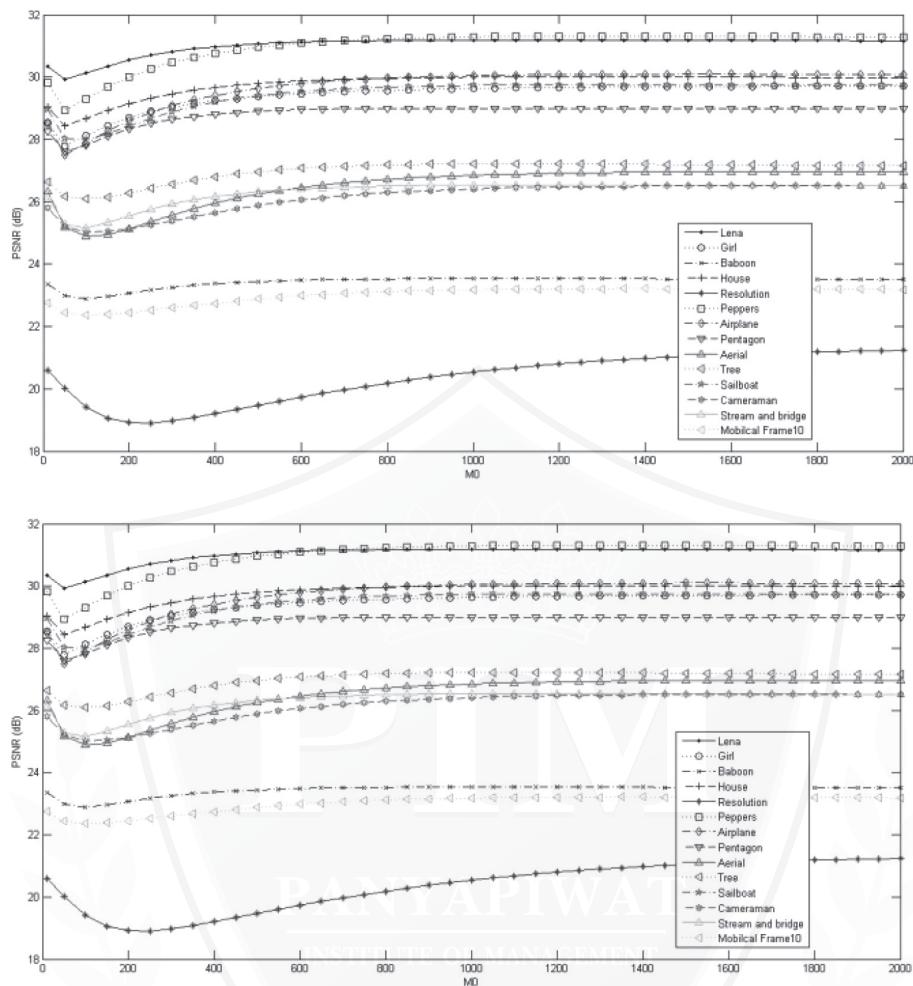
Later, the correlation results of the simulation performance in PSNR and  $M_0$  parameter (which is varied from 0 to 2000) of the SI-SRR algorithm using LOG kernel are illustrated in Fig 5. For the less blurred environments (at 3x3 with sigma = 1.0) in Fig. 5(a) (Left), it can be inferred that the best value of  $M_0$  is 10-250 for general images with both strong-edge and smooth texture. For the high blurred environments (at 5x5 with sigma = 2.0) in Fig. 5(b) (Right), it can be inferred that the best of  $M_0$  is 10-250 for general images with both strong-edge and smooth texture.

### Experiment of Performance Exploration on Noisy Environment

This simulation experimental section explores

the optimal EDO for the SI-SRR algorithm, which makes the best performance (in PSNR) under the five AWGN environments. In this experiment, the original image (all 12 tested images) is first down-sampled by a factor 2x2 in both horizontal and vertical direction. Later, each down-sampled image is corrupted by these AWGN (SNR=15dB, 20dB, 25dB, 30dB and 35dB) for generating noisy down-sampled images. Because of page constraint, only PSNR results of these reconstructed images at SNR = 30dB and 35dB are illustrated in Fig. 6(a) - Fig. 6(b) respectively.

From this simulation experimental results, it can be inferred that the best EDO from PSNR perspective is Sobel kernel because this SI-SRR using Sobel kernel give the higher PSNR than other kernel EDO in almost cases under the low noisy environments (at SNR = 30dB and 35dB) and this SI-SRR using Prewitt kernel give the higher PSNR than other kernel EDO in almost cases under the medium noisy environments (at SNR = 25dB). Nevertheless, this classical interpolation techniques give the higher PSNR than SI-SRR under the severe noisy environments (at SNR = 15dB and SNR = 20dB) because this SI-SRR enhances, reconstructs and enlarges the high frequency component (including noise) hence the noise component is enlarged.



**Figure 6** The correlation of the simulation performance in PSNR and M0 parameter (based on Sobel kernel) under the noisy environments: SNR30dB (left) and SNR35dB (right).

## Conclusion and Discussion

This paper rigorously enquires into the impact of an interpolation technique, EDO kernel (such as Roberts kernel, Prewitt kernel, Sobel kernel, Laplacian kernel and LOG kernel) and  $M_0$  parameter for the SI-SRR algorithm based on high-frequency prediction for 14 standard tested images under 3 main environments: noiseless environment (1 case), Gaussian blurred environments

(2 cases: 3x3 with sigma = 0.5 and 5x5 with sigma = 2.0) and noisy environment (5 cases: SNR = 15dB, 20dB, 25dB, 30dB and 35dB). The optimal EDO for this SI-SRR algorithm are concluded for each environment. Moreover, the turning range of  $M_0$  parameter is clearly concluded for each environment for future implementation.

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## 人民币区域化研究: 文献回顾

### REGIONALIZATION OF RMB: A LITERATURE REVIEW

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#### 摘要

中国经济规模的快速增长使得人民币区域化问题成为国内外学术界和各国政府关注的焦点。文章通过系统梳理, 采用文献分析法、对比法等研究方法, 分析总结了国内外学者在人民币区域化问题的研究, 已有研究主要集中在人民币区域化的概念界定、影响、可行性、渠道和规模、区域化指数以及路径和策略等方面的研究, 但在人民币区域化的路径选择研究方面尚未形成较为统一的看法, 在人民币区域化的计量分析上也还不多。人民币区域化研究是一个复杂的课题, 对其的研究具有重要的理论价值和实践意义。

**关键词:** 人民币, 区域化, 东盟, 文献综述

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#### Abstract

With the rapid growth of Chinese economy, the RMB regionalization has become the focus of attention of domestic and international academia and governments. The paper to systematically combing literature, Analyzing domestic and foreign experts in the research of the RMB regionalization, existing research mainly focused on the definition of RMB regionalization, influence, feasibility, channels and scale, regionalization index and regionalization path and strategy research with the methods of literature analysis method and comparative method. But on the research path choice of RMB regionalization has not yet formed a more unified view, econometric analysis on the RMB regionalization is not much. RMB regionalization is an extremely complex subject, the research has important theoretical value and practical significance.

**Keywords:** RMB, Regionalization, ASEAN, Literature Review

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## 引言

### (一) 人民币区域化背景

2007 年美国爆发的次贷危机越演越烈, 随之演变成为影响全球范围的金融危机, 对世界经济和全球金融市场造成了致命性的打击, 美元也因为此次危机其国际地位也受到了严重的挑战。与此同时, 世界经济也不太平, 欧洲债务危机的蔓延, 日本经济的持续低迷, 也使得欧元、日元的国际地位受到挑战, 世界经济的发展, 孕育着一种机会, 需要一种新的国际强势货币出现。

随着中国与周边国家的区域合作不断加深, 与东盟国家的合作关系进入“钻石十年”, 特别是 2015 年亚投行的成立, “一带一路”的建设与发

展以及即将成立的东盟经济共同体, 人民币区域化成为了中国-东盟金融合作的关键所在和重中之重。

中国经济规模的快速增长使得人民币国际化、区域化问题成为国内外学术界和各国政府关注的焦点。根据世界银行的统计数据, 中国国内生产总值规模已从 1980 年的 2024 亿美元增长到了 2015 年的 108664 亿美元, 国内生产总值在过去的 35 年增长了 53.7 倍。2015 年, 中国经济规模仅次于美国, 超过日本、德国、英国和法国等发达国家。2009-2015 年中国国内生产总值如表 1.1 所示。

表 1.1 2009-2015 年中国国内生产总值

单位: 万亿美元

2009	5.0594
2010	6.0396
2011	7.4924
2012	8.4616
2013	9.4906
2014	10.3548
2015	10.8664

数据来源: world of bank (2009-2015)

随着中国经济贸易规模的不断扩大, 各国也逐步将人民币作为国际货币金融体系中的计价货币、结算货币和储备货币, 使人民币成为有影响力的关键货币。自 2009 年中国实行跨境贸易人民币结算试点以来, 在政策支持和市场需求的合力推动下, 跨境人民币结算业务稳步增长。据中国人民银行的统计数据显示, 2015 年中国跨境贸易人民币结算业务发生 7.23 万亿元, 同比增长 10.4%, 直接投资人民币结算业务发生 2.32 万亿元, 以人民币进行结算的跨境货物贸易、服务贸易及其他

经常项目、对外直接投资、外商直接投资分别发生 63911 亿元、8432 亿元、7362 亿元和 15871 亿元。人民币跨境贸易结算在近几年增长速度惊人。以中国与东盟为例, 2015 年 1-7 月, 中国与东盟的跨境人民币结算量超过 4700 亿元, 占中国跨境人民币结算量的 11%以上。2009-2015 年中国东盟贸易额在东盟国家对外贸易总额中的占比从 13.823% 上升到 20.945%, 呈现逐年上升的态势, 如表 1.2 所示。

表 1.2 2009–2015 年中国-东盟贸易额在东盟国家对外贸易总额中的占比

单位: %

年份	中国-东盟贸易额在东盟国家对外贸易总额中的占比
2009	13.823
2010	14.620
2011	15.168
2012	16.155
2013	17.623
2014	18.988
2015	20.945

数据来源: 中国统计年鉴、中华人民共和国商务部网站 (2009–2015)。

而根据SWIFT在 2016 年二月公布的统计数据,马来西亚与中国大陆及香港之间的支付结算货币中,人民币支付结算量年增长 68%,占比约 8%,成为继美元后最大的支付货币,超越当地货币林吉特(占比约 2%),可见人民币在当地的使用程度不断提高。中国人民银行已与 22 个国家和地区的央行或货币当局签署了总规模超过 2.2 万亿元人民币的双边本币互换协议,其中,中国人民银行与东盟地区签署的双边货币互换协议总额已经达到 1.4

万多亿元人民币。清迈倡议多边化协议总规模也扩大至 2400 亿美元。其中截止到 2015 年 4 月,中国与印度尼西亚、泰国、马来西亚、新加坡等国家签订的双边本币互换协议规模和有效期如表 1.3 所示。中国人民银行还与越南等周边五个国家签署了边境贸易本币结算协议,推进了中国和东盟国家之间开展人民币以及双边货币的贸易结算和投资的便利化。

表 1.3 中国与东盟国家已签署的主要双边本币互换协议一览表

序号	签署年份	国家	规模 (亿元人民币)	有效期
1	2009	印度尼西亚	1000	3年
2	2011	泰国	700	3年
3	2012	马来西亚	1800	3年
4	2013	新加坡	3000	3年

数据来源: 由人民银行网站,中国经济网站数据整理而得。

说明: 与印度尼西亚、新加坡、马来西亚和泰国的协议期限到期后又续签了互换协议。

## (二) 人民币区域化现状

目前,人民币已在越南、老挝全境使用,菲律宾、马来西亚、柬埔寨已将人民币列为官方储备货

币,其他东盟国家大部分都可以实现人民币的自由兑换。由此可见,人民币东盟区域化的发展会随着时间的推移呈现以下不同的阶段:

一是, 短期提升接受度, 短期内, 要采取相应的措施, 提升东盟国家对于人民币的认可度。只有得到东盟国家的广泛认可, 人民币才能成为东盟区域的基础货币。现阶段, 东盟各国的金融市场发展尚不健全, 人民币要实现东盟区域化, 应着手大力发展以银行为主题的金融市场, 以银行业的发展为抓手, 完善银行业务, 密切各国银行间的业务往来, 加快中国银行业外向发展, 不断向东盟国家延伸业务量。发挥中国作为负责任大国的作用, 根据各国的实际情况, 必要时向东盟国家主动提供贷款, 帮助其经济发展, 在提升中国在东盟国家影响力的同时, 也增加了人民币向东盟国家的流出量。

二是, 中期提高使用率, 人民币要想成为东盟区域的基础货币, 必须要提高使用率, 畅通人民币流通的渠道, 使人民币能够有效满足东盟国家人民对于货币的基本需求。在保持资本账户充足的同时, 加大开放力度, 同时要提高离岸债券市场和股票市场的利用率, 千方百计提高人民币的流通效率。兼顾银行市场和债券市场, 处理好两者之间的关系, 用好直接融资和间接融资两种手段, 促进投融资由间接融资向直接融资转换, 加强风险防范意识, 合理搭配资金期限与币种, 有效控制风险, 提升人民币的坚挺性, 提升资金的配置效率, 从而增强东盟国家对人民币的信任度, 提高人民币的使用率。

三是, 长期增强人民币的持有量。增强人民币持有量的方法主要包括健全和完善银行体系及债券市场, 同时, 完善法律体系, 以法律的形式保护人民币持有者的根本利益, 增强东盟国家人民对持有人民币的信心, 增加人民币的持有量。同时加大监管和监察力度, 制定相应的制度文件, 避免蓄意、恶意伤害人民币持有者利益的事情发生。从而树立人民币在东盟国家人民心中的可信地位, 不断增加人民币自持有量, 使之真正成为东盟国家的基础货币。

### (三) 文章研究的目的及范围

对于人民币区域化的研究已有不少的文献, 梳理研究文献, 能够有效的掌握人民币研究的程度和研究的深入性。本文研究的目的就是梳理已有研究中存在的问题和提出的创新, 为人民币区域化研究进行理论和实践创新做出准备。通过文献整理能够对人民币区域化这一问题进行系统分析, 并按照相应体系归纳整理, 使得研究体系更加清楚明确。通过文献梳理发现, 人民币区域化特别是人民币东盟区域化相对于人民币国际化的研究更具有现实意义, 钟伟早在 2002 年就提出过这样的观点。随着中国对外贸易, 尤其是边境贸易规模的不断扩大, 中国与周边国家的联系越来越频繁, 贸易大国的地位越来越明显, 边境贸易中, 周边国家或者地区越来越多的接受人民币, 认可人民币, 甚至将人民币作为交易货币、结算货币和部分储备货币。有关的专家学者对人民币国际化的研究日渐成熟, 文献综述、文献整合也相对规范, 而对人民币区域化的研究则相对欠缺, 基于此, 本文将从人民币区域化的角度入手, 对国内外人民币区域化研究的文献进行综述, 并总结归纳相关论述。

## 二、国内学者对人民币区域化相关问题的研究

国内对于人民币区域化和国际化的研究始于对可行性和必要性的研究。早在 1988 年, 曾宪久、胡定核、黄道平就开始对人民币区域化和国际化的可行性和必要性进行研究。而后, 不断有学者对人民币能否成为国际货币, 能否在国际市场上站稳脚跟等问题进行研究, 研究的视角、层次逐渐广阔起来。孙东升 (2003)、徐奇渊、刘力臻 (2006)、邱兆祥、何丽芬 (2008) 比较深入的分析人民币区域化的有关问题。具体而言, 国内学者关于人民币区域化问题的研究可以概括为以下六个方面:

## (一) 国内学者对人民币区域化概念界定问题的研究

国内对人民币区域化概念的界定研究, 有代表性的主要有以下研究: 一是, 张勇长 (2006)、巴曙松、吴博、朱元倩 (2007) 把我国周边国家或地区中进行对外贸易的过程中使用人民币结算称之为人民币区域化。这一概念将人民币区域化当作一个过程, 同时也作为一个结果, 将人民币作为国际货币, 从而挖掘其区域性发展功能。二是李晓、丁一兵 (2006) 将人民币区域化直接等同于人民币亚洲化, 认为“人民币通过参与东南亚、东亚、甚至亚洲区域内货币金融领域的制度性合作, 争取成为区域内强势货币; 这一概念认为人民币区域化是实现国际化的关键因素。三是贺翔 (2007) 从边

境贸易和人民币流通这两个方面入手来加以理解人民币区域化内涵, 认为人民币区域化就是边境交易中, 我国和边境各国在制度创新上所做出的改革, 推行一系列措施, 从而促进人民币在边境区域内实现自由汇兑或者流通、交易等功能。四是邱兆祥、栗勤 (2008) 将人民币区域化的内涵狭义化, 仅仅将人民币区域化等同于在区域范围的国际化, 可以是我国和其他边境国家交易之间使用, 可以是在边境与非边境国家交易使用。结合以上对人民币区域化的研究和货币区域化定义, 学者们较为统一的是将“人民币区域化”定义为: 人民币在一个地理区域行使价值尺度、交易媒介和储备手段等职能。总的来说, 国内学者对人民币区域化内涵的主要观点如表 2.1 所示。

表 2.1 国内学者对人民币区域化内涵的主要观点

学者代表	主要观点
张勇长、巴曙松、吴博、朱元倩	将人民币区域化当作一个过程, 同时也作为一个结果, 将人民币作为国际货币, 从而挖掘其区域性发展功能。
李晓、丁一兵	人民币区域化直接等同于人民币亚洲化, 认为人民币通过参与东南亚、东亚、甚至亚洲区域内货币金融领域的制度性合作, 争取成为区域内强势货币, 认为人民币区域化是实现国际化的关键因素。
贺翔	认为人民币区域化就是边境交易中, 我国和边境各国在制度创新上所做出的改革, 推行一系列措施, 从而促进人民币在边境区域内实现自由汇兑或者流通、交易等功能。
邱兆祥、栗勤	仅仅将人民币区域化等同于在区域范围的国际化, 可以在我国和其他边境国家交易之间使用, 也可以在边境与非边境国家交易使用。

资料来源: 根据相关文献整理而来。

## (二) 对人民币区域化对我国经济发展的影响研究

陶士贵 (2003) 从人民币区域化有利于提升人民币的国际地位, 增强我国在世界范围内的影响进行研究; 从人民币区域化对有效利用区域内相

关资源、增加区域内铸币税收入; 节约我国外汇资源; 促进我国对外贸易发展; 推动对我国外投资发展等五个方面分析了人民币区域化的重要意义。同时, 他还对人民币区域化的影响做了研究, 认为人民币区域化会增强我国货币政策的有效性, 扩大

货币政策的影响,同时加剧我国金融市场的不稳定性,使国际投机资金有冲击我国金融市场的机会;在金融市场上,也容易产生假钱、洗黑钱等金融犯罪活动。李娜(2014)更多的从人民币区域化的影响进行研究,认为人民币区域化除了带来了铸币税收的收益外,还加强了我国与一定区域范围内同其他国家和地区的贸易往来,从而促进了各方的经济发展。但同时,人民币区域化,我国也付出了一定的成本和代价。研究也同时指出,人民币区域化影响了我国货币政策的有效性,加速了资金外逃,对我国国际收支平衡产生了不利的影响。王敏、黄涛(2012)在前人分析的基础上,结合当前世界经济发展的最新变化,认为实行人民币区域化战略,对于我国经济社会发展具有战略意义。首先我国内面临较为严重的通货膨胀压力,国内流动性不强,实行人民币区域化,一定程度上

有利于缓解外汇储备压力,减轻人民币升值的压力。其次,有益于国际外汇市场多样化发展,有利于世界各国增强对人民币的认可和接受程度。再次,有利于改善我国的对外贸易环境,紧密联系我国的贸易伙伴,形成一个较为稳定的利益共同体,分解和共同对抗西方发达国家对人民币国际化的压力。最后有助于我国在新形势下,积累经验,加快人民币区域化的进程,在人才储备、体系健全等方面逐渐完善,已适应人民币区域化的形势需要。邱兆祥、粟勤(2008)从经济一体化效应,铸币税收效应、国际货币体系重构效应以及资源转移效应等方面入手,分析了人民币区域化带来的收益影响,也指出在获得收益的同时,同样也影响了货币政策的有效性,带来币值波动、投机冲击和银行信用等金融风险。总的来说,人民币区域化对我国经济影响的研究主要代表观点如表 2.2 所示。

表 2.2 人民币区域化对我国经济影响研究的主要代表观点

学者代表	主要观点
陶士贵	认为人民币区域化有利于提升人民币的国际地位,增强我国在世界范围内的影响。
李娜	认为人民币区域化除了带来了铸币税收的收益外,还加强了我国在一定区域范围内同其他国家和地区的贸易往来,从而促进了各方的经济发展。
王敏、黄涛	认为实行人民币区域化战略,对于我国经济社会发展具有重要意义。一定程度上有利于缓解外汇储备压力,减轻人民币升值的压力;有利于增强世界各国对人民币的认可和接受程度;还可以紧密联系我国的贸易伙伴,形成一个较为稳定的利益共同体。
邱兆祥、粟勤	分析了人民币区域化带来的收益影响,也指出在收益影响的同时,同样也影响了我国货币政策的有效性。

资料来源:根据相关文献整理而来。

### (三) 对人民币区域化是否可行的研究

陶士贵(2003)率先进行了建立人民币自由汇兑圈可行性的研究,而人民币自由汇兑圈则建立在对我国经济社会和周边国家或者地区对人民币

的接受和认可程度、我国政府在推进人民币区域化进程中所采取的政策导向、人民币币值稳定程度、人民币区域化发展的广阔前景、我国防范国际投机货币冲击的对策措施和防范效果以及我国金

融市场运行的状况和货币资金的充足程度等六个方面的分析基础之上。通过以上方面的分析,陶士贵得出我国建立人民币自由汇兑圈的条件已经成熟、时机已经具备的结论。李晓、李俊久、丁一兵(2004)分析了人民币流通的现状,指出人民币全面推行,成为完全的国际货币的条件尚未成熟,但从现阶段我国和东南亚、东亚地区的各国经济发展水平和阶段情况来看,人民币成为区域内流通货币,实现人民币区域化发展的条件已经初步具备,人民币有望实现区域化发展。陈兆祥(2008)分析了我国内地经济和港澳台经济的发展情况,随着内地和港澳台经济合作的不断深入,合作范围日渐广阔,我国在边境贸易、对外贸易方面都有长足的发展,支撑人民币实现区域化的综合实力不断提升,内部金融环境不断改善,这些都使得人民币成为区域内关键货币的可能性大大增强,人民币区域化发展的内外环境具备,条件相对成熟。

#### (四) 对人民币境外流通渠道和规模的研究

徐奇渊,刘力臻(2006)对人民币流通的渠道和程度进行研究,根据人民币在周边国家和地区流通的渠道和程度对人民币境外流通渠道和规模划分成三种情况。第一种情况是伴随边境贸易和旅游而产生,人民币这种流通主要发生在我国的边境地方,与我国边境接壤的国家,如缅甸、越南、蒙古、老挝、俄罗斯、朝鲜等,人民币充当价值储藏和交换媒介的职能,往往在边境贸易和旅游中,人民币交易的规模较大。第二种情况是旅游产生的人民币流通,随着境外游客的到来,和我国游客的国外出游,人民币有了这样伴随旅游而产生的流通渠道,如:旅游胜地马来西亚、新加坡、泰国等,这种情况下人民币在这些国家使用的规模并不大,流通的速度较快。第三种情况则是产生与我国内地联系日益密切的港澳地区,人民币在港澳的使用和兑换相当普遍。巴曙松、吴博、朱元倩(2007)指出随着出入境人口的增加,出境和入境

人口对人民币的需求逐渐增加,促使了人民币在境外流通形成了一定的规模,在境外的流通数量成绝对增长的态势。

#### (五) 对人民币区域化指数的研究

学者们通常用人民币区域化指数来反映人民币区域化的程度。在研究过程中,往往会采用一些计量方法来加以研究。而在人民币区域化指数的计量研究中,大多集中于对美元、欧元、日元、英镑以及人民币在各项指标上的研究分析的基础上,得出货币的国际化或区域化指数,典型的代表性的研究方法有:

1. 中国银行人民币国际化研究课题组对人民币国际化进行研究,计算了货币境外流通范围指数、货币境外流通数量指数等相关指数,对比在国际金融市场上美元、欧元、日元和人民币的相关指数,从而判断人民币区域化指数的大小。该方法采用了加权平均法,综合对比相关货币的国际化综合指数。加权计算的结果如此阐述:如果美元的国际化程度为 100,那么欧元的国际化程度在 40 左右,日元在 28 左右,人民币仅为 2,从计算结果上可以看出人民币国际化程度较低。但是这种方法并不完善,按照该算法,2002 年的时候人民币的国际贷款指数、国际贸易结算指数、对外直接投资指数等均为零。因为该算法仍有一些因素没有考虑在其中,导致计算结果与实际存在一定的偏差,该方法仍有一定的改进空间。

2. Thimann (2009) 采用规模性指标和结构性指标加权计算了各国货币的国际化程度。规模性指标选用经济发展、证券市场等方面的数据指标,结构性指标选用金融市场、货币市场、对外贸易等相关数据指标。选用的是 2006 年的数据,结果显示,2006 年美元的国际化程度最高,为 38.7%;欧元为 27.0%,日元为 8.6%,英镑为 7.1%,人民币为 1.3%。但是,这种算法也有弊端存在,该算法在计算时,选取的国际货币功能层面的指标较少,

代表性不足，绝大部分指标为国际化前景测量性的指标，这些指标大多难以量化，计算时难以有统一标准。虽然Thimann的测量方法包含的指标较多，但从货币的“三大”职能上看，还未能较全面的体现，这可能也与数据的可获得性有关。

3. 中国人民大学国际货币研究所 (2012) 在《人民币国际化报告 (2012)》中提出了构建人民币国际化指数这一概念。指数构建选用三级指标体系，指标体系下分别采集具有代表性、数据来源可靠的数据指标来测算人民币国际化指数。报告详细的阐述了中国在世界的影响力，人民币在世界金融市场上的重要地位，同时指出人民币区域化的目标就是实现人民币逐步成为全球贸易的结算货币。采用确定的计量模型，课题组计算了 2012 年第 4 季度的人民币国际化指数即RII 为 0.87，美元为 52.34，欧元为 23.60，日元为 4.46，英镑为 3.98，按照这种模型计算得出的结果，比较符合实际，相关货币的国际化指数与外汇储备的结构大体相似。RII 的编制是突破性的尝试，不仅在学术研究上提供了新的研究视角，开拓了新的思路。但较为遗憾的是，该算法所依赖的数据，可得性较差，同时RII的指标选择和赋权方法还受到约束。报告中虽然介绍了指标构建的依据和方法，但是如何获得数据，或者如何对数据进行加工处理，却没有明确交代。

## (六) 对推进人民币区域化的路径和策略的研究

李娜 (2014) 认为我国政府应在人民币资本项目不可兑换和可兑换两个前提下，重点讨论推进人民币区域化的方式，加快人民币区域化的进程，应主动作为。同时也指出，人民币区域化并不一定要求人民币自由兑换，即使在人民币不能自由兑换的条件下，也可以进行人民币区域化，只不过人民币自由兑换会加快人民币区域化的进程，可以促进人民币在更深层次、更广范围内实现区域化。

巴曙松 (2016) 认为，要想实现人民币的区域化发展，要以边境贸易为抓手，他认为，人民币的可兑换性和人民币的区域化发展之间有着重要的联系。在促进人民币实现完全可兑换的过程中，人民币在境外的流通，实际上体现了人民币的国际化进程，以及在资本项目项下开放的不同阶段的特征。同时他分析了双边贸易在促进人民币区域化中的重要作用，并从原因、具体路径和对策措施方面，分析了双边贸易作为人民币区域化的重要突破口。周小川 (2005) 指出，随着我国实行人民币跨境贸易结算点之后，改变了过去因为社会习惯、传统等原因，一些国家和地区在对外贸易中使用美元结算的习惯，越来越多的国家和地区在对外贸易中采用人民币结算，尤其是边境贸易中，人民币结算的比率越来越大。他认为，我国应该出台更积极的政策鼓励边境贸易中采用人民币结算，以双边贸易采用人民币结算为带动，促使人民币在周边国家和地区流通，是实现人民币区域化、国际化的重要手段和方法。郑凌云 (2006) 认为人民币区域化应该根据市场需求，走“渐进型”路线，实现量变到质变的转变。认为人民币区域化首先在周边国家范围内实现，进而向周边非邻居地区扩散，再逐步扩大范围，最终实现人民币区域化、国际化的过程。中国人民银行南宁中心支行课题组 (2007) 对该问题也做了相关研究，认为推进人民币区域化，可以从三个方向进行，一是，推进人民币在东南亚国家以及东亚国家的区域化；二是推进人民币在周边国家的区域化；三是推进人民币在中华区域的“四币整合”。李婧 (2009) 在研究过程，突出了市场需求的重要性，强调了人民币区域化是市场需求主导的过程，不应该是政府主动推动的进程。在人民币区域化的过程中，要重点保持我国在全球经济中的国际分工优势，从制度建设方面，加强对人民币区域化的推动和促进，制度建设对于人民币区域化具有重要的现实意义。陈兆祥 (2009)

着重分析了香港人民币离岸中心在人民币区域化中的重要地位, 认为人民币离岸中心的建设和发展既是人民币区域化发展的过程也是人民币区域化发展的结果。李晓、丁一兵等(2009)认为人民币

区域化应该根据我国经济社会发展需要和新的国际经济社会背景, 切忌照搬别国货币国际化的模式, 努力探索出一条适合中国国情的人民币区域化发展的独特路径。路径图如图 2.1 所示。

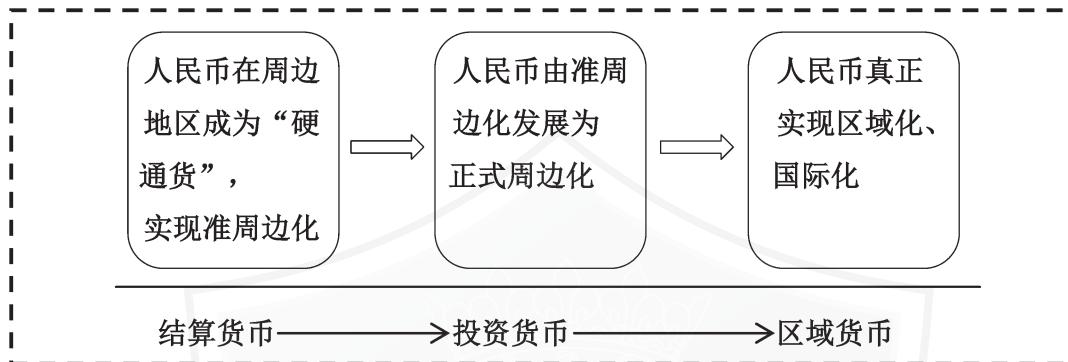


图 2.1 人民币区域化路径图

### 三、国外有关人民币区域化的研究

近年来中国的综合实力不断增强, 在国际的地位逐步提升, 尤其是在经济、贸易和金融等领域的影响力越来越大, 人民币在周边地区的贸易过程中经常被当作结算货币和储备货币, 人民币在东南亚、东亚甚至整个亚洲的认可程度逐步提高, 流

通程度也随之提高。越来越多的专家学者开始研究人民币区域化问题, 但对于这一问题的研究, 主要还是国内学者, 国外学者是近年来才对这一研究内容予以关注, 国外学者早期的研究主要侧重于对货币区域化的理论分析, 总结出货币区域化不同阶段特征及其要求, 如表 2.3 所示。

表 2.3 货币区域化不同阶段特征及其要求

阶段	阶段特征	货币要求
第一阶段	跨出国门, 在边境贸易中作为支付结算手段	要求币值稳定
第二阶段	作为对外贸易中的结算手段、债务清偿手段 (如在债券市场和贷款市场上)	要求币值稳定和货币具有流通性
第三阶段	作为对外贸易中的结算货币和支付货币, 具有国际流通性	要求货币具有稳定性、流通性和有 一定的保值性

资料来源: 根据相关材料整理而来。

也有一些学者

对人民币区域化的可行性以及成本收益展开研究, 还有些学者重点围绕人民币在亚洲的未来

发展、作用、当前存在的突出问题以及可能面临的挑战等方面来进行人民币区域化的研究, 学者们

得出的研究结论不尽相同，有些学者认为人民币区域化条件还不成熟，短时间内人民币还不可能区域化；也有些学者认为人民币将随着中国经济实力、国际贸易实力的增强，成为亚洲未来的区域货币乃至成为可自由兑换的国际货币。但总的来说，国外对人民币区域化的研究成果还相对较少，相应的文献研究也不多。较为具有代表性的研究成果如下。

### （一）对人民币成为区域货币的可能性研究

“欧元之父”罗伯特·蒙代尔研究指出，人民币有很大潜能能够在亚洲成为强势货币。

但也有学者对人民币区域化持否定观点，如 Kwan (1998) 认为人民币并不具有成为区域关键货币的能力。他的研究结论指出，虽然中国的边境贸易规模不断扩大，但是边境贸易的紧密程度还远远不够。他还指出，目前中国的金融市场还不够健全，不够成熟，因此人民币不足以承担亚洲乃至国际货币的能力。尤其提出受亚洲金融危机的影响和中国通货膨胀问题严重等原因，所以认为中国目前还不具备能力来建立或者参与到亚洲最优货币区中。

Hefeker & Nabor (2002) 通过分析发现，中国的综合实力逐步增强，未来几年将成为比日本更重要的亚洲产品集散地，逐步成为区域内主导经济体，正是中国综合实力的增强，奠定了其在区域内的重要地位，也为人民币区域化提供了基础。他们研究还发现，中国与其他国家的对外贸易总额越来越大，贸易往来越来越频繁，逐渐成为区域内最大的经济体。中国在区域内的影响力越大，人民币被越来越多的国家作为贸易结算货币和支付货币也就成为必然，经济总体实力的增强，使得人民币区域化成为可能。

中国与东南亚各国经贸往来稳定，与日本、韩国经贸往来频繁，这使得中国能够在东南亚、东亚甚至亚洲占据主导地位的重要原因，即使人民币

在金融后危机时期，中国作为负责任的大国，依然坚持人民币不贬值，所有这些使得人民币获得声誉，也保证了人民币在亚洲地区的流通。

Cohen (2009) 认为人民币能够在亚洲区域内成为基础货币，可以发挥更加重要和广泛的作用，但是至于人民币能不能在国际市场上与美元和日元抗衡，目前条件还不能做出有效的判断。

日本经济学家河和正弘 (2005) 和滝田贤治 (2006) 表示，人民币成为区域内的强势货币还要一段较长的时间，人民币虽然具有成为区域内强势货币的基础和潜力，但是因为中国的金融体制尚未彻底改革，并没有实现真实意义上的市场经济，同时缺乏民主政治体制，且资本项目尚未完全放开，这些条件的限制，使得人民币要想成为区域内的强势货币，还要经过较长的一段时间。

Thimann (2009) 分析亚洲地区各国常年受美元汇率波动的影响，在金融危机中损失较大，亚洲各国在汲取金融危机的教训之后，一直在寻求去美元化的路径。亚洲区域内，人民币相对日元受美元波动的影响较小，日元受美元波动的影响较大，综合分析认为人民币具有成为亚洲区域强势货币的潜质和可能。

### （二）对人民币成为国际货币的可能性研究

Schmidt (2001) 预言，在未来三十年后，人民币将成为继美元、欧元之后的第三大国际货币，人民币将打破目前国际金融市场的平衡，成为新的全球货币。

Mundell (1998) 认为，人民币在亚洲地区流通的认可度和中国在亚洲地区的影响力，为人民币区域化可行性提供了一个坚实的基础，这也是人民币国际化的可能路径。但目前，中国尚不具备成为区域内主导货币的可能，人民币区域化要循序渐进，逐渐过渡，先实现边境区域化，再向国际化方向过渡发展。

Broz (2012) 对人民币区域化发展持相反的看

法，他认为中国在资本项目项下还没有完全开放，金融市场也并不成熟，金融市场的发达程度较低，金融管制还比较明显和突出，应对外部冲击或大规模跨境游资时可能还不能完全应对，因而短期内不可能实现人民币国际化，需要循序渐进。

#### 四、结论

文章对国内外人民币区域化相关文献进行梳理，发现国内和国外学者对于人民币研究的关注点不同，研究视角也不同。总体而言，国外学者对人民币区域化的研究不太，但国内学者在 2008 年后关于人民币国际化、区域化的研究呈现蓬勃发展的趋势，他们从不同角度、不同层面研究了人民币区域化的问题，取得了丰硕的成果。本文通过对相关文献的梳理总结，得出了以下的结论和看法：

##### (一) 对文献研究的归类总结

通过认真梳理历年专家和学者们的研究成果发现，国内对于人民币区域化研究范围主要集中在人民币区域化的现状和存在的问题、人民币区域化可选的路径、以及人民币区域化的可行性、可能性和必要性，并提出促进人民币区域化的对策建议和保障措施。从研究方法上看，主要停留在理论分析阶段，规范分析较为常见，缺少计量方法和实证分析。分析其原因，主要在于中国和东南亚国家的贸易往来是近年来在逐渐增加的，实证分析往往对数据要求较为严格，而中国与东盟国家在经贸合作等方面的数据上时限不长。另外就是人民币跨境贸易结算试点时间还比较短，这就给研究在资料收集、数据整理和模型构建等方面带来了一定的难度，这也是国内学者对于人民币区域化研究中实证分析较少的原因所在。随着中国—东盟自由贸易区的建成，中国和东盟国家之间的贸易往来越来越多，合作范围也越来越深入，人民币区域化的实证分析所需数据将会越来越充足，这也是国内学者在下一阶段要研究的主要内容和方向。

##### (二) 对人民币区域化的认识和理解

人民币能否实现区域化，与我国的国情，综合实力分不开。人民币实现区域化，要求人民币能够在区域市场上，发挥货币职能，具有货币的稳定性、保值性等特征，能够作为区域内的强势货币，关键货币。而这一些特征均与我国的综合实力有关，与我国在当前世界经济中的地位有关。所以对待人民币区域化发展这一问题的认识，要认识到实现人民币区域化是我国当前经济社会发展之所需，是顺应形势的需要，而不是突发奇想，一厢情愿。

##### (三) 促进人民币区域化的对策建议

1. 人民币区域化发展需要一个过程。这个过程不能操之过急，也不能停滞不前。人民币区域化发展是大势所趋，但不能急于求成，应先在边境地区和我国的周边地区实现，在逐步向其他推进，最终成为区域内的关键货币。

2. 对人民币区域化的认识，应在深层次领域领会，人民币区域化是在一个区域内行驶自由兑换、交易、流通、储备等职能，目前，仍有不少学者认为人民币区域化仅仅是在亚洲区域内的货币一体化，我们所说的人民币区域化，是通过合作和竞争，成为区域内的关键货币，能够在贸易、金融中发挥关键货币的职能。

3. 人民币区域化是一把“双刃剑”，即可缓解我国人民币升值压力、平衡外汇储备等问题。同时也要认识到人民币区域化存在着一定的风险，如人民币区域化后，很容易受到国际热钱的关注，遭到国际热钱的恶意攻击。同时实行人民币区域化，会使人民币币值的波动受到制约。原因在于，人民币区域化的过程是人民币币值保持稳定或者是上升的过程，这也是其他国家认可人民币作为关键货币的主要原因，倘若人民币要实行贬值政策，其他国家出于保护自身利益的需要，会出面干预人民币贬值性，这样容易造成人民币币值波动的被动性。另外还存在货币逆转的风险。如果其他国家

货币贬值, 必然造成货币回流, 形成一定规模后会造成货币逆转现象, 使人民币丧失已经取得的区域关键货币的地位。

4. 为加快推进人民币区域化发展, 我们应做好充足准备, 有序推进人民币区域化。一是多方面的创造人民币区域化的条件。加快我国利率市场和汇率市场的改革, 同时, 逐步放开资本市场, 逐步推进资本项目的开放。健全监督和监管机制, 培育和发展金融市场。二是在推进人民币区域化时要重点突出, 对于明确能够接受人民币参与区域结算的国家和地区重点推进。

5. 在推进人民币区域化过程中, 要注意处理好与各国之间的关系, 为人民币区域化创造稳定的政治环境。人民币区域化还要处理好美元霸权的影响, 处理好中美关系, 同时我国和日本由于历史原因造成政治障碍, 人民币区域化也要处理好中日关系。同时还要关注亚洲内部, 尤其是东亚地区, 由于在政治、宗教方面的差异, 不少国家存在着政治歧义甚至是领土纠纷问题, 我国要处理好与周边国家和地区的关系, 增强互信互认, 为人民币区域化发展提供良好的外部环境。

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## INVESTIGATING JOB SATISFACTION IN SERVICE INDUSTRY

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### Abstract

The purpose of this paper is through ‘document research’ to analyze 80 articles about job satisfaction in service industry or have relationship with service industry, to uncover current research situation and development trend about job satisfaction in service industry.

The major finding from this study is through analyze 80 articles’ samples and sizes, researcher finds that primary industry is Health-Care and secondary industry is Education, because both of two industries covered 70 articles in researcher’s articles; almost all articles choose quantitative research method as major research method in their studies. This researcher finds that investigation of job satisfaction in Health-Care industry focuses on three roles. The primary role is doctors because nearly all articles choose hospital as research setting, the secondary role is nurse because this role still important in hospitals. Tertiary role is choosing all staffs of hospital as research sample. Researcher still finds that investigation of job satisfaction in Education industry focus on two roles. The primary role is teacher. The secondary role is to choose non-teaching employees from setting as the research sample. Researcher finds that almost 70 articles have the same point in their findings: factors that affect job satisfaction. At last, researcher focuses on this point of view to distinguish similar and difference between health-care and education.

**Keywords:** Job Satisfaction, Service Industry, Investigating

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## Background of the Study

Development in any organization without employee's hard working. Workers' decisions about whether to work or not, what kind of job to accept or stay in, and how hard to work are all likely to depend in part upon the worker, subjective evaluation of their work, in other words on their job satisfaction (Clark, 1998).

Accompany with the development of knowledge economy, the knowledge capital has replaced the substance capital, to become the dominant factor that promoting social progress and economic development. Human resource as the vehicle of knowledge capital, it must be the core resource of the enterprise development (Li, 2008). Any company, enterprise, and government department, they couldn't get good job achievement without good employees. So, for improving the organization competitiveness, any organization must try its best to arouse employee's enthusiasm, to cultivate the spirit of dedication, improve employee loyalty. To achieve this point, we need let employees working in the organization could have more satisfied feeling. Therefore, "employee job satisfaction" gets put forward under this big background and accompanied with more research and discussion about this concept.

With the development of global economy and the advancement of the science & technology, the service industry is now rapidly growing and becoming a prosperous industry (Li, 2004). Service industry covers a wide range, such as education service, transportation service,

hotel service, public service, medical service and so on. We wouldn't live in this world without service industry. But this industry is also facing to various tribulations, among which, the ultimate one is the personnel management (Li, 2004). Improving employee performance and reducing turnover are important parts of human resource management, and these two parts have close relationship with employee job satisfaction. On positive side, job satisfaction has relation with individual performance, such as a consultant company of American investigated 25000 employees in 1994, it find that the most important key to improve the employee performance is enhancing employee job satisfaction and morale (Li, 2001 cited in Cai, 2006). On negative side, job satisfaction has a relation to the rate of staff turnover, According employee suggestion investigation of IBM, it indicated that the higher of the employee job satisfaction, the lower of the staff turnover (Spector, 1997 cited in Cai, 2006). It is clearly that the employee job satisfaction of the work plays is an important role in operating service industry.

## Purpose of the Study

The purpose of this study is, through document research method' to analyze 80 articles about job satisfaction in service industry or have relationship with service industry. The purpose, sampling, research methodology, finding and recommendation of 80 articles will be reviewed, to uncover the current research situation and development trend about job satisfaction in service industry.

## Significance of the Study

With the continuous development of the global economy, the position and function of service industry has become more important, it already become the new power of development of the world economy. The development scale and level of service industry also become an important index to measure a national economic and social development and people's life quality. The significance of this study that through investigating recent articles about job satisfaction in service industry, it could give some suggestions and helps for development of service industry, and it also could give more direction for research of job satisfaction in future. From clearly understanding more detail about job satisfaction, the researcher hopes to provide a service to the whole field of Human Resource Development (HRD) and Human Resource Management (HRM).

## Scope of the Study

This study focused investigation on current published articles about job satisfaction application and research in service industry.

Source: Data were collected from books of library, famous websites (such as Google Scholar, Springer Link and so on);

Number: 80 articles;

Cover: All of these articles choose 'job satisfaction' as key word; these articles covered most kinds of service industry, such as education service, transportation service, hotel service, public service, medical service and so on.

## Literature Review

Literature review is very important to our research; because it shares with the reader the results of other studies that are related to the study being reported. So this report will start with the review of literature that includes research related to job satisfaction.

### 1. The Concepts of Job Satisfaction

Job satisfaction has been a subject of great interest to practitioners and scholars since the 1930s. Systematic attempts to study job satisfaction began when Hoppock published the first intensive study of job satisfaction in 1935s (Torressen, 2000). Since then, the study of job satisfaction has been built upon that beginning.

Because of differences among research frameworks, so the definitions of job satisfaction are different (Cai, 2006). Here offering major different definitions of job satisfaction from 1935 to modern times.

1. Job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (Locke, 1976 cited in Torressen, 2000).

2. In 1990s, Szilagyi and Wallace designated job satisfaction as an attitude held by a person that reflected an evaluation of a particular component in the workplace (Davis, 2002).

3. In 1957s, Argyris defined job satisfaction as the congruence between what an employee expects from a job and what the job actually offers (Torressen, 2000).

4. In 1935s, Hoppock pointed out that the job satisfaction was the effects of mental and

physical on the feeling of the work Environment (Bai, 1997 cited in Cai, 2006).

5. in 1962s, Job satisfaction was defined by Carlson, Davis, England, and Lofquist as “a set of work attitudes which presumably grow out of and are affected by the fulfillment or non-fulfillment of his expectations”. (Davis, 2002).

6. Robbins and Judge defined Job satisfaction: the term job satisfaction describes a positive feeling about a job, resulting from an evaluation of its characteristics. A person with a high level of job satisfaction holds positive feelings about his or her job, while a dissatisfied person holds negative feelings (Robbins & Judge, 2009).

7. Robbins et al. define job satisfaction as “an individual’s general attitude towards his or her job. As the authors admit, this definition is very broad. Perhaps a better definition is that provided by Locke, who views job satisfaction as” the pleasurable emotional state resulting from the perception of one’s job as fulfilling or allowing the fulfillment of one’s important job values” (Robbins, 2005).

This concept which tertiary-industry originated in western economics. As early as 1690s, Willian Petty already elaborated on some ideas related to the tertiary-industry (Wang, 2003). After then, economist such as Sav, Sismondi, List, Senior, Marxism and so on analyzed tertiary-industry from different angles.

## 2. Definition of service industry

In the middle of 20 century, service industry generally was called “tertiary-industry” by

western scholars (Guo, 2007). 1935s, in the book named “conflict of safe and progress” was written by English economist-Fisher, he defined tertiary-industry as: industry department that completely don’t have relation with material production (Guo, 2007). 1957s, in the book named “condition of economic progress” - third edition, he choose “service industry” instead of “tertiary-industry”, and defined “service industry” as: industry department that completely don’t have relation with material production.

“Service economics” was written by American economist - Victor R. Fuchs in 1968, it is the first book that “service industry” gets formally used (Guo, 2007).

## 3. Classification of Service Industry

Different scholars are classified service industry based on different purpose of research and from different angle. It leads to the same service departments may be divided into different categories.

Dorothy Riddle built interactive economic model in 1986 (Wang, 2003). He divided service industry into five parts based on the function of service industry in society, it contains:

1. Commercial service, it includes in consulting, finance, banking;
2. Trade service, it includes in retail, repair, maintenance;
3. Basic service, it includes in communication and transportation;
4. Social/individual service, it includes in catering industry and health industry;
5. Public service, it includes in education and government.

In 1978s, Singelman divided service industry into four parts according to function of services (Wang, 2003). It contains: 1. Circulation services, it includes in transportation, warehousing, retail and wholesale, advertising, etc. 2. Production services, it includes in bank trust, insurance, construction and real estate, publishing, etc. 3. Social service, it includes in health care, education, government and non-profit organizations, etc. 4. Individual services, it includes in housekeeping, catering and accommodation, repair, recreation and leisure, beauty salons, etc.

In 1986s, Chinese scholar-Yang Yu Chuan according to the time of development to divide service industry into two parts (Shi, 2001). It contains:

1. Traditional service. Such as catering industry, accommodation, etc;
2. Modern service. Such as finance and insurance, health-care industry, logistics industry, tourism industry, etc.

#### 4. Concept of Document

Document literally means all carriers that can be used to record knowledge. Document not only include in books, periodicals, dissertations, scientific reports, but also includes in variety of materials including physical form (Qin, 2000).

Arthur Marwick divided document into two types: primary sources and secondary sources. Primary sources constitute “the basic, raw, imperfect evidence, which is often fragmentary, scattered and difficult to use” (Marwick, 1970 cited in McCulloch, 2004).

The secondary source is the coherent work of history, article, dissertation or book, in which both the intelligent layman and the historian who is venturing upon a new research topic, or keeping in touch with new discoveries in his chosen field, or seeking to widen his general historical knowledge, will look for what they want (Marwick, 1970 cited in McCulloch, 2004). According to document processing degree, document could be broadly divided into zeroth document, primary document, secondary document and tertiary document (Qin, 2000).

Zeroth document means live record or witness description was written or use other ways to record by people who had experienced special events or acts. It is the most primitive information that do not get published and conscious processing.

Primary document also be called original document. Generally refers to documents such as monographs, papers, investigation report and so on, which directly record incident, research result, new knowledge, new technologies.

Secondary document also be called retrieval document, it means processing and sorting primary document, include in recording the characteristics of document and extracting main points.

Tertiary document also be called referential document. They are general overview of the document which are base on using of secondary literature search, and base on systematic collation the Primary document Such literatures are different from the original primary literature, which also are different from the objective

reporting of the secondary literature, but they have the subjective global in nature.

Document research method mainly refers to search, identify, organize documents, and through the study of document to format the scientific understanding methods of fact (Qin, 2000).

## 5. Studies and development histories related to job satisfaction

The earliest job satisfaction researcher was Hoppock in 1935, however, his research was mainly about the impact of the external factors on job satisfaction but it didn't explore the structure of job satisfaction (Shi, 2001). Since then, other researchers have started to explore the issue of job satisfaction from the human perspective of the inherent need and to emphasize the individual's intrinsic factors of job satisfaction. Herzberg's Two-factor Theory divided the factors of job satisfaction into hygiene and motivator. Two-factor theory creatively put forward the asymmetry about "satisfactory" and "unsatisfactory" in job satisfaction, so that people have more in-depth understanding on job satisfaction (Shi, 2001). And this leads to an extensive discussion on job satisfaction. From that time, researchers began to explore the structure of job satisfaction. In 1962s, Vroom pointed out that the main component of job satisfaction factors included management, promotion, job content, boss, remuneration, working conditions, working partners and so on seven aspects.

The big structural effect on job satisfaction

is Minnesota Satisfaction Questionnaire and Job Descriptive Index (Shi, 2001). Minnesota Satisfaction Questionnaire (Minnesota Satisfaction Questionnaire, short MSQ) was compiled by Weiss, Dawis, England and Lofquist in 1967, it was characterized by all aspects of a complete measurement of job satisfaction (Cai, 2006). However, it is found that there are too much questions in the use of long-form scale, but also to measure the burden of the trial and error problem has been is open to question. Subsequently, Smith, Kendall and Hullin in 1969 suggested that job satisfaction could be consisted by the work itself, promotion, salary, managers, and working partners, thus forming the Job Description Index (Shi, 2001). Characterizes of JDI is that it is not limited by level of education. It only needs to choose different adjectives according the different aspects.

## Methodology

The purpose of this chapter is to introduce how to design research of this study by researcher and what kinds of method will be used in this study. This chapter divides into 3 parts.

### 1. Research Design

This study was a document research and all documents used were purposively collected.

This study has been designed with 5 parts: First part is Introduction. It contains background of the study, purpose, scope and significance. Second part is Literature Review. It contains the concepts of job satisfaction, definition of

service industry, classification of service industry, concept of document, studies and development histories related to job satisfaction. Third part is Methodology, it contains research design, Processes of document research method, Characteristics of document research method, Data Collection and Data Analysis. Fourth part is finding from this study. Fifth part is conclusion and discussion.

## 2. Processes of document research method

The general process of document research method consists of five basic links, namely (Qin, 2000):

1. A topic or assumptions; different research purposes and questions, so the scope of document collection and description must be different, emphasis of document analysis also bound to be different. So the primary work of document research method is to make sure purpose and questions of you research.

2. Research design; the process of this research; the method will be used in this process; instruments; participants and research purpose and so on, all of these must to do research design.

3. Search documents; first, make sure the scope of document collection; second, do good preparation work for search documents and describe document;

4. Organize documents; the purpose of organize documents is to systematize original documents, to uncover the nature of phenomena and the internal principles.

5. Conduct document review. Make a final account that through research all documents.

## 3. Characteristics of document research method

To compare document research method with other research methods, it has its own characteristics. The primary characteristic that it different with other research methods is indirect characteristic (Qin, 2000).

1. It could research object that cannot be contacted. The basic advantage of document research method is, it could cross restraint of space-time to do research and object of this research could not be close to researcher.

2. Unresponsiveness. Because Document research method does not bring the researcher the research object, just close to some documents that have relationship with research object, it does not get supported by social environments and participants.

3. Research is low-cost. Document always in libraries and some study centers, accompany with computerization, more and more documents are electronic information that could be get easily. Researcher just needs to get permit from study center, generally. A researcher only needs to pay a fair use charge for using data. So this method maybe is the most economic research method.

## 4. Data Collection

The good news is that searching and retrieving the literature has become much easier as access to electronic databases has become more widespread (Hoyle, Harris & Judd, 2002).

Today, one can type in a key word in an electronic database such as PSYCINFO or

MEDLINE from one's office or home and obtain within seconds the full abstracts to hundreds or thousands of articles Hoyle, Harris & Judd, 2002). There are two major steps for search literature as follow:

The first step in literature search is to identify the relevant electronic database, as specialized databases exist for each major discipline, for example, PSYCINFO for psychology, Sociological Abstracts for sociology, Social Work Abstracts for social work, ERIC for education, and so forth (Hoyle, Harris & Judd, 2002).

The next step is the most critical - deciding on the key words to be used in the search. When an electronic database is accessed, the search can be conducted by author, title, or subject. Key words are those words entered when one searches by subject, and it is the key words selected that contribute most to the success or failure of a search (Hoyle, Harris & Judd, 2002).

For this study, all articles of this research used purposive collection, All articles chosen had 'job satisfaction' as a key word. All of these articles are about job satisfaction in service industry or have relationship with service industry. These articles covered most kinds of service industry, such as education service, transportation service, hotel service, public service, medical service and so on. The published time of all articles between 2004 to 2009.

The researcher had three ways to conduct data collection in this research, as follows:

Firstly, get authorization from Burapha

university library to search internet resources and download.

Secondly, the researcher use famous internet search engine such as Google Scholar to search internet resources and download.

Thirdly, the researcher applies for account number to enter paying internet site to search internet resources and download.

## 5. Data Analysis

Content analysis was used in all 80 articles by researcher in this study. The researcher analyzed and distinguished contents of 80 articles from 9 perspectives: topic, researchers, objectives, conceptual framework, design, sample& size, instruments, findings and recommendation, to uncover current research situation and development trend about job satisfaction in service industry.

The quality of the study is demonstrated by trustworthiness and reliability of the data. There are two reasons to explain:

1. All 80 articles appear on four famous internet sites that catalog scholarly research. They were downloaded from the following websites:

<http://scholar.google.cn/>  
<http://www.socolar.com/>  
<http://www.springerlink.com/home/main.mpx>

<http://proquest.umi.com/pqdweb>

All 80 articles' full text was saved through PDF form by the researcher and could be checked in any time for truthfulness.

## Finding

The major finding of this research is that researchers in both health-care and education choose quantitative research methods as major research method in their studies. There are three reasons to cause quantitative research methods to be chosen most times. The primary reason that quantitative research method was used most of the time depends on purposes of their studies. This researcher finds that almost all articles have one main purpose in all cases it is investigation of job satisfaction. Second, most investigations happened in big settings such as hospitals or schools, so these settings always have large populations. Third, most measurement tools used questionnaire as the major instrument. The quantitative research methods could provide more advantages than other research methods when looking at trends in large populations.

Researcher found some important roles in investigation of job satisfaction, and found that most articles have the same point in their findings: identifying factors that affect job satisfaction. Other findings list the important roles and from the point of factors that affect job satisfaction to detect similarities and differences between health-care and education.

Researcher still finds that those who are close to the top of hierarchy in their organization, who get affect by psychological, strongly get affected by psychological factors. People in subordinate position tend to say they are strongly affected by physical factors.

The finding of this study shows that inves-

tigations of job satisfaction tend to focus on the detection of factors that affect job satisfaction in service industry. Through comparing job satisfaction with factors that affect job satisfaction, researcher found some relationships between different factors and different industries. In our findings, education and health-care were researched by most researchers in the most time. According to the previous research, the trend of job satisfaction research more focuses on the research of the dynamic relationship between people and the environment (Li, 2008). Through to compare factors to effect job satisfaction between health-care and education industries, researcher finds that health-care industry emphasizes increase job satisfaction through service individual right such as personal accomplishment, recognition and so on. But the education industry emphasizes increase job satisfaction through service group right such as support of teaching, support of research and so on.

Most scholars choose motivation theory as the basis to research job satisfaction (Cai, 2006). It's probably safe to say that the most well-known theory of motivation is Abraham Maslow's hierarchy of needs (Robbins & Judge, 2009).

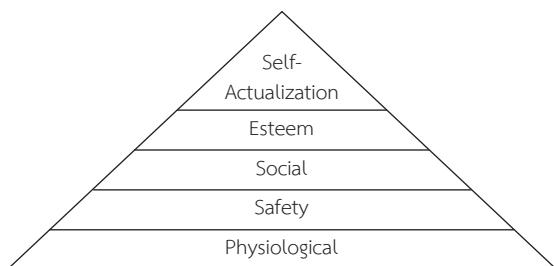


Figure 1 Abraham Maslow's Hierarchy of Needs

There are five levels in this theory; the first level is physiological, includes hunger, thirst, shelter, sex, and other bodily needs; the second level is safety, it includes security and protection from physical and emotional harm; the third level is social, it includes Affection, belongingness, acceptance, and friendship; the fourth level is esteem, this level includes internal factors such as self-respect, autonomy, and achievement, and external factors such as status, recognition, and attention; the fifth level and also the highest level is self-actualization, it means drive to become what one is capable of becoming; includes growth, achieving one's potential, and self-fulfillment. But in this study, the researcher did not find many factors belonging to the second level safety. Most of factors that the researcher found in this study belong to the other levels.

Why are there differences between Abraham Maslow's hierarchy of needs and the researcher's findings? The researcher's opinion is that the primary reason to cause this result is the nature of those two industries. Health-care industry and education industry in this study focus on the peaceful countries and get protection from the social law.

People who worked in these two industries will be respected and get salary. This is the reason to cause most people from these two industries did not care about the factors of safety.

## Conclusion and Discussion

Job satisfaction is an important factor to affect employee satisfaction. This research use document research method to analyze 80 articles that had relation with job satisfaction. After analyzing 80 articles' findings, researcher finds that factors that affect job satisfaction is the primary theme in all articles findings, that is the reason that researcher focus on this part to discuss. Future research could from the other themes to continue this study.

For example, researcher through points out factors those affect job satisfaction to detect similar and difference between health-care and education, the further study also could from the point of gender, or age to discuss and detect job satisfaction.

From this study, researcher learned that job satisfaction has relation with individual performance; it still has relation with the rate of staff turnover. Through review concept of job satisfaction and service industry, researcher more clearly understands the theories and definitions about job satisfaction and service industry. In addition, researcher understands relationship between job satisfaction and motivation. The researcher now understands how to analyze articles through document research method.

On the other side, from the process to create independent study, researcher learned that anything can't be finish in one time; there are costs of energy, time and unremitting exertion to do it. The success and result that you expect will not come involuntarily.

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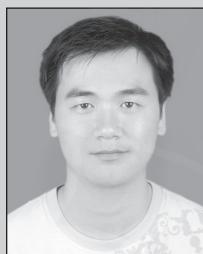
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## SMALL AND MEDIUM FAMILY ENTREPRENEUR LEADERSHIP BEHAVIOR AND ENTERPRISE PERFORMANCE

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### Abstract

This paper reviews the research progress of the relationship between the leadership behavior and the performance of the Small and Medium Family Entrepreneurs (SMFE) in recent years. First, this paper describes the definition of Small and Medium Enterprises (SME) and Small and Medium Family Enterprises (SMFE), reviews the research history, current situation and theoretical of Small and Medium Family Enterprises. Secondly, the literature is reviewed on the Small and Medium Family Enterprise (SMFE)'s leadership behavior, the SMFE management model, the SMFE enterprise performance, the relationship between corporate governance and corporate performance. Finally, some research findings conclusions about leadership behavior, governance and corporate performance are showed. The article briefly describes the problems to be further studied in the end.

**Keywords:** Entrepreneur, Leadership, Behavior, Governance, Performance

## Introduction

Small and medium-sized family business is a common type of organization. About 90% of the enterprise is a family owned or controlled companies in the United States, and 80% of them are small companies. Small and medium enterprises is the main body of China economic system. According to statistics, In China small and medium enterprises accounted for 99% of the total number of companies, and small and medium-sized family enterprises accounted for at least 90% of the above. (Zhou, 2005: 5-11).

In recent decades, more and more attention has been focused on the research of small and medium sized family enterprises. A study show that the papers about the small and medium-sized family enterprises published in the academic journals are 33 in 1989, 110 between 1990 -1999, and 195 from 2000-2003 (Sharma, 2004: 1-36).

This paper reviews the research history, current situation and theoretical of Small And Medium family enterprises; and then, the literature is reviewed on the Small And Medium family enterprise (SMFE)'s leadership behavior, the SMFE management model, the SMFE enterprise performance, the relationship between corporate governance and corporate performance. Finally, the article briefly describes the problems to be further studied.

### Text:

#### 1. Small and medium enterprises

##### 1.1 Definition of small and medium sized enterprises

According to 《The China small and medium-sized enterprise Standard》, in the industrial field, small and medium enterprises shall meet the following conditions: number of employees is within 2000, or sales are below 30000 CNY, or total assets are below 400 million CNY.

#### 1.2 Characteristics of small and medium enterprises

(1) The high unity of ownership and management; (2) organization structure is relatively simple in the enterprise, and less management layer; (3) small and medium-sized enterprises have small scale production, but the ability to respond to market is relatively strong; (4) business scope is narrow, and production and management is professional; (5) the economic power is weak, competition ability is low, and enterprise life cycle is short.

#### 2. Research on small and medium family enterprises

##### 2.1 Family enterprise meaning

Western researchers generally define family enterprise from the perspective of corporate controlling rights. Chandler argued that family enterprises essentially is an entrepreneurial enterprise, and its founder and its closest person or family always grasp a majority stake in the enterprise, and retains important management decisions (Charles, Goetz & Scott, 1981: 1089-1150).

The definition of Chinese researchers is similar to that of western researchers, such as Zheng (2000: 219-227) think that the family

enterprise is family rules and business rules combination which the family assets have controlling position.

From the definition of most researchers, the author summed up some common points: (1) ownership: the absolute or relative holding; (2) the right to operate: by the family directly or indirectly control (2) family members involved in the aspects: there are two or more family members working in the enterprise; (3) the inheritance of the business: inherited by the members of the family.

## 2.2 Small and medium family enterprises meaning

In the academic industry, there is not a unified definition for small and medium-sized family enterprise (Fox, Nilakant & Hamilton, 1996: 15-25; handler, 1989: 257-276); From the definition of most researchers, the author summed up some common points: (1) ownership: the absolute or relative holding (2) the right to operate: controlled by the family directly or indirectly (3) the aspects of family members involving in: with two or more family members working in the enterprise (4) inheritance: inherited by family members; (5) Staff: with employer less than 500 , and assets less than 50 million;

## 2.3 Small and medium family enterprises research has been a global hot topic

On the one hand, through the study of family enterprises we can explore the unique value of family altruism and entrepreneurial spirit. On the other hand, it is also an important starting point for developing management theory suitable to Asia include China and Thailand

culture system and promoting the management practice innovation.

## 2.4 Research status of foreign small and medium family enterprises

### 2.4.1 Small and medium family enterprise's economic and social value

According to conservative estimates, the proportion of family enterprise is more than 2/3 in the enterprises of western countries. The proportion of United States family enterprise is about 65%-80% (Avila, Fern & Mann, 1988: 45-54), the proportion of the British family enterprise is 75%, the proportion of the Spanish family enterprise is 80%, the proportion of Italy and the Middle East countries more than 95%. Family enterprise plays an important role in creating economic wealth, providing employment and promoting market competition. Family enterprise value is not only reflected in the creation of economic wealth, but also reflected in the social function over the general economic significance.

### 2.4.2 Small and medium family enterprises on the assumption of the traditional economy and the characteristics of the family enterprise

In traditional economics, the rational behavior of economic man is interpreted as the pursuit of its own interests maximization, but in the case of inconsistent or asymmetric information, the agent's opportunism behavior takes place. But in the family enterprise, due to nepotism of consanguinity, the employees in the family enterprise have altruistic behavior. This deviates from the traditional economic

self-interest doctrine (selfish) behavior and become the main features of family enterprises governance efficiency. (Astrachan, Klein & Smyrnios, 2002: 45-58)

#### **2.4.3 Research on small and medium family enterprises governance**

The corporate governance issues between small and medium family enterprises and public corporation have a qualitative difference. The research conclusion shows that the research focus of the corporate governance structure of the family enterprise is the characteristics of the ownership and the management of family members in the enterprise, and the different allocation methods will produce different governance efficiency and performance differences.

#### **2.4.4 Research on the organizational behavior and its competitive characteristics of small and medium family enterprises**

At present, the study of family leadership behavior and organizational behavior is mainly based on the existing theory of organizational behavior to explain and explore the problem of organizational behavior in the context of family enterprise. Such as Sorenson[8] research believes that, in addition to the positive impact on employee satisfaction and organizational commitment, as well as corporate performance, but also conducive to the governance of the family itself.

The characteristics of family enterprise's organizational behavior also formed its competitive uniqueness, which is mainly reflected in its family factors (Carson, Madhok & Wu,

2006: 1058-1077) and its unique corporate governance structure system. For example, Carney (Chen & Farh, 1999: 12-16) summarized the impact from family control of the enterprise assets into three aspects: frugality doctrine, humanism and particularism. These features can make the family enterprises to get the unique competitive advantage in particular environment.

#### **2.4.5 Research on entrepreneurship and inheritance of small and medium family enterprises**

Family member involvement and inheritance is the key factor to influence the success of family business and its sustainable development (Dyer & Handler, 1994: 71-83). In this study, Baker (Baker, Gibbons & Murphy, 1999: 56-73) will be divided into four stages: family founder of independent business -- the next generation family member management ability training and development, founder and the next generation of common management power and responsibility to inherit.

#### **2.4.6 Small and medium family enterprises research**

At present, the research mainly focused on two issues: one is the role of family in the entrepreneurial process, is the second question, this family embeddedness on entrepreneurial influence whether the formation of new ventures or enterprise business competition and growth process of unique value.

#### **2.5 China relative research status**

Small and medium family enterprises research in the country basically began from

the 1990's, the main research topics focused on the following aspects:

### **2.5.1 Chinese culture and trust structure family enterprise growth dilemma**

Chinese traditional family culture and social relations formed "feature difference preface pattern", close or distant relationship trust differences and nepotism preference (Chua, Chrisman & Sharma, 1999: 19-37).

Advocating family ethics and relation network of Chinese social system background, the contract relations become a tacit form of contract. Accordingly, relational governance into Chinese family owned corporation a adaptive strategy system arrangement (Covin & Slevin, 2002: 309-927). In fact, the actual governance model of China's family enterprise is the coexistence of two means of relationship governance and contract governance.

### **2.5.2 Leadership behavior and inheritance of Chinese small and medium family enterprises:**

Parent style leadership and entrepreneurial spirit inheritance existing research just in Chinese family business scenarios to analyze leadership behavior and organizational behavior, no further explore different leadership behaviors and family business growth, did not reflect the Chinese context theory is unique.

### **2.5.3 Small and medium family enterprises and sustainable growth**

Domestic entrepreneurship research has only just begun, mainly concentrated in the theoretical analysis. Under the institutional environment of China, it is suggested that

the research of family business based on the localization of family business can be carried out from the perspective of family, resources and entrepreneurial orientation.

## **2.6 The theoretical model and three dimensional development model of family enterprise**

### **2.6.1 A three ring theoretical model of family enterprise: a cross sectional analysis**

Researchers in the United States (Bass, 1990: 760-830) proposed study of family enterprises in the classical model: three links theory model and the model to the family business system expressed as three separate but overlapping subsystems: enterprise, the ownership and family.

### **2.6.2 Three dimensional development model theory of family enterprise: a longitudinal section analysis**

With the change of enterprise life cycle and family members to enter or exit, the enterprise organization, family structure and ownership allocation will change accordingly. The result is produced a family enterprise three-dimensional development mode (Conger & Kanungo, 1987: 637-647). Three dimensions: (1) ownership development dimension (2) family development dimension (3) enterprise development dimension.

## **2.7 Comparison and Enlightenment of Chinese and foreign small and medium family enterprises**

From the recent trend of research in the west, the current research focus is deeply analyzing the process that these characteristics

affect family enterprise organizational behavior, resource acquisition and utilization, as well as the entrepreneurial process, etc.. For the Chinese family enterprise, the clan system (Dyer & Handler, 1994: 71-83), family ethics (Redding & Wong, 1986: 267-295), the definition of property right and protection, social relation network and social responsibility have a unique mechanism of action for family business entrepreneurship and sustainable growth.

### **3. The research review on the leadership behavior of small and medium family enterprise**

#### **3.1 The development and evolution of enterprise parent leadership theory research**

##### **3.1.1 The study on the leadership behavior of Chinese social parent Enterprises**

From 1960's, by a case study Silin proposed that the leadership style of owners and managers in Chinese society business is different with in the western society. He summarizes the main dimensions including didactic leadership, moral leadership, centralization, keeping upper and lower distance, leadership intention and control. Redding (Redding, 1990: 122-136) put forward the concept of "benevolent leadership" by in-depth interview research method (Avila, Fern & Mann, 1988: 45-54). The system research on the Chinese family enterprise leadership morphology began in the end of 1980s. In 1993 to 1994, the researcher Zheng Boxun in Taiwan had succession interview with 18 Taiwan family business leaders and 24 supervisor, and proved once

again that the paternalistic leadership in the Chinese society is enterprise organizations general leadership model.

The study of parent-leadership behavior of private enterprises in mainland China began in 1990s. Zheng (2000: 219-227) conduct a comparative study on the leadership behavior in business of two sides of the Taiwan Strait, and proved that the three dimension model of parents leadership has a considerable degree applicability in the mainland enterprises. Zhou & Long (2005: 227-238), Wang, Xin & Xu (2006: 17-19), Wu & Wu (2007: 21-23) studied China mainland enterprises paternalistic leadership behavior, and get similar conclusions.

##### **3.1.2 Study on the parents leadership behavior in non -Chinese Society**

With the continuous development of the research area, it is found that the parent leadership is not the unique leadership mode of Chinese enterprises in the Chinese society, there exist in different parts of the world. The research by Mathieu & Zajac (1990: 171-194) on the India enterprise research shows that most of the employees are very much agree with the parent leadership style. The research from Bass (1990: 760-830) on the Mexico enterprise has also found that there is evidence of the existence of the parent type leadership behavior. By researching the relation between Turkey employee organization, Borman & Motowidl (1993: 71-89) pointed out that there is a kind sweet relationship similar to family members between employees and employer. Birley & Godfrey (1999: 598-608) pointed out

that the corporate parents familism is an important part of the Japanese national culture system. Baker, Gibbons & Murphy (2002: 39-81) pointed out that the parents type leadership is also an effective way widely used in Malaysia enterprises.

Even in the western society with doubt about the effectiveness of parent leadership, there are some research findings about the existence of parent - leadership. The survey from Becker (1960: 32-42) on the employee in United States, Germany, Canada and other 10 countries show that more employees in the United States agree with paternalistic leadership style than the employee in Germany, Israel and Canada. It explains that even in a highly personal heroism and democracy country like United States, paternalistic leadership behavior also exists.

### 3.2 The theoretical model and measurement of enterprise parent leadership

With the deepening of research, under the different cultural background, the parent oriented leadership behavior model and the subordinate response become the hot spot in the research, and of the different forms of parent leadership theory model form. These theoretical models have not only the common characteristics, but also many differences, because of the people's behavior difference under the different cultural backgrounds and the East and West researchers have different understanding for the connotation of the parents' leadership,. Among them, the more representative models is the parents leadership

theory model under Chinese cultural background proposed by Zheng Boxun, and the parents leadership four dimensional theory model proposed by Aycan and others based on the Western cultural background.

#### 3.2.1 The theoretical model of parent enterprise leadership behavior

##### (1) Zheng Boxun paternalistic enterprise leadership theory model

Zheng Boxun put forward the three dimensions theory of parent leadership behavior. He thought that parents leadership in typical Chinese cultural background includes 3 types of behavior: authoritarianism leadership, benevolence leadership, morality leadership.

##### (2) Aycan four dimensional model of parent enterprise leadership theory

Aycan proposed the concepts about ex-ploitative leadership and benevolent leadership on the base of the leader's generosity and concern for subordinates and the loyalty of subordinates. On this basis, Aycan combined dictatorship management with authority management to divide parent leadership into four dimensions of leadership, including ex-ploitative leadership, benevolent leadership, dictatorship leadership, authority leadership.

#### 3.2.2 Parent type leadership behavior measurement

Aychan construct a simplified paternalistic leadership scale. In 2006 he expanded the scale, and extract the paternalistic leadership scale containing the five factors (including workplace family atmosphere, personal relationship, the carefulness level of leader on staff's

work and life, expectation on loyalty and status) and 21 items.

Lu et al. (2003: 1-11) reference Zheng (2000: 219-227) research, and reference the scales used by Wang & Yao (2002: 11-13), Zhang (2002: 23-25), Wang (2002: 15-17), design the parents type leadership behavior measuring scale including three dimensions (moral leadership and benevolent leadership, authoritarian leadership) and a total of 30 items.

## Conclusion

We can conclude from the analysis on these papers:

1. The transactional leadership theory, the transformational leadership theory, the enterprise employee orientation-production orientation leadership behavior theory from University of Michigan, the structure-care two dimensional leadership theory from Ohio State University is classical theory in the field of leadership behavior; paternalistic leadership three element theory from Zheng Boyun in China Taiwan, and Chinese enterprise CEO leadership behavior 6 factors structure (Tsui et al., 2006: 113-137) are important theory of leadership under Chinese cultural background.

2. From these papers, we know that the related research often use questionnaire survey in the data collection, used to use quantitative analysis in the research methods, use cross sectional method in the logic method.

3. The theory has been set up for a long time, but from the point of view of a number of related papers, some theory such as paternalistic leadership 3 dimensional theory validation may not comply with the theoretical assumptions in different countries or regions.

The future research can be done by the way of interview, observation and questionnaire survey in data collection, by the way of qualitative method combined with quantitative analysis in the research methods, by the way of cross-sectional method combining longitudinal method in the logical method, which may will draw some meaningful conclusions.

## Problems to be further studied

Through literature analysis, it is found that there are still the following problems need to be researched in the previous studies, which need to be solved by researchers:

1. The leadership behavior theory model of small and medium-sized family enterprises
2. Influencing factors of the leadership behavior of small and medium sized family enterprises
3. The relationship between leadership behavior and governance model of small and medium sized family enterprises in 3
4. The relationship between leadership behavior, governance performance in small and medium-sized family business

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## 人格生态特质与山地旅游消费决策行为的 关系: 一个理论分析的思路与框架

### THE RELATIONSHIP BETWEEN ECOLOGICAL PERSONALITY TRAITS AND TOURISM AND CONSUMPTION DECISION MAKING BEHAVIOR IN MOUNTAIN ENVIRONMENTS: A THEORETICAL ANALYTICAL THOUGHT

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#### 摘要

本文采用文献分析的研究方法, 梳理人格理论、人格特质理论、山地旅游消费决策行为理论, 提出人格生态特质理论, 并探讨人格特质、山地旅游与旅游消费决策行为之间的关系。认为人格生态特质是一个整体性概念, 生态原型是其核心内容, 人格生态特质制约着个体的行为, 影响着个体对自然环境的态度和行为。故山地旅游消费决策行为受到人格生态特质的影响。

**关键词:** 人格生态特质, 山地旅游, 消费决策行为

#### Abstract

This paper adopted documents research based on the theory of personality traits, mountain tourism and consumer behavior theory, to put forward the ecological personality trait theory, and to explore the relationship between personality traits, mountain tourism and tourism consumption decision behavior. Personality traits is a holistic concept, and its core content is the ecological prototype. The decision behavior of mountain tourism consumption is influenced by the character of personality.

**Keywords:** Ecological personality trait, Tourism and consumption, Decision making behavior

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## 引言

近年来, 旅游业迅猛发展, 旅游已从人们的奢侈品转化为必需品, 旅游业已是国民经济和现代服务业的重要组成部分。山地旅游作为一个热点项目, 逐渐受到开发者和旅游者的重视。不少学者对旅游行为进行了广泛研究, 从旅游行为的研究来看, 既有的研究从经济学和行为主义的取向出发, 这通常忽略了人最基本的心理因素。如理性行为和计划行为理论仅仅从行为的过程出发, 而忽略了行为的动机, 导致了相关理论仅仅能解释“如何”的问题, 而无法回答“为何”。

人格特质理论经过多年的发展, 已经非常成熟。但特质论对人格的测量基于对语言中形容词的聚类分析, 其归根结底只是一种方法和手段, 仅仅揭露的是人行为的表现, 缺乏更深层次的理论解释。同时, 基于自然语言的研究方法最终是要受限于语言的表达能力, 无法揭示出更深刻的、更复杂和精妙的人格的内涵。本文在人格特质理论与集体无意识理论的基础上, 提出“人格生态特质”这一概念, 从心理学的角度寻找影响山地旅游消费决策行为的关键性因素, 分析人格生态特质与山地旅游消费决策行为的关系, 解答人类亲近自然特别是喜欢山地旅游、乡村旅游等生态旅游的原因。

## 一、人格与人格特质

### (一) 人格理论梳理

人格, 在心理学中占据着核心的地位, 心理学的发展离不开对人格研究的不断深入, 人格特质的研究已经形成系统、深入而科学的理论。古希腊哲学家试图以人体内几种物质量的不同来解释不同的人的心理特征或气质、个性差异。E mpedocles (约公元前 490–前 430) 提出的土、水、气、火“四根”说, 和 Hippocrates (约公元前 460–前 377) 提出的粘液汁、黄胆汁、黑胆汁、血液“四液”说成为

西方对人的心理和个性不同进行解释和分类的最初尝试。在几百年后, 罗马的 Galen (130–200) 医生把人的气质划分为具体的十三种类型, 并对其中四种进行了相当详尽的描述, 贺金波、郭永玉 (2005) 总结前人成果提出多血质、胆汁质、粘液质和抑郁质。中国自古也曾有先哲对人性的类型和结构做出了探求。刘同辉 (2009) 研究指出儒家思想中对人格类型有所分类, 先秦儒家从孔子发端而成于荀子, 将人格分为了五类型, 包括圣人、君子(贤人)、士者、庶人(庸人)和小人。《黄帝内经·灵枢·通天》从阴阳两仪的角度对人进行了五种分类, 即少阴之人、太阴之人、阴阳和平之人、少阳之人和太阳之人, 并提出“凡五人者, 其态不同, 其筋骨气血各不等”, 并对其进行了明确的描述。汉末魏初的思想家刘劭在《人物志》九徵篇和体别篇中从阴阳五行思想出发, 对人格特性进行了分类, 其中涵盖了五种德行、九种性情和十二种偏才, 并对这些特性进行了描述。

郭永玉 (2005) 认为现代意义上的人格心理学作为一个独立的学科诞生是在 20 世纪 30 年代末, 以 Allport 和 Murray 分别著作的两本书的出版为标志, 但人格心理学的研究可以追溯到更早的时期。黄希庭 (2002) 指出, 人格心理学领域存在着四种主流范式。一是精神分析论范式: 以弗洛伊德 (Freud)、荣格 (Jung) 为代表, 采用以临床经验为基础的个案研究方法, 强调无意识(潜意识)、本能等人格动力。经典研究方法包括了对梦的分析和自由联想等; 二是特质论范式: 这一范式强调个体差异, 将人格划分为一些基本的维度, 用特质和因素来描述这些维度, 并认为不同的人在这些维度上存在稳定的差异, 这种差异和其稳定性导致具有不同特质的人的行为在不同的情境中、不同的时间段中具有一致性和相对的稳定性。特质论者通常采取因素分析、自陈量表等方法来对基本的人格特质进行识别和分类; 三是学习论范式:

以行为主义者和新行为主义者为代表。该范式以社会认知理论为代表, 强调个体行为差异主要是在成长过程中由外部因素型塑的结果, 相比于个人内心中原初的差异, 更强调外部力量(如学习经验)的影响。该范式通常采用实验、观察的方法来研究行为是如何“习得”的; 四是人本主义范式: 该范式以 Rogers、Maslow 为代表, 是在反对精神分析论的基础上建立起来的。人本主义者指责精神分析论者过于关注心理疾病患者, 认为应该更注重研究普通人的性格, 而非心理不正常者。同时该范式融入了现象学的取向, 陈建文 & 王滔 (2003) 认为作为主体的人的经验、经历才是最重要的研究对象, 反对行为主义者通过观察动物和儿童来理解人的内心。该范式关注个人经验、自我成长和自我实现, 通常采用访谈等方法来研究一般人物或优秀人物, 并试图进行描述和解释性的研究。

弗洛伊德开创的精神分析学派将现代心理学带入了一个新的天地, 他对人格中三重体系的诠释, 使无意识一跃进入了心理学中的核心概念圈。荣格在与弗洛伊德思想的碰撞中, 提出了一套自己的人格理论。许燕 (2003) 认为无意识概念的重要之处在于它不但给心理学, 更给诸如社会学、历史学等其他学科提供了一种极具吸引力的解释方法。除对人格的层次进行区分外, 荣格还对人的性格进行了类型的区分。他认为, 人的心理可以分为两种态势和四种机能。外倾态势代表的是心灵倾向于客观, 内倾态势代表的是心灵倾向于主观。两种态势不能同时存在于个人意识中, 它们只可能采用交替出现的形式。然而一个人无论两种态势如何交替出现, 特定个人的一生中总有一种态势占据优势。客观倾向更大被称为外倾型, 主观倾向更大的被称为内倾型。机能则分为思维、情感、感觉和直觉四种, 同样是指由心灵决定的个体行为的倾向。荣格指出, 个体会更趋向于使用一种机能, 而较少使用其他三种。通过态势和机能, 他把人的

心理类型分为了 8 种。

## (二) 人格特质理论梳理

Allport 最早提出特质是人格的基本单元, 从而开创了对人格特质的研究。Goldberg (1995) 认为用特质来对人格的成分进行划分是来自更早先的 Galton 爵士提出的基本词汇假设: 可以通过某些自然语言词语来编码, 以描述人类交往中最重要的个体差异。他为, 特质是个体对某特定的刺激做出特别反应的一种倾向, 特质是稳定的, 因而个体的反应应该是稳定和具有一致性的。但个人的实际行为取决于其人格特质与环境的交互作用, 因而个人表现出何种特质取决于其处于何种情境。他为不同的特质具有生物学和生理学上的差异, 尽管特质无法直接被观察和测量, 但是可以通过具有某些特质的个体的行为集合来被间接观测到。最初他特质分为共同特质和个人特质两类, 认为前者是人所共有的特质, 不同的个体可以在共有特质的层面进行比较。陈少华 (2004) 认为个人特质是个体所独有的, 代表了他特有的行为倾向。后来, Allport 又划分了三类特质: 首要特质、中心特质和次要特质。这三类特质在某个个体身上具有不同的重要性。个体在行动中无时无刻不受首要特质影响。而中心特质则影响个体在一定情境中的行为倾向。首要特质和中心特质在个人身上体现出高度稳定性和广泛的一致性。而次要特质则并没有那么明显, 同时也更具有变化性。与 Allport 类似, Catteell 认为特质是人格的基本元素, 并具有一致性。他基本继承了 Allport 关于共同特质和独有特质的区分, 但在共同特质中区别出某个团体或集体成员所共同具有的团体特质。而更重要的是他对表面特质与根源特质的区分, 表面特质是一组可以被观察到的行为或特质表现的集合, 如各种词表中表现特质的各种词汇。但这种被观察到的行为是非常表面化的。而根源特质则是隐藏在表面特质之下的、更为重要的特质类型。根源

表示其是个体行为倾向的源泉，表面特质都源于一种或几种根源特质，但表面特质只是根源特质的表现型，相同的根源特质可以产生多种不同的表面特质。此前提到的 16 种人格特质因素实际上就是 Cattell 特质论中的根源特质（表 1）。此外，

他其特质理论中还区分了体质性特质和环境养成特质。其区别在于特质获取属于先天还是后天的。他至还尝试进行了遗传和环境对人格特质形成的影响大小。

表 1 Cattell 的 16 种人格特质因素

	人格因素 (特质)	低分者特征	高分者特征
A	乐群性 (Warmth)	沉默孤独、冷淡、刻板	乐群外向、热心、乐于助人
B	聪慧性 (Reasoning)	愚钝、具象思维	聪慧、抽象思维
C	稳定性 (Emotional Stability)	情绪不稳定、没有耐心	情绪稳定、适应性强、稳重
E	好强性 (Dominance)	温顺、随和、避免冲突	支配欲强、好斗、好胜
F	兴奋性 (Liveliness)	严肃、谨慎、安静	活泼、热情、冲动、乐天
G	有恒性 (Rule-Consciousness)	权宜、敷衍、轻视规则	负责、遵守规则、道学的
H	敢为性 (Social Boldness)	害羞、迟疑、胆小	冒险、厚脸皮、无拘无束
I	敏感性 (Sensitivity)	功利、客观、粗鲁、意志坚定	敏感、直觉、感情用事
L	怀疑性 (Vigilance)	轻信、接纳	警觉、怀疑
M	幻想性 (Abstractedness)	实际、乏味、传统	富于想象、不切实际
N	世故性 (Privateness)	直率、天真、诚实、开放、谦逊	注重隐私、精明、圆滑、世故
O	忧虑性 (Apprehension)	自信、自满	忧虑、自我怀疑、自我怀疑
Q1	求新性 (Openness to Change)	保守、传统、拒绝改变	乐于改变、自由、灵活、批判
Q2	独立性 (Self-Reliance)	依赖群体	自立、个人主义
Q3	自律性 (Perfectionism)	无自制力、不关心社会规范	完美主义、自律、有组织性
Q4	紧张性 (Tension)	放松、沉着、迟钝、耐心	紧张、焦躁、迫切、欲求高

### (三) 人格特质与旅游消费决策行为

Schuttler et al. (2007) 认为人格特质与阅读偏好有关。Schill, Beyler & Sharp (1993) 认为休闲行为作为人类可以自由选择的行为类型，可以更好的反映人格特质。人格特质不仅在人们对参与的休闲活动类型进行选择时有影响，而且影响其体验休闲乐趣的能力。特质在一定的环境下特别重要，尤其是在不受强迫的情境下，人们更能自由的真实的表现自我。康积勤 & 田博 (2008) 的研

究也表明，人格特质对居民出游偏好、大学生出游选择行为、旅游者漂流体验偏好等有不同程度的影响。白凯、严艳 & 高言铃 (2011) 利用大五人格特质测量工具对 80 后群体的人格特质和旅游偏好之间的关系进行了测量，结果表明，不同的人格特质对该群体的潜在旅游消费认知偏好和情感偏好都有影响（图 1）。可见，人格特质与旅游者的偏好和行为有较强相关性的。

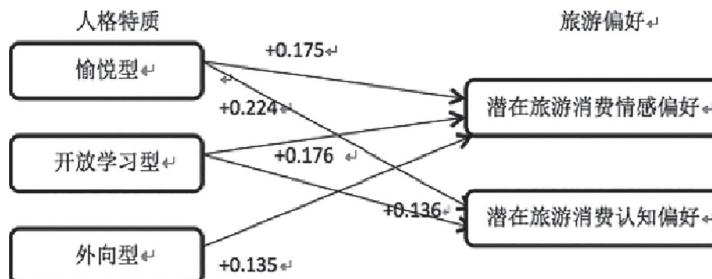


图 1 “80 后” 人格特质与潜在旅游消费偏好关系

## 二、人格生态特质

自特质理论发展以来，人格特质的定义一直是相对比较明晰的。Allport 就指出，特质是个体对特定刺激做出特定反应的一种稳定的倾向。既往对人格特质的研究并没有关注人格中与自然和生态环境相关的部分，如热爱山水还是喜欢城市、亲近自然还是关注科技等。本文认为，存在一类与自然相关的人格特质，它是反映了个体在面对自然环境时表现出来的、稳定的行为倾向，这种倾向我们将其命名为人格生态特质。人格生态特质是一类与自然相关的人格特质，它反映了个体在面对自然环境时表现出来的、稳定的行为倾向。人格生态特质反映了人对自然的亲近程度，在这种特质上得分高者，更喜欢与自然打交道、喜欢自然风光和自然界中的生物；得分低者，更不愿意亲近自然，对在自然环境中感到不适。

### （一）人格生态特质的内涵

Cattell 认为人格特质有体质性和环境养成两种，也就是先天和后天获得的两种不同。L · A · 珀文 (2001) 的研究指出人格特质有其生物学基础。而精神分析学派则主要将人的性格归因为先天因素，如性本能、无意识等。本文认为，人格生态特质的形成，既是先天的、也是习得的。荣格的生态原型指出，人作为自然界演化的结果，心灵深处存在着关于自然界的原始意像。从这个意义上讲，与自然相关的人格特质必然是有其先天性的。这种先天性，是在千百万年的进化过程中，人与自然互

动的结果，是刻印在人类遗传特性中自然的印迹。这种先天性，是人类文明进程中，尝试征服自然时所产生和传承的集体无意识的结果。同时，个体的人格生态特质也受到社会环境的影响，根据荣格 (2011) 对原型概念的解读，原型先天存在人格之中，但原型并不是心中已充分形成的明晰的画面，只有当原型已经成为意识并被意识经验所充满时，才是确定了的。个体所处社会环境将会影响生态无意识，如工业文明的发展，使有些个体长期处在人造物的“钢铁丛林”中，个体的生态无意识受到压抑，但受压抑程度较小时，个体的精神生态系统仍处于平衡状态，当个体的生态无意识受压抑较为严重时，精神生态失衡，个体的生态需求强烈，会表现出较强的人格生态特质倾向。当个体长期生活在田园风光的自然环境中时，精神生态系统处于较为平衡的状态，生态需求较低，从而表现出较弱的人格生态特质倾向。因而，尽管生态原型在所有人的内心中均有存在，但人格生态特质在不同个体身上却有着不同程度的表现。

### （二）人格生态特质的影响

在人类发展的最初阶段，远古祖先形成了对自然生存环境喜爱、依赖、崇拜、敬畏等一系列情感以及态度，这些情感以及态度被不断地重复深刻入人类的心理结构中，形成生态无意识，并进而形成人类人格中一种特有的特质——人格生态特质。荣格的集体无意识理论认为：“集体无意识是人类有意识的心理活动的母体，导致人类的活动

受到集体无意识的极大制约”。所以，在人类的发展演变过程中所形成的人格生态特质继承了人类对自然环境的情感与态度，现今人类的行为仍受到人格生态特质的制约，但受成长经验的影响，不同个体的人格生态特质存在差异。人类发展的最初阶段是栖息于森林，森林为人类提供了生活栖居地，人类在森林中寻求到了家的安全感。随着历史的发展，人类从远古文明进入农业文明，再进入工业文明。在农业文明时期，为保障人类的生存与种族的延续和发展，人们开始与自然对抗，试图征服自然，但由于生产力、生产工具有限，人类对自然的征服并未对人类心理结构深处的生态无意识造成严重的压抑。乔治·弗兰克尔（2006）认为在进入现代社会后，工业文明的发展对自然生态造成了巨大的破坏，空气被污染、臭氧层遭到破坏、森林土地资源锐减，人类的生产方式变得越来越具有攻击性。在工业化进程中，人类获取了财富和利益，高科技也给人类生活带来了便利，但人类与自然和谐相处的平衡却被破坏。城市化进程的不断加速，让个体产生了危机感与剥夺感，因为自己所在的乡村可能会变为城市，自己所在的小区可能面临拆迁，在不断地拆除和建设中，人们的情感和记忆也将无处安放。都市化生活阻断了人类与自然的亲密联系，人类感受到了与自然的疏离。对

城市化发展的不断追求压抑了个体的生态无意识，随着生态无意识的持续压抑，个体的精神生态系统失去了平衡，生态需求无法得到满足，个体的人格生态特质表现出亲近自然环境的倾向，人类开始对自然生态环境产生向往与亲近之感，从而对人类的行为产生影响。王广新（2011）认为人格生态特质的影响内容包括生产方式、生活方式以及消费方式，主要表现为生产、生活以及消费的内容、形式、途径等遵循人与自然和谐发展的规律，有利于生态系统的平衡发展，有利于自然保护，有助于生产者、消费者健康，能实现经济的可持续发展。人格生态特质对人类生产方式的影响主要体现为在政治、经济、文化的发展过程中，人类将生态意识和理念付诸实施，不再以损害自然环境代价、以追求经济利益为唯一目的。人格生态特质对生活消费方式的影响则表现为对生态食品、生态用品、生态环境以及生态享受的追求，寻求个人与自然环境的友好相处，认为人类的生活消费应该在自然的承载能力和个体生理承受能力范围内，不追求多余消费以及超前消费。近年来，绿色有机食品的畅销、山地生态旅游的兴起、环保组织的影响日益扩大，无不说明了人格生态特质对人类行为的影响（图 2）。

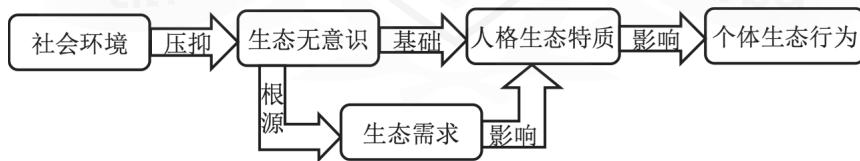


图 2 人格生态特质的形成及影响

位于人格结构最深处的生态无意识是人格生态特质的基础，生态无意识在人类每个个体心理结构中均存在，影响着个体对自然环境的态度和行为。人格生态特质是指个体具有一种较为稳定

的亲近自然的行为倾向，但并非所有个体均表现出亲近自然环境的倾向，不同个体存在差异。原因在于受个体成长环境的影响，不同社会环境对个体生态无意识的压抑程度并不一致。当受压抑程

度较弱时，个体的精神生态系统处于相对平衡状态，生态需求较弱，人格生态特质倾向较弱；当个体受压抑程度较强时，个体的精神生态系统处于相对失衡状态，生态需求较强，人格生态特质得到发展，生态行为倾向表现更为明显。因此不同个体的人格生态特质倾向具有差异，个体生态行为受个体人格生态特质的影响，也存在差异。随着工业化进程的不断推进，人格生态特质倾向不断加强，人们对自然的渴求不断加强，进而产生了生态旅游等生态行为，最后还会演变为乡村生态生活。

### 三、山地旅游消费决策行为

#### (一) 旅游决策行为

对旅游者行为进行的研究在 19 世纪就已经出现，1899 年意大利统计部门就对该国的外国旅行者行为和消费进行了分析，在此基础上，有学者对旅游行为的经济学意义进行了进一步研究。旅游行为涉及面非常广泛，何艳、马耀峰 & 孙根年 (2006) 指出，旅游行为包括了个体对旅游产品进行信息收集、消费、体验和评价的过程中的表现，涉及到动机、动力、决策和具体行动过程中的空间行为。Beerli & Martin (2004) 认为旅游行为涉及的知识包含了心理学、社会学、经济学、地理学等多种学科，涉及的变量也非常复杂。陆林 (1997) 认为对旅游行为的研究主要集中在动机、类型、决策和在旅游目的地的空间行为四个方面，其中旅游动机一直是旅游行为研究中最受关注的研究领域。早期对旅游动机的研究基本集中在理论研究和逻辑推演上，主要从动机形成的角度来进行研究。鉴于动机本身具有浓厚的心理学特性，对旅游动机的研究大多使用或借鉴了心理学的方法和概念。岳祚茀 (1987) 认为旅游动机的产生取决于三个条件，主体的需要、符合需要的对象和主体对对象的知觉，旅游动机是主体产生旅游行为的内部驱动力。这就很明显的使用了心理学的概念。此外，马斯洛

需求层次理论是最为著名动机理论之一，许多学者就试图通过需求层次来对旅游动机进行研究。此后随着对旅游动机研究的深入，更多学者运用统计方法，对旅游动机进行实证的研究，如邱扶东 (1996) 就借助问卷调查，通过因子分析将旅游动机分为身心健康、怀旧、文化、交际、求美和从众 6 类。而张卫红 (1999) 使用抽样调查资料，对旅游的动机和目的地偏好进行了研究，指出中国旅游者的旅游动机的重要性呈梯状，较高层次的旅游动机在国民心目中占取的比例较低。

本文对旅游行为的研究主要集中在旅游者对旅游目的地选择的动机和决策行为上，旅游决策与许多非当面交易行为一样，存在个体对消费品的预先期望，但又与如网购实体产品能够进行退换不一样，个体在购买旅游产品后，即使对旅游产品不满意，其成本大多是沉没的，如时间成本等是无法收回的，因而旅游的决策行为实质上比一般消费行为承担了更大的风险，消费者为了减轻这些风险，往往需要花费更多成本用于对信息的搜集。但归根结底，旅游决策是更多的取决于个体，即旅游者的主观判断。

#### (二) 山地旅游与旅游消费决策行为

山地旅游是基于山地的地形地貌特征及其孕育出的独特文化形态所展开的一系列以旅游观光、运动娱乐、文化体验和环保学习等为主要内容的旅游活动。一方面，山地旅游是旅游活动的一种类型，有着一般旅游行为的基本特点与规律；另一方面，山地旅游在本质上被认为是生态旅游的一种类型，因而它并不只局限于一般旅游活动那样“消费-服务”的简单模式之中，而是内涵着更为广泛的心理、文化与社会意义。可以从以下三个维度来认识山地旅游与旅游行为之间的关系。第一，山地与旅游的决策行为有着直接关联，换句话说，山地是旅游目的地选择的一种候选类型。如果从消费行为角度来理解，对目的地的选择也就成了

对商品的选择。这种选择将会受到产品的可替代性、差异性和效用性的影响。相对而言，特定产品的可替代性越低、差异性越大、满足需求的效用越高，被选择的几率也就越大。一方面，山地旅游资源有其独特的价值。与海洋、草原、湖泊等其他自然旅游资源和历史文化旅游资源相比，山地旅游资源往往在体力条件方面要求较高，游览的便捷程度也相对较差。但山地资源同样有其优势，山地不仅自然环境保护相对较好、动植物资源丰富，而且文化风貌带有浓厚的地域特色甚至异族风情，因此与其他旅游类型相比，行走在山地之间更能感受到接近自然、亲近自然的心理与美学的感觉，也能够带来回归传统、获得宁静的生活体验。另一方面，陈健昌 & 保继刚 (1988) 认为，人们在做出旅游决策行为时会遵循最大效益原则，即追求有限资金与时间投入条件下的最大收益。然而这种收益最大化也只是相对的，它建立在有限信息收集的基础之上，这就意味着某

一特定山地旅游景区知名度越高、形象塑造越好、产业集群越完整、交通越便利、基建条件与服务越优质，它被旅游者提前获知的可能性和被选择的概率也就越大。第二，山地与旅游感知行为也密切相关。旅游感知行为是指旅游者对旅游地各种因素的感觉和体悟，不仅包括直接的感官刺激，更指向由之所衍生出的体会、领悟和联想等等。在旅游的感知活动中，山地大致承载着三个层面的意义：(1) 在自然维度上，山地首先指向一种特殊的地质地貌类型。郝革宗 (1985) 认为由于地形不便于资源开发和人员交流，山地通常也意味着保存较好的自然生态环境。如此一来，山地旅游就隐含着自然与社会相区分的意义，一方面良好的自然环境能够以诸种新方式满足旅游者猎奇、运动与放松等需要。研究显示将自然环境作为旅游资源的投资一回报率远高于对其的直接资源利用；另一方面，陈琼珍 (2013) 认为这种区分与新体验也

能够直接或间接地强化旅游者和开发者的环境保护意识；(2) 在文化维度上，山地因其地域空间分布较偏和交通交流不便利等原因，通常也暗含着文化差异的意义。与自然环境相比，山地环境所孕育出的独特文化更容易受到旅游活动的影响。陈兴 (2013) 认为那些非旅游资源的文化因素，也很可能因旅游活动带来的频繁交流而面临着逐渐衰落的威胁；(3) 在社会维度上，山地通常还包含着落后与发达、本地与外地的意义/关系建构。首先，山地旅游某种程度上意味着向发展滞后地区的经济资源输送，Tooman (1997) 认为旅游收益的受众群体则会因具体条件与制度的不同而不同；其次，杨方义 (2005)、闻扬 & 刘霞 (2009) 认为山地旅游也带来了本地人内部之间、与游客之间以及与作为潜在游客的远方陌生人之间的互动。第三，山地还牵涉到旅游空间行为。旅游空间行为考察的是旅游者在地域空间范畴上的活动范围和移动路线，它包含着两个基本维度，即旅游目的地的地域选择与旅游地空间活动。前者是在广阔的地域范围内选择所要前去的旅游地点，受到交通时间长度、交通便捷程度和景点形象塑造与知名度等因素的影响。后者是旅游者在旅游地内的行动路线和活动范围，受到旅游地路线规划与资源安排、空间的功能分化等影响。

#### 四、人格生态特质与山地旅游消费决策行为的关系

霍尔 (1987) 认为精神分析学派将人格视为一个整体，称之为“精神”，精神包括所有的思想、情感和行为，无论是个体意识到的还是没有意识到的霍尔等。精神分析学派创始人弗洛伊德认为，个体的人格包括意识与潜意识两个部分，他们来源于个体的生活经验，尤其是童年时期的生活经验。不同于弗洛伊德对人格结构的分析，其学生荣格提出“在个体的意识与无意识的更深处，存在集

体无意识”，集体无意识来源于人类的进化与遗传。个体无意识可能曾经被意识到过，只是后来又忘了，但集体无意识在人的一生中可能从未被意识到。他为，集体无意识是个体人格结构中的最底层部分，它是客观存在的，整个人类身上都存在这种集体无意识，在个体出生之时便携带着这种集体无意识且终生无法磨灭。它是人类在生物进化过程中以及文化历史发展的洪流中所遗传的位于心灵最深处的沉淀物，是人类世世代代、祖祖辈辈的活动经验在人格结构中的遗传痕迹。所以，在集体无意识的最深层隐藏着人类所积累的经验智慧以及人类文明创新的源泉。

集体无意识既然是人类心灵最深处之所在，那集体无意识由什么构成呢？在集体无意识的基础上，荣格（1989）认为集体无意识中储藏着原始意象的潜在意象，这些意象便是个体从远古祖先那几所继承遗传的意象，具有永恒有效性，不断地被某种心理经验唤醒。但这些意象的存在并不意味着个体可以通过有意识地回忆而拥有祖先所拥有的意象，而是说个体有可能采取同自己祖先一样的方式去对待世界，如对黑暗的恐惧、对蛇的惧怕等，因为这些惧怕有着千万年的经验。他出“人生中有多少经典情境就有多少种原型，有出生原型、死亡原型、英雄原型、大地母亲原型、森林原型、水原型等各种原型，这些原型由于不断地重复而被深深地刻在我们的心理结构之中。”他为“每一个原初意像中都包含着人类的心理和命运，一种无数次出现在我们仙人传说中的痛苦和欢乐的遗迹。”原型存在于人类发展的古老记忆中，流淌在人类的原始血液里，植根于人类的灵魂深处，是人类在与自然的不断争斗与统一生存中所拥有的一切欢乐与悲哀、希望与憧憬、想象与感情的根底。这意味着，在现代人类的集体无意识中也存在着人类祖先对自然的最初认识、对待自然的情感和对待宇宙万物的基本态度以及对人类自身的定位，

而这种对自然环境的态度和情感则在人的人格结构深处形成了生态原型，并通过不断地重复与发展、沉淀遗传在现代人的心理结构之中。因此本文认为，生态原型是指从远古祖先处所继承的、植根于人类人格结构最深处的对自然环境的原始潜在意象（图 3）。



图 3 生态原型在人格结构中的位置

人类对湛蓝天空、洁净空气、茂密森林、辽阔草原、蔚蓝大海等自然界中朴实生动景致的喜爱便是生态原型作用的体现，因为这种对自然环境的喜爱并不仅是对个人审美的一种征服，更多的是人类灵魂对原始意象的回归，人类对自然的这种喜爱无性别之分、无年龄之分、无种族之分，是整个人类所共同拥有的原始自然情结。生态原型是人类集体无意识中的重要原型之一，无意识中的人类记忆为我们提供了一种与生俱来的“环境互惠感”，人类对自然的着迷与欣喜是一种深深植入人类心理的意识。

## 五、结论

人格生态特质是本文提出的重要概念，人格生态特质的特性意味着个体在出生之时便已形成了一套行为模式，它在不知不觉中影响着人的行为、支配着人的活动。根据荣格的集体无意识理论以及人格特质理论，在现代人类的集体无意识中也存在着人类祖先对自然的最初认识、对待自然的情感和对待宇宙万物的基本态度以及对人类自身的定位，而这种对自然环境的态度和情感则在人

的人格结构深处形成了生态原型，并通过不断地重复与发展、沉淀遗传在现代人的心理结构之中。位于人格结构最深处的生态无意识是人格生态特质的基础，生态无意识在人类每个个体心理结构中均存在，制约着个体的行为，影响着个体对自然环境的态度和行为。

山地旅游作为生态旅游的一种，其行为同样受到人格生态特质的影响。人格生态特质是一个整体的概念，生态原型是人格生态特质的核心内容，

其内涵十分丰富。生态是指人类赖以生存、生活的自然环境，包括山地原型、大海原型、森林原型、河流原型等一系列原型，而在不同生活环境下人们的生态原型会存在差异，生活在山区的居民受到山地环境的影响，形成更多关于山地原型的内容，生活在沿海地区的居民则更多地形成关于大海原型的内容。受居住地域类型的影响，个体形成的人格生态特质具有不同的倾向，故本文认为人格生态特质对个体的山地旅游行为存在影响。

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## คำแนะนำในการเตรียมบทความ

### การจัดพิมพ์บทความ

- ความยาวของบทความ 10-12 หน้ากระดาษ A4 พิมพ์หน้าเดียว กำหนดระยะห่างจากขอบกระดาษ 1 นิ้ว (2.54 ซม.) เท่ากันทุกด้าน
- บทคัดย่อและบรรณานุกรม พิมพ์ 1 คอลัมน์ เนื้อหาบทความ พิมพ์ 2 คอลัมน์ ย่อหน้า 1 ซม.
- ตัวอักษรใช้รูปแบบ TH Sarabun PSK โดยใช้ขนาดและชนิดต่างๆ ดังรายละเอียดต่อไปนี้

ข้อความ	ขนาด	ชนิด
ชื่อเรื่อง (ภาษาไทย)	18 (CT)	ตัวหนา
ชื่อเรื่อง (ภาษาอังกฤษ - ตัวพิมพ์ใหญ่)	16 (CT)	ตัวหนา
ชื่อผู้เขียน	14 (CT)	ตัวหนา
ชื่อสังกัดหน่วยงานหรือมหาวิทยาลัย	14 (CT)	ตัวธรรมดา
Corresponding Author E-mail	12 (LJ)	ตัวธรรมดา
หัวข้อของบทคัดย่อ/Abstract	16 (LJ)	ตัวหนา
เนื้อหาบทคัดย่อ/Abstract	16 (LRJ)	ตัวธรรมดา
คำสำคัญ/Keywords	16 (LJ)	ตัวธรรมดา
หัวข้อเรื่อง (ไม่ลำดับเลข)	16 (LJ)	ตัวหนา
หัวข้ออย่างย่อ	16 (LJ)	ตัวหนา
เนื้อเรื่อง	16 (LRJ)	ตัวธรรมดา
บรรณานุกรม	16 (LJ)	ตัวธรรมดา
ชื่อตาราง (ระบุไว้บนตาราง)	16 (LJ)	ตัวหนา
ชื่อรูป ชื่อแผนภูมิ (ระบุชื่อไว้ต่อรูป แผนภูมิ)	16 (CT)	ตัวหนา

CT = Centre Text, LJ = Left Justified, RJ = Right Justified, LRJ = Left & Right Justified

### ส่วนประกอบของบทความ

- 1) ชื่อเรื่องบทความ (ทั้งภาษาไทยและภาษาอังกฤษ)
- 2) ชื่อผู้เขียนทุกคน พร้อมระบุ หน่วยงานที่สังกัด (ทั้งภาษาไทยและภาษาอังกฤษ)
- 3) บทคัดย่อ (Abstract) ความยาวไม่เกิน 250 คำ และคำสำคัญ (Keywords) 3-5 คำ (ทั้งภาษาไทยและภาษาอังกฤษ)

## 4) เนื้อเรื่อง

4.1) บทความวิชาการ ประกอบด้วย บทนำ เนื้อหา และบทสรุป

4.2) บทความวิจัย ประกอบด้วย บทนำ วัตถุประสงค์ ทบทวนวรรณกรรม วิธีการวิจัย ผลการวิจัย อภิปราย และสรุปผลการวิจัย

## 5) เอกสารอ้างอิง

6) ถ้ามีรูปภาพ แผนภูมิ ตารางประกอบ หรืออื่นๆ ต้องมีหมายเลขอ้างอิงกับในบทความ อ้างอิงแหล่งที่มาของข้อมูลให้ถูกต้อง ชัดเจน และไม่ละเมิดลิขสิทธิ์ของผู้อื่น ใช้รูปภาพสีหรือขาว-ดำ ที่มีความคมชัด และส่งภาพถ่าย ต้นฉบับหรือไฟล์รูปภาพแยกต่างหาก แนบมาพร้อมกับบทความด้วย

**การอ้างอิงเอกสาร**

1) การอ้างอิงในเนื้อหา เพื่อบอกแหล่งที่มาของข้อความนั้น ให้ใช้วิธีการอ้างอิงแบบบัน-ปี โดยระบุชื่อผู้เขียน ปีพิมพ์ และเลขหน้าของเอกสาร ไว้ข้างหน้าหรือข้างหลังของข้อความที่ต้องการอ้างอิง เช่น สุชาติ ประสิทธิ์รัตน์ (2546: 147) ..... หรือ ..... (Newman & Cullen, 2007: 18-19) หรือ ..... (ศิริวรรณ เสรีรัตน์ และคณะ, 2546: 217-219)

2) การอ้างอิงท้ายบทความ ให้รวมเอกสารที่ใช้อ้างอิงไว้ท้ายบทความ เรียงตามลำดับอักษรชื่อผู้เขียน โดยใช้รูปแบบการเขียนอ้างอิงตามระบบ APA ดังนี้

**สารสารและนิตยสาร**

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**การส่งบทความ**

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