IBMRC

International Business Management Research Conference

The 8th International Business Management Research Conference

Venue

Le Meridien Chiang Mai, Chiang Mai THAILAND

Friday 2nd November 2018

Organized by

Faculty of Business Administration, Chiang Mai University

IBMRC

The 8th International Business Management Research Conference

Venue: Le Meridien Hotel, Chiang Mai, Thailand

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Welcome Message from the Dean

The Faculty of Business Administration, Chiang Mai University proudly welcomes all participants of the 11th Business Management Research Conference (BMRC) and the 8th International Business Management Research Conference (IBMRC).

Once again academic experts, businesspeople, graduate students and representatives from government agencies and private organizations join us to enrich knowledge and understanding through research exchange as well as building up networks for further academic cooperation. In addition, the forum provides a venue to publish academic papers.

The conference encompasses papers including nine themes which are: 1) Marketing Management 2) Organization Management 3) Financial Management 4) Human Resource Management 5) Accounting Management 6) Information Technology Business Management 7) Brand Management and Marketing Communication 8) Corporate Sustainability 9) Interdisciplinary Business Management oral presentation. This year distinguished guest speaker, Professor Dr. Arnat Leemakdej, Professor from Thammasat Business School, Thammasat University, Director of Intellectual Property and Incubation Center, Thammasat University and the Subcommittee on Risk Management, The Zoological Park Organization Under the Royal Patronage of H.M. has kindly accepted our invitation to give a keynote lecture on "Changing Arena and Rising of Research Platform"

(Associate Professor Dr. Siriwut Buranapin)
Dean of Faculty of Business Administration,
Chiang Mai University,
Chiang Mai, THAILAND

Message from Editor-in-Chief

After several year of Editor-in-chief experience, I had realized that BMRC and IBMRC Conference organized by the Faculty of Business Administration, Chiang Mai University, achieve effective academic knowledge exchange in the areas of business management and other related areas. It is with deep satisfaction that I write this forward to the proceeding of the 11th Business Management Research Conference (BMRC)and the 8th International Business Management Research Conference (IBMRC) held in Chiang Mai, Thailand on November 2,2018.

For year 2018, the conference publication committees proudly present the publication volume of the 11th and 8th volume of BMRC and IBMRC. The presented proceeding manuscripts are subject to a stringent process of review by the Editorial Advisory Board. The manuscripts were carefully accepted for possible inclusion in proceedings publication.

For the 11th BMRC and 8th IBMRC in the year 2018, the events brought together around 100 delegates consisting of academicians, business management persons, graduate students and representatives from business organizations. The conference encompasses manuscripts in various topics related to business management for today's context. I would like to express my sincere thanks to every stakeholders and the editorial boards as well as the delegates in supporting the conferences. Moreover, I would like to thanks all the contributing authors for providing such a rich of outstanding research manuscripts in a board range of Interesting topics.

(Associate Professor Dr. Narumon Kimpakorn)
Editor-in-Chief
BMRC & IBMRC Conference Editorial Boards
Faculty of Business Administration
Chiang Mai University, Chiang Mai, THAILAND

The 8th International Business Management Research Conference

Principle & Rationale

The vision of the Faculty of Business Administration at Chiang Mai University is to focus on enhancing the academic knowledge of business management. The Faculty encourages the creation and development of ongoing research to academic scholars and students. This would lead to the expansion of new knowledge in managing a business which can provide a benefit to the profession itself, the local community, and industries nationwide. The Business Administration Conference is one of the methods in disseminating knowledge by the Board of Administration.

Chiang Mai University has heeded to the importance of endorsing the development and propagation of knowledge. The effort is demonstrated in producing a channel to have participants from the private business sector, government institutions, and academic research centers to come together and exchange their experiences and ideas as well as collaborate on upholding the profession of business management. Under the provision of Chiang Mai University, the International Business Management Research Conference has continued on from 2011. The conference has received accolades from the participants of the seminar.

Therefore, it is the aim of the institution to strengthen the academic administration line in providing leadership and knowledge in business management. Moreover, the purpose of creating this forum is to disseminate knowledge in the business management. This is to stimulate a continuation of ideas being exchanged between academics, researchers, and students who are extending their studies on the master's and doctorate in business management and other related fields. The Faculty of Business Administration at Chiang Mai University is proud to hold the seventh annual international conference in "International Business Management Research" which will be held on November 2nd, 2018.

The 8th International Business Management Research Conference (I-BMRC) are focused on the theme:

1. Monodisciplinary research include marketing, finance, accounting, human resources, organization management, production management, logistics management, and entrepreneurship. The research presented may be an innovation discovery in related academic disciplines or the application of theory or concept or business management approach to situations or problems, business sector, service industry and the agricultural sector.

2. Interdisciplinary research approach that focuses on integrating knowledge from the monodisciplinary subjects of business management with the other related disciplines to get a new tool or method.

3. Multidisciplinary research is composed of or combining several academic disciplines for Business Management or professional specialization in an approach to topics or problem such as information technology management, real estate management and marketing.

   This conference is divided into two sessions (1) Academics and researchers' presentation and (2) consortium for graduate student.

The area for submit manuscript

1) Monodisciplinary

- o Brand Management research
- o Marketing management research
- o Consumer behavior management research
- o Financial management research
- o Accounting research
- o Organizational management research
- o Human resource management research
- o Entrepreneurship development research

2) Interdisciplinary

- o Cultural management research
- o Tourism management research
- ๏ Logistics management research
- ๏ Innovation management research
- ๏ Marine business research
- ๏ Environmental management research
- ๏ Business administration for development and sustainability research

3) Multidisciplinary

- o   Information technology management
- o   Organization management or real estate management projects
- o   Organizational communication research
- o   Corporate social responsibility research

4) Other related research topics

Types of manuscript

Types of manuscript divided into two type 1) Academic Paper and 2) Research Paper. People who interested in conference can submit a completed article which will be reviewed and selected by 2/3 experts to decide if the work meets with the conference requirements.

- o   Paper will publish in proceeding required to submit a full abstract only (English only) the length of the article should not exceed more than 15 pages for oral presentation
- o   For the delicate who wish to submit work their considering "Best Paper Award", must select a series of presentations in oral presentation and submit a full completed paper to the conference committee only during the due date.

All articles will be considered by the experts in a confidential manner (double-blind review, which means that both the reviewer and author identities are concealed from the reviewers, and vice versa, throughout the review process.) The committees will be judging the "Best Paper Award" for the articles that are presented at the forum. The work must be in accordance with article quality criteria of the experts and the seen as unique, based on assessment ratings from the experts. Final decisions will be made by the Conference Committee.

Selected articles to be presented at the 10th National Business Management Research Conference (BMRC) and the 7th International Business Management Research Conference (IBMRC) will have the opportunity to be selected in three academic journals under the Thailand Regional Business Schools Network (TRBS NET): Faculty of Business Administration and Accountancy, Khon Kaen University Faculty of Management and Tourism, Burapha University and Faculty of Management Science, Prince of Songkla University.

Peer Reviewers

1. Associate Professor Dr. Chirawan Chaisuwan — Chiang Mai University, Thailand
2. Associate Professor Dr. Jamnian Bunmark — Mae Jo University, Thailand
3. Associate Professor Dr. Narumon Kimpakorn — Chiang Mai University, Thailand
4. Associate Professor Dr. Nitaya Wongpinunwatana — Thammasat University, Thailand
5. Associate Professor Dr. Nittaya Jariangprasert — Chiang Mai University, Thailand
6. Associate Professor Dr. Nopadol Rompho — Thammasat University, Thailand
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13. Associate Professor Dr. Weerapon Thongma — Mae Jo University, Thailand
14. Associate Professor Suvanna Laohavisudhi — Chiang Mai University, Thailand
15. Associate Professor Yuttana Thamcharoen — Sukhothai Thammathirat Open University
16. Assistant Professor Dr. Adisak Theeranuphattana — Chiang Mai University, Thailand
17. Assistant Professor Dr. Amonlaya Kosaiyakanont — Chiang Mai University, Thailand
18. Assistant Professor Dr. Amonrat Thoumrungroje — Assumption University
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22. Assistant Professor Dr. Chuanchuen Akkawanitcha — Silpakorn University
23. Assistant Professor Dr. Chuenjit Aungvaravong — Khon Kaen University, Thailand
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25. Assistant Professor Dr. Kemakorn Chaiprasit — Chiang Mai University, Thailand
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28. Assistant Professor Dr. Kodchaporn Siripokakit — Mae Jo University, Thailand
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30. Assistant Professor Dr. Naruanard Sarapaivanich — Chiang Mai University, Thailand
31. Assistant Professor Dr. Natnapha Ninniyom — Mahasarakham University
32. Assistant Professor Dr. Pimmanee Rattanawicha — Chulalongkorn University
33. Assistant Professor Dr. Preeda Srinaruewan — Mae Jo University, Thailand
34. Assistant Professor Dr. Rojana Thammajinda — Chiang Mai University, Thailand
35. Assistant Professor Dr. Saranya Kantabutra — Chiang Mai University, Thailand

Peer Reviewers

36.	Assistant Professor Dr. Sathaya Thanjunpong	Mae Jo University, Thailand
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39.	Assistant Professor Dr. Warat Winit	Chiang Mai University, Thailand
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42.	Dr. Jirapa Phungbangkruay	Burapha University, Thailand
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46.	Dr. Ploy Sud-on	Mahidol University International College
47.	Dr. Puritud Inya	Chiang Mai University, Thailand
48.	Dr. Rawi Roongruangsee	Chiang Mai University, Thailand
49.	Dr. Sainatee Chernbumroong	Chiang Mai University, Thailand
50.	Dr. Tinikan Sungsuwan	Burapha University, Thailand
51.	Dr. Wisuttorn Jitaree	Chiang Mai University, Thailand
52.	Dr. Witchulada Vetchagool	Khon Kaen University, Thailand

Agenda 2018: BMRC & IBMRC

The 11th Business Management Research Conference&

The 8th International Business Management Research Conference

Venue: Le Meridien Hotel, Chiang Mai, Thailand

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Organized by Faculty of Business Administration, Chiang Mai University

8.30-9.00 am.	Registration (Upload Power Point file for presentation at registration desk) (Grand Ballroom at 2nd Floor)
9.00-9.15 am.	Opening Ceremony by President of Chiang Mai University or representatives (Grand Ballroom at 2nd Floor)
9.15-10.15 am.	Key Note Speaker **"Changing Arena and Rising of Research Platform"** By Professor Dr. Arnat Leemakdej o Professor, Thammasat Business School, Thammasat University. o Director of Intellectual Property and Incubation Center, Thammasat University. o Subcommittee on Risk Management, The Zoological Park Organization Under the Royal Patronage of H.M. The King. (Grand Ballroom at 2nd Floor)
10.15 – 10.30 am.	Coffee-Break (Grand Ballroom at 2nd Floor)
10.30 -12.00 am.	Seminar presentation – Session 1 (divided into 3 rooms) (presentation 15 min. , Q&A 5 min./paper) o <u>Room 1 :</u> Voyage (3rd Floor) o <u>Room 2 :</u> Journey (3rd Floor) o <u>Room 3 :</u> Expedition (3rd Floor)
12.00 -13.00 pm.	Lunch (Latest Recipe at 1st Floor)
13. 00 -14. 30 pm.	Seminar presentation – Session 2
14. 30-14.45 pm.	Coffee-Break (in front of seminar room)
14.45-16.00 pm.	Seminar presentation – Session 3
16.00-16.30 pm.	**Announcement of Awards** (Grand Ballroom at 2nd Floor)

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FACTORS AFFECTING CUSTOMER PURCHASE INTENTION OF COFFEE CONSUMER IN VIENTIANE, LAO PDR.

Kaisouda Phannavong[*] and Napawan Kananurak[**]

ABSTRACT

The affect Customer Purchase intention to purchase coffee in the coffee shop in Vientiane Lao PDR, this study will select the affecting to Customer Purchase Intention as the main subject of research, the survey will be executed in Vientiane Lao PDR who purchase coffee in the coffee shop by analyzing the relationship between the Perceived quality, Brand image, Marketing Mix7P's, Customer Satisfaction and Customer Purchase Intention in order for coffee shop to increase sales and consumer in Vientiane Lao PDR. This paper will try to study perceived quality, Brand image, Marketing Mix7P's, Customer satisfaction can be positive or positive affected them as well as customer purchase intention and determine the problems that arise to justify why this research is carried out. This is followed by the development of research objectives which is to solve problems of the research moreover, Hypotheses were formed independent variables which perceive quality, Brand Image, Marketing Mix (7P's), Satisfaction relating to the dependent variable which is the purchase intention.

Using Statistical Package for Science (SPSS) to analyses the 400 of questionnaires for surveys for this research, there are few data analyses descriptive analysis, scale measurement, lastly the inferential statistics. The questionnaires for surveys were distributed to a consumer to purchase coffee in the coffee shop in Vientiane Lao PDR this researcher is the very importance of the factors affecting the consumer's purchase intention of the coffee shop in Vientiane Lao PDR

This research will be provide more knowledge and understanding for Vientiane consumer's to purchase coffee in coffee shop that will make for coffee shop owner and who will be startup for coffee business in terms of realizing and understanding which the biggest factors to impact on the Vientiane consumer's purchase intention to purchase coffee in coffee shop and help them to increase sales retain more customers and improvement of sales marketing in the future.

Introduce the background of the coffee industry in Lao PDR, explain the objective of the study and some related definitions. The literature review about another factor to related the theories for providing the evidence, and how to the conceptual framework from and hypothesis. Methodology for this study and how to develop the questionnaire for a survey. The result of hypothesis analysis by SPSS software. Discussion the result of hypothesis and make the conclusion as well as a recommendation of the paper.

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1   OVERVIEW OF COFFEE

1.1 Background of coffee in Laos

The first Lao coffee plantation was conducted in 1920 in Bolaven Plateau by French in period that Laos was under French's colonial administration. Later on, coffee became more valuable and was grown more in that area in 1940. Lao coffee has gradually been popular for both internal and external consumers. It becomes one of the main export products of Laos. Approximately, a coffee plantation in The Bolaven Plateau reached around 5000 Ha with the main of two coffee species (Arabica and Robusta). Nowadays Lao PDR becomes one of the fastest growing country along with the domestic economy which grows faster and be improved gradually. It also helps local people having a better living standard throughout the country suddenly. We can see it from the number of the growth of many shops, stores, shopping centers, buildings and investors who are interested in investing a huge amount of money in their businesses. Example: a coffee shop in Vientiane is one of many famous business types be chosen. It seems to be running well in Lao society because of the growing number of the current coffee drinkers covering almost all ages. Lao coffee, especially "Arabica and Robusta" are the most popular species among college students and office workers. Thus, the coffee shop is now increasing very fast and at the same time, all these two types of coffee are one of the main productions of the national exportation in Laos. Lao PDR is located in Southeast Asia and it is a landlocked country sharing the border with 5 countries such as Myanmar, China, Thailand, Vietnam, and Cambodia. For the population, Laos has around 6.8 million people. Laos becomes a member of Asia-Pacific Trade Agreement (APTA), World Trade Organization (WTO). Base on the research found out that one of the main products being exported to worldwide is coffee and the main coffee's production are made in the southern of Laos at high elevation Bolaven Plateau. Arabica seems to be more popular than Robusta for Lao people. Arabica gives higher quality for making espresso, which the capacity of producing espresso is around 20,000 tons each year.

1.2 Statement of Problem.

Since the number of coffee shops in Vientiane has been increasing and the market becomes intensively competitive. Many coffee shops and companies are providing competitive pricing product, goods and service to satisfy customer based on their demand and need with the reasonable price. In fact, researcher toward customer satisfaction and purchase is rarely found in this market because most of them mainly focusing on how to calculate the premium rate and customer behavior. According to these problems, the study aims to investigate. The main problem for people who are investing on coffee shop and who have already opened their business is the very unique and special coffee from their shops with their own coffee producing method chasing to make the customer take an action to purchase the product.

2   LITERATURE REVIEW

This chapter is divided into 3 main parts. First, Theories, related theories, and researches would be gathered more in details and used for the researchers propose. It might content many theories about Customer Satisfaction, Purchase Intention and Brand Loyalty which rationally link to each other and finally, completely being used as the conceptual framework. Second, it represents about the theoretical model or conceptual framework that would be created for this research only and suddenly shows the conceptualized framework and the direction of this research. Third, it goes to the hypothesis of this research in order to prove the relationships to see whether there is any significance between them.

2.1 Relationship between perceived product quality and purchase intention.

The value of a customer perception for a toward a product is a four shape for elements are price, image, product quality and service quality. In business environment is very highly competitive customers there are will compare with the perceived value of offering competitive. Exceeding customer expectations or meeting customer is divided into two parts. In that time of purchase, customers will decide whether to meet expectations, by comparing their perceived of performance with expected performance. This is usually the basis of which to decision to purchase and determine the satisfaction of where to purchase. After the customer purchasing a consumable, customers will be aware of the performance and satisfaction of the actual user as a result of comparing actual performance with expected performance (Hardie and Walsh, 1994) In businesses firms are very interested in product quality because of the potential to expand market share, reduce production costs / operations, increase productivity and maximize profits (Garvin 1984). Point out of that companies need not to stand out in every dimension of quality in order to succeed.

2.2 Relationship between Brand Image and Customer Satisfaction.

According to Marshall, Na, and Keller (1999) images cannot be evaluated and measured; image evaluations should include customer perceptions about the brand image and brand, and important issues related to the importance of brand image effect to customer satisfaction. However, the results of this study investigates are also influenced by many of the advantages of the brand image that affect customer satisfaction and customer satisfaction from interpersonal communication and interpersonal skills. The advantage in customer purchase intention. According to Reynold and Betty (1999), in high-level of function behavior and the social behavior of the distributors and supplier, with customer satisfaction will be increased. Base In this paper, the majority of most authors have concluded that there is a significant perfect and perfect relationship between the advantages of customer satisfaction and brand image. Aaker (1991) and Rory (2000) in this point out by creating a good of brand image, customers are more likely to use increase more satisfaction in that brand image and customers know more of that brand image and recommend to other customers.

2.3 Relationship between Perceive Quality and Customer Satisfaction.

Customer Satisfaction Study in Marketing Literature is influenced by many factors. In terms of passenger cruise, Petric (2004) is evidence of passenger satisfaction by describing value and quality. Previously has investigated the researched of the relationship between quality satisfaction and intention in behavioral. They provide evidence that the quality of opportunity directly affects their behavioral intention to act, in addition to indirect effects through satisfaction. (Quality of experience). The behavioral intentions are described in terms of both quality and satisfaction, which described a willingness to pay more and loyalty (customer lifetime preference). (Carlos & António, 2008). Previous theories indicated that customer satisfaction was mediator the relationship between the perceived quality of the customer and firm outcome (Oliver, 1997; Oliver, 1999).

2.4 Relationship between marketing mix (7p's) and Customer Satisfaction.

As Kalaimani (2012) it has identified that insurance in the market is a service market, and this service while marketing will bring quality products to satisfy customer satisfaction. Management process of the marketing. The company delivers value to customer demand and customer needs by creating, trading and offering the value of services and products (Kotler, 2006). Based on previous studies, we have to know that a marketing mix is a marketing tool that helps marketers get what customer demand and need and offers value to their customers and make customer satisfaction. Moreover Hirankitti, Mechinda, and Manjing (2009) to identify that the marketing mix is the very important factor that will help the company increase its customers and offer effective services. Otherwise, Yelkur (2000) it also offers a basic of marketing mix and impacts positively on customer satisfaction, Cengiz and Yayla (2007) Offer to customer satisfaction and loyalty is very positive influence from marketing mix with a good speech in oral communication.

2.5 Relationship Customer Satisfaction and Customer Purchase Intention.

Providing of Service of all industries are committed to customer satisfaction because of the impact on profitability and their performance (Ryu et al., 2012). Therefore, it has received a lot of importance from practitioners and academics. Oliver (1997, (p. 13) defined satisfaction as a response to consumer response and stated "The psychological state of the conclusion that occurs when the mood around the unconfirmed expectations is accompanied by the consumer's previous feelings about the consumer experience "another study by, Anderson and Srinivasan (2003, p. 125) Postulated that "satisfaction may be best understood as a continuous evaluation of the natural surprises in purchasing products and/or consumption experiences. And the same line, Oliver (1997, p. 13) Also, describe customer satisfaction. "A judgment that a product or service feature or product or service has a level of consumer satisfaction, including the level of compliance or lower." In the context of human-computer interaction, satisfaction is an important factor in determining of positive intentions behavioral such as purchase intentions, EWOM and long-term of loyalty (Anderson and Srinivasan, 2003; Hsu et al., 2012).

2.6 Conceptual Framework.

The conceptual framework used as a study guide in research and it is used to make conceptual distinctions and organize ideas.   The basis for thinking about what we do and about what it means, influenced by the ideas and research of others.
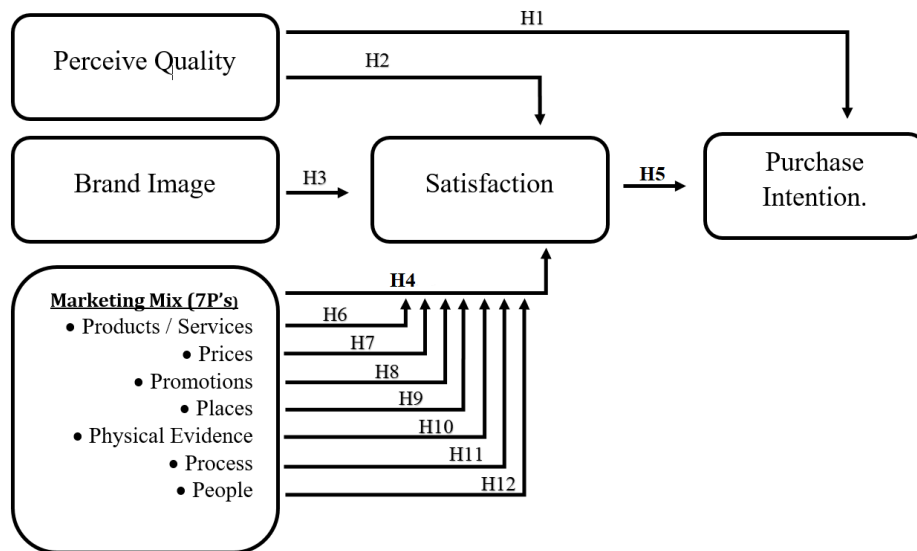
2.7 Hypothesis

H1: There is a significant relationship between Perceive Quality and Purchase Intention.

H2: There is a significant relationship between Perceive Quality and Customer Satisfaction.

H3: There is a significant relationship between Brand Image and Customer Satisfaction.

H4: There is a significant relationship between Marketing Mix (7P's) and Customer Satisfaction.

H5: There is a significant relationship Customer Satisfaction and Purchase Intention

H6: There is a significant relationship between Marketing Mix (7P's) (Products / Services) and Customer Satisfaction.

H7: There is a significant relationship between Marketing Mix (7P's) (Prices) and Customer Satisfaction.

H8: There is a significant relationship between Marketing Mix (7P's) (Promotions) and Customer Satisfaction.

H9: There is a significant relationship between Marketing Mix (7P's) (Places) and Customer Satisfaction.

H10: There is a significant relationship between Marketing Mix (7P's) (Physical Evidence) and Customer Satisfaction.

H11: There is a significant relationship between Marketing Mix (7P's) (Process) and Customer Satisfaction.

H12: There is a significant relationship between Marketing Mix (7P's) (People) and Customer Satisfaction.

3   METHODOLOGY

This research use quantitative method which primary data information was collected through by the 400 questionnaire survey which was divided into three parts; the first part includes personal questions (gender, age, education level, income, occupation, and marital status), second part includes customer

purchase behavior 6Ws, 1H & D which are consisting: What, Where, When, Why, Who, Whom, How and Do and third includes questions of any related to independent and dependent variables. It has been adopted a five-level Likert scale (Strongly agree (5) to strongly disagree (1), all of the questionnaire and the data were collected in Vientiane, Lao PDR.　　Descriptive Statistics for all Multi-item measures used

Measure	Item	Minimum	Maximum	Mean	Std. Deviation
Dependent Variables					
Purchase Intention.	6	2.67	5.00	3.8904	0.53790
Independent Variables					
Perceive Quality	6	2.60	5.00	4.0965	0.51229

Measure	Item	Minimum	Maximum	Mean	Std. Deviation
Dependent Variables					
Satisfaction	6	2.67	5.00	3.8904	0.5379
Independent Variables					
Perceive Quality	6	3.00	5.00	4.0704	0.49865
Brand Image	6	1.80	5.00	3.7750	0.53917
Total Marketing Mix	32	2.81	5.00	3.9538	0.43994
Marketing Mix (7P's) (Products)	5	2.20	5.00	3.8515	0.56092
Marketing Mix (7P's) (Places)	3	2.00	5.00	3.9542	0.66236
Marketing Mix (7P's) (Prices	5	2.40	5.00	3.8550	0.48638
Marketing Mix (7P's) (Promotions)	3	2.00	5.00	3.5617	0.70648
Marketing Mix (7P's) (Personnel)	6	2.50	5.00	4.0229	0.60637
Marketing Mix (7P's) (Process)	5	2.40	5.00	4.2185	0.61572
Marketing Mix (7P's) (Physical Evidence)	5	2.40	5.00	4.0420	0.57556

Measure	Item	Minimum	Maximum	Mean	Std. Deviation
Dependent Variables					
Purchase Intention	6	2.67	5.00	3.8904	0.5379
Independent Variables					
Satisfaction	6	3.00	5.00	4.0704	0.49865

4. COEFFICIENTS RESULTS OF HYPOTHESIS 1 TESTING

Variable	Unstandardized		Standardized				Collinearity	Statistics
	Coefficients		Coefficients					
Model	B	Std. Error	Beta	t	Sig.		Tolerance	VIF
(constant)	2.740	.202		15.703	.000			
Perceive Quality	.385	.044	.366	7.851	.000		1.000	1.000

a. Dependent Variable: Purchase Intention

b. R=0.366^a, R^2=0.134, Adjusted R^2=0.132, F=61.637

The equation of multiple linear regressions as bellow:

Y = β_0 + β_1X

In table 4.2.1.3 in this study uses the Purchase Intention as the dependent variable, the Perceive Quality as the independent variables, therefore the Purchase Intention is Y and the Perceive Quality is the X, the relationship between them was written as bellow:

Y=2.740+0.044X

According to table 4.2.1.3 the result will be showed that there was 13.5 % (R^2=0.134) of variance in the dependent variable (Perceive Quality)

The result revealed that functional value (p-value = 0.000) were related to the Perceive Quality, because the p-value of these three independent variables were all less than 0.05, the hypothesis 1 was accepted.

The results of Perceive Quality and Purchase intention for this research statistic value T-Test is equal to (Sig. = 0.000) which is less than α = 0.05 so Hypothesis 1 was acceptable, the factors Perceive Quality is a one factors to influencing to customer purchase intention to purchase coffee at the coffee shop in Lao PDR.

4.1 Coefficients Results of Hypothesis 2 to Hypothesis 4 testing

Variable	Unstandardized		Standardized				Collinearity	Statistics
	Coefficients		Coefficients					
Model	B	Std. Error	Beta	t	Sig.		Tolerance	VIF
(constant)	1.140	.189		6.043	.000			
Perceive Quality	-.031	.038	-.031	-0.794	.428		.837	1.195

| Brand Image | -.075 | .040 | -.81 | -1.876 | .061 | .703 | 1.422 |
| Marketing   mix 7P's | .847 | .051 | .747 | 16.508 | .000 | .639 | 1.565 |

a.   Dependent Variable: Customer satisfaction

b. R=0.695^a, R^2=0.482, Adjusted R^2=0.479, F=123.039

The equation of multiple linear regressions as bellow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$$

In table 4.2.2.3 this study uses the Customer Satisfaction as the dependent variable, the Perceive Quality, Brand Image and Total Marketing Mix (7P's) as the independent variables, therefore the Customer Satisfaction is Y, Perceive Quality, Brand Image and Marketing Mix (7P's) are the X1, X2, X3, the relationship between them was written as bellow:

$$Y=1.14+ (-0.031)\ X1+ (-0.81)\ X2+0.747 X3$$

According to table 4.2.2.3 the result showed that there was 48.2 %(R^2=0.482) of variance in the dependent variable (Customer Satisfaction) which can be explained by three independent variables (Perceive Quality, Brand Image and Total Marketing Mix (7P's)).

The result revealed that Total Marketing Mix (7P's) (p-value=0.000), was related to the Customer Satisfaction, because the p-value of these three independent variables were all less than 0.05, hypothesis 4 were accepted.

Furthermore the Perceive Quality (β=-0.031) and Brand Image (β=-0.81) were considered the relationship Perceive Quality, Brand Image and Customer Satisfaction were relative high. However, the Perceive Quality (p-value=0.428) and Brand Image (p-value=0.061) weren't related to the Customer Satisfaction, the hypothesis 2 and hypothesis 3 were rejected.

The results of Perceive Quality and Customer satisfaction for this research statistic value T-Test is equal to (Sig. = 0.428) which is higher than α = 0.05 so Hypothesis 2 were rejected, the factors of Perceive Quality is not influencing to customer satisfaction to purchase coffee in the coffee shop in Vientiane Lao PDR.

The results of Brand Image and Customer satisfaction for this research statistic value T-Test is equal to (Sig. = 0.061) which is higher than α = 0.05 so Hypothesis 3 were rejected, the factors of Brand Image is not influencing to customer satisfaction to purchase coffee in the coffee shop in Vientiane Lao PDR.

The results of Total Marketing Mix (7P's) and Customer satisfaction for this research statistic value T-Test is equal to (Sig. = 0.000) which is higher than α = 0.05 so Hypothesis 4 were accepted, the factors of Total Marketing Mix (7P's) is influencing to customer satisfaction to purchase coffee in the coffee shop in Vientiane Lao PDR.

4.2 Coefficients Results of Hypothesis 5

Variable	Unstandardized		Standardized				
	Coefficients		Coefficients			Collinearity	Statistics
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(constant)	1.316	.180		7.326	.000		
Satisfaction	.633	.044	.586	14.441	.000	1.000	1.000

a. Dependent Variable: Purchase Intention

b. R=0.586^{a}, R^2=0.344, Adjusted R^2=0.342, F=208.541

The equation of multiple linear regressions as bellow:

Y = β0 + β1X

    In table 4.2.2.3 in this study uses the Purchase Intention as the dependent variable, the Customer Satisfaction as the independent variables, therefore the Purchase Intention is Y and the Customer Satisfaction is the X, the relationship between them was written as bellow:

Y=1.316+0.044X

According to table 4.2.2.3 the result will be showed that there was 34.4 % (R^2=0.344) of variance in the dependent variable (Purchase Intention)

    The result revealed that functional value (p-value = 0.000) were related to the Customer Satisfaction, because the p-value of these three independent variables were all less than 0.05, the hypothesis 5 was accepted.

The results of Customer Satisfaction and Purchase Intention for this research statistic value T-Test is equal to (Sig. = 0.000) which is higher than α = 0.05 so Hypothesis 5 were acceptable, the factors of Customer Satisfaction is a one factors to influencing to customer purchase intention to purchase coffee at the coffee shop in Lao PDR.

4.3 Coefficients Results of Hypothesis 6 to Hypothesis 12

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.132	.159		7.138	.000
	Mproduct	.045	.037	.051	1.218	.224
	Mplaces	.076	.031	.102	2.440	.015
	MPrices	-.030	.051	-.030	-.589	.557
	MPromotion	-.032	.029	-.046	-1.119	.264
	MPersanel	.305	.043	.371	7.136	.000

MPorcess	.172	.044	.213	3.883	.000
MPhysical	.182	.044	.211	4.182	.000
a. Dependent Variable: totalSTT						

b.   R=0.734^a, R^2=0.539, Adjusted R^2=0.530, F=65.404

The equation of multiple linear regressions as bellow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \ldots + \beta_p X_p$$

In table 4.2.4.3 in this study uses the customer satisfaction as the dependent variable, the 7 factors of Marketing Mix7P's Product, Prices, Places, Promotion, Personal, Physical, Process as the independent variables, therefore the Purchase Intention is Y and the 7 factors of Marketing Mix7P's Product, Prices, Places, Promotion, Personal, Physical, Process is the X1, X2, X3, X4, X5, X6, X7 the relationship between them was written as bellow:

Y=1.132+ 0.045 X1+ 0.076 X2+ (-.0.76) X3+ (-0.30) X4+ (-0.032) X5 +0.305X6 +0172X6+0182X7

According to table 4.2.4.3, the result showed that there was 53.90 %(R^2=0.539) of variance in the dependent variable (Customer Satisfaction) which can be explained by four independent variables 7 factors of Marketing Mix7P's Product, Prices, Places, Promotion, Personal, Physical, Process .

Furthermore the Marketing Mix7P's Product (β=0.159), Marketing Mix7P's Prices (β=0.051), Marketing Mix7P's Promotions (β=0.037) were considered the relationship Customer Satisfaction weren't relative However, the Marketing Mix7P's Product (p-value=0.224), Marketing Mix7P's (Prices) (p-value=0.557), and Marketing Mix7P's Promotions (p-value=0.264) weren't related to the Customer Satisfaction, the hypothesis 6, hypothesis 7 and hypothesis 8 were rejected. The factor of Marketing Mix7P's (Product) base on Hypothesis H6 test, The factor of Marketing Mix7P's (Prices) base on Hypothesis H7 test, The factor of Marketing Mix7P's (Promotion) base on Hypothesis H6 test, all of three Hypothesis H6, H7, H8 is not influencing to customer satisfaction for customer in Vientiane Lao PDR because The factor of Marketing Mix7P's (Product) Marketing Mix7P's (Prices) Marketing Mix7P's (Promotion) is only a factor in increasing sales but customer choosing to another factors such as Places, Personal, Physical, Process to satisfy customer in Vientiane to purchase or buy coffee in the coffee shop in Vientiane Lao PDR.

The results of Marketing Mix7P's (Product) and Customer satisfaction for this research statistic value T-Test is equal to (Sig. = 0.224) which is higher than α = 0.05 so Hypothesis 6 was rejected, the factors of Marketing Mix7P's (Product) is not influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

The results of Marketing Mix7P's (Prices) and Customer satisfaction for this research statistic value T-Test is equal to (Sig. = 0.557) which is higher than α = 0.05 so Hypothesis 7 was rejected, the factors of Marketing Mix7P's (Prices) is not influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

The results of Marketing Mix7P's (Promotions) and Customer satisfaction for this research statistic value T-Test is equal to (Sig. = 0.264) which is higher than α = 0.05 so Hypothesis 7 was rejected, the factors of

Marketing Mix7P's (Promotions) is not influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

Furthermore the Marketing Mix7P's Places (β=0.076), Marketing Mix7P's Personal (β=0.305), Marketing Mix7P's Process (β=0.172) and Marketing Mix7P's Physical (β=0.182) were considered the relationship Customer Satisfaction were relative high. However, Marketing Mix7P's (Places) (p-value=0.015), Marketing Mix7P's (Personal) (p-value=0.000), Marketing Mix7P's Process (p-value=0.000) and Marketing Mix7P's (Physical) (p-value=0.000) were related to the Customer Satisfaction, the hypothesis 9, hypothesis 10, hypothesis 11 and hypothesis 12 were acceptable.

The results of Marketing Mix7P's (Places) for this statistic value T-Test is equal to (Sig = 0.015) which is higher than α = 0.05 so Hypothesis 9 was accepted, the factors of Marketing Mix7P's (Places) influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

The results of Marketing Mix7P's (Personnel) for this statistic value T-Test is equal to (Sig = 0.000) which is higher than α = 0.05 so Hypothesis 10 was accepted, the factors of Marketing Mix7P's (Personnel) influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

The results of Marketing Mix7P's (Process) for this statistic value T-Test is equal to (Sig = 0.000) which is higher than α = 0.05 so Hypothesis 10 was accepted, the factors of Marketing Mix7P's (Process) influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

The results of Marketing Mix7P's (Process) for this statistic value T-Test is equal to (Sig = 0.000) which is higher than α = 0.05 so Hypothesis 10 was accepted, the factors of Marketing Mix7P's (Physical evidence) influencing to customer satisfaction to purchase coffee at the coffee shop in Lao PDR.

5. SUMMARY OF HYPOTHESIS TESTING RESULT

Item	Description of Hypothesis	Result
H1	There is a significant relationship between Product Perceive Quality and Purchase Intention.	Accepted
H2	There is a significant relationship between Product Perceive Quality and Customer Satisfaction.	Rejected
H3	There is a significant relationship between Brand Image and Customer Satisfaction.	Rejected
H4	There is a significant relationship between Marketing Mix (7P's) and Customer Satisfaction.	Accepted
H5	There is a significant relationship Customer Satisfaction and Purchase Intention.	Accepted
H6	There is a significant relationship between Marketing Mix (7P's) (Product) and Customer Satisfaction.	Rejected

H7	There is a significant relationship between Marketing Mix (7P's) (Prices) and Customer Satisfaction.	Rejected
H8	There is a significant relationship between Marketing Mix (7P's) (Promotions) and Customer Satisfaction.	Rejected
H9	There is a significant relationship between Marketing Mix (7P's) (Places) and Customer Satisfaction.	Accepted
H10	There is a significant relationship between Marketing Mix (7P's) (Physical Evidence) and Customer Satisfaction.	Accepted
H11	There is a significant relationship between Marketing Mix (7P's) (Process) and Customer Satisfaction.	Accepted
H12	There is a significant relationship between Marketing Mix (7P's) (People) and Customer Satisfaction.	Accepted

5.1 Recommendation

After researching and analysis respondents result show about Marketing Mix7P's an effect to the customer in Vientiane Lao PDR is Places, Personal, Promotion, Process, Physical, so coffee shop in Vientiane should be a focus on Place who purchase on good location spacious parking easy to buy and to easily access the store. The good location is that will make the coffee shop has the opportunity to be highly successful in selling and providing service because customer give important to comfortable and easy to go to the coffee shop is very good for coffee shop to attracts customer comes to buy or use service in the coffee shop and it also has a competitive advantage with another competitor also so entrepreneurs should consider selecting a good location and should be analyzing various factors for choosing location carefully such as near office building near public transportation, customer target living or working around there and have enough parking spaces for customer. Marketing Mix7P's (Physical evidence) The coffee shop in Vientiane Lao PDR should pay attention about Physical evidence coffee shop should be focus on the cleanliness in the shop both of inside and outside due to coffee shop business customer will focusing on cleanliness the first thing and coffee shop will be well-decorated, coffee shop is will be atmosphere and is not stinky

Marketing Mix7P's (Process) The coffee shop in Vientiane Lao PDR should pay attention to Process coffee making process is always right that standardize in coffee taste, process of sales services to customer should be very fast, process of coffee distribution will be fast too, the bill of coffee list will be shown correct and complete, In menu list prices should show very clearly. Marketing Mix7P's (Personnel) The coffee shop in Vientiane Lao PDR should pay attention about People or Personnel to Recruiting staff become a staff at the coffee shop because the coffee shop is a business focused on service so in the good service the will make to impress to the customer by a good attitude welcome customer to friendly greeting polite with customer and have a good manners. is can be solve the basic problems for customer to meet the customer need and use service at the coffee shop at Vientiane Laos PDR for use as a guide to determine if the marketing strategy to be owner or open the new coffee shop and make to know that the factors of

Perceive Quality that is influencing to Purchase Intention that another reason why respondents focus on quality first and become to purchase and then the factors of Marketing Mix (7P's) is a very important one that is influencing Customer satisfaction and finally become to purchase and the last is customer satisfaction is the most important because all of anything to purchase should come from customer satisfaction first

Should have an in-depth interview or group interviews (focus Group) more, to get some information maybe cannot to put in the questionnaire It will help operators access the problem directly and understand what consumers really want.

Should study more of the relationship any factors of the intention to use service or purchase coffee at the coffee shop and study more about customer Royalty because it can be analyzed deeper in strategic planning to maintain its own customer base it can also to increase new customer base in the future.

Data collection is limited in Vientiane Capital of Laos only maybe in the next research will be expanded of research to find more differences of group differences place in Laos more likely to purchase coffee in the coffee shop of the big province in Lao PDR such as Luangprabang province, Champasak province, Savannakhet Province, etc it will fully help for more information about Laos customer indifference province.

REFERENCES

Hardie, N & Walsh, P. (1994). Towards a better understanding of quality. Int. *J. Qual. Reliab. Manage, 11*(4), 53-64.

Aaker, D. A. (1991). *Managing brand equity. Capitalizing on the value of a brand name.* New York: The Free Press.

Anderson, R. E. & Srinivasan, S. S. (2003). *E-satisfaction and e-loyalty: a contingent framework. Psychology & Marketing,* 20(2), pp. 123-138.

Carlos, M. S., Ramalho, C. & Silvestre, A. L. (2008). Satisfaction and behavioural intentions of cruise passengers visiting the Azroes. *Tourism Economics, 14*(1), 169-184.

Cengiz, E. & Yayla, H. E. (2007). The effect of marketing mix on positive word of mouth communication: *Evidence from accounting offices in Turkey. Innovative.*

Hirankitti, P., Mechinda, P., & Manjing, S. (2009). Marketing strategies of Thai spa operators in Bangkok metropolitan. *Paper presented at The International Conference on Applied Business Research ICABR Valletta (St.Julians)–Malta.*

Kalaimani.G. (2012). *Journal of Management and Science* - JMS ISSN 2250-1819 (Online) / ISSN 2249-1260 (Printed)

Na, W. B., Marshall Roger, Keller K.L. (1999). Measuring brand power: Validating a model for optimising brand equity. *The Journal of Product and Brand Management, 8*(3), 170-184.

Oliver, R. L. (1999). whence consumer loyalty?. *Journal of Marketing, 63*(4), 33-44.

Oliver, R. L. (1997). Varieties of value in the consumption satisfaction response. *Advances in Consumer Research, 23*(7), 247-254.

Ryu, K., Lee, H. & Kim, W. (2012). The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer.

Reynolds, K. E., & Beatty, S. E. (1999). Customer benefits and company consequences of customer-salesperson relationships in retailing. *Journal of Retailing, 75*(1), 11–32.

Rory P. Morgan (2000). A Consumer-Orientated framework of brand equity and loyalty. Int. *J. Mark. Res., 42*(1): 65-78.

satisfaction, and behavioral intentions. *International Journal of Contemporary Hospitality Management, 24*(2), pp. 200-223.

Yelkur, R. (2000). Customer satisfaction and the services marketing mix. *Journal of professional service marketing, 21*(1).

THE INFLUENCES OF COUNTRY OF ORIGIN, PRODUCT QUALITY, BRAND IMAGE,
AND CONSUMER BEHAVIOR ON CUSTOMER PURCHASE INTENTION
IN SOAP MARKET IN VIENTIANE, LAO PDR

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ABSTRACT

Objective : The economic development of Lao PDR has developed well over the last 20 years since the transformation of the socialist economy into a free economic system . Laos ' economics has continuously grown, especially in the capital of Laos "Vientiane "with foreign investment and imports of a large number of goods . People have gained more spending power . Laos has imported many soap products from Thailand . Thus, this research aims to study the factors influencing consumers ' intention to buy soap products in Vientiane, Lao PDR.

Materials & Methods : Employing quantitative method, the target population is the Lao population living in Vientiane. There are many factors in this research that have an impact on consumer intention to buy including country of origin, product quality, and brand image. Out of 400 questionnaires, 389 questionnaires were received from cosmetic clients in supermarkets, drug stores, and dealers. The data analysis in this research employed multiple regression method .

Conclusion : This finding shows that the most important factor affecting the intention to buy soap products was brand image followed by product quality and country of origin respectively.

1. INTRODUCTION

Lao's official name is "Laos PDR" (Lao People's Democratic Republic). The country is a member of Southeast Asia countries with a population of over 7.02 million people, and the population growth rate of 1.53%. There are around 997,000 people living in Vientiane, the capital city. (CIA, the World Fact book, 2016). The main imported markets are Vietnam, China, and Thailand, and the main exported markets are Thailand, Vietnam, China, and Australia (FTI ASEAN Center Thailand-FACT). Lao PDR has been one of the fastest growing economies in the South East Asia and Pacific region and projected to grow at around 7% in 2016 (world bank group, 2015). Lao people are interested in soap products with positive thinking towards items that come from Thailand. They are aware of the products quality and value. Laos also needs more soap products imported from abroad because domestic production is not enough for the demand. In the last three years, the Lao market had a high growth rate in soap market. Many foreign investors are interested in investing in the soap market. Laos has a very wide range of soap brands.

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Particularly, Thai brands are very popular in Laos, due to the similarity in culture and fondness in Thai TV series. This is an opportunity for Thai brands to reach more Lao consumers. There are also migrant workers from Myanmar and Laos who have worked in Thailand and are familiar with Thai soap brands as well. Besides Thai brands, there are also many other soap products available in Laos, such as products from China, America, and Vietnam. The statistics of imports of soap, cosmetics and skincare products (33 only) during the fiscal year. (September - October) 2012-2013 and 2013-2014 are as follows. (Department of Export Promotion, Ministry of Trade and Industry, Lao PDR)

Import	Value		Growth rate	Ratio	
	2012-2013	2013-2104		2012-2013	2013-2104
World	14,572,509	16,535,489	13.5%	100	100
Thailand	11,898,269	11,161,185	-6.2%	81.65	67.50
America	4,976	1,688,382	3,3830.5%	0.03	10.21
China	812,380	608,196	-25.1%	5.57	3.68
Vietnam	1,566,636	54,290	-96.5%	10.75	0.33
Other	290,248	3,023,436	941.67%	1.99	18.28

Unit: US

Lao PDR will import soap products. There are many products in Lao PDR, such as soaps, cream, skin and spa products. The emphasis is on the use of herbs natural products such as tamarind, aloe vera, mangos teen, avocado and honey, etc. Most imported products had concentrated milk & cream 4,454 thousands of trade value, 0.12 percent share. Hair preparations 4,261 thousands of trade value, 0.11 percent share. The Beauty & Make-up had preparations 3,011 thousands of trade value, 0.08 percent share. Soap had 2,960 thousands of trade value, 0.08 percent share. (Lao PDR Trade Portal, Last update June, 2017)

2. LITERATURE REVIEW

2.1 Country of origin

Country of origin refers to the country that produces the products and the products have the labeled as " Made in or Manufactured in " (Ahmed et al., 2004 .(This is consistent to Orbaiz & Papadopoulos)2003 (who said country of origin is a marketing strategy that uses the word "Made in "and followed by the country of origin .According to a study by Cateora & Graham)1999(, country of origin influences the positive and negative consumer perceptions of products in different brands in each

country .Country of origin is an important factor influencing consumer behavior)Parkvithee & Miranda, 2012 .(

2.2 Consumer Behavior

Consumers are the foundation of every business, what consumers purchase and comment often involve various marketing deals to achieve their goal) Ramakrishnan, 2005.(Walters)1974 (defines the consumer is the person who has the ability to purchase goods and services offered for sale on the market to meet demand .Schiffman & Kanuk)1997, 648 (defines consumer behavior as the behavior in purchasing and evaluating the products or services that will be based on the available resources. Hawkins, Best & Coney)2001 (suggested that both internal and external factors can influence the consumer decision-making process . The behavior of consumers may be assessed through the studies of sociology, psychology and economics . This study involved illustrate some important factors pushing consumer behavior towards cosmetics or soap products.

2.3 Product quality

Gavin (1984) discussed that the quality of the overall product can be analyzed under the concept of quality. Consumers pay more attention to the quality, they can share the concept of quality. The study of Lefkoff-Hagius & Mason (1993) represents product quality measurement in three features such as product appearance, product benefits, and the image of the product. The three features influence consumer purchasing decisions. The nature of the product shows the features that characterize the products or services. Product benefits means a person or an interest in the data itself. The perception and image of the product means of interpretation in each part arises from the recognition. This is consistent to Lee & Tai (2009) who said the three features were used to explore the impact on the quality of consumers about the quality of the product. The benefits are tremendous impact on the quality of consumer products. However, "distinctive feature" and "image" does not affect the quality of consumer insignificant.

According to Toivonen (2012) , the quality of the products can be determined by the characteristics of the product. However, the most importance is ease of use and suitability of the product features to meet the needs of the individual. The product quality is related to purchase intent of consumers (Bao, Bao & Sheng, 2011).

2.4 Brand Image

Brand Image is a key element of corporate promotions because it can determine consumer attitudes toward brands, products, services, and also influence consumer purchasing decisions (Michaelidou, Micevski, & Cadogan, 2015) . Brand image also reflects the brand in the memory of customers in terms of customer perception in features, style, attitude, and service including benefits from all brands (Keller, 1993; Dhillon, 2013). Mohajerani & Miremadi (2012) described the overall brand image that is generated in varies customer mind depending on the information received based on cost and destination. Huang & Sarigöllü (2012) said brand or brand data management is used brand perception and

brand image to build brands, the characteristics of brand image in distinguishing between brands and brands within the product, it's not only focused on the objectivity such as quality or price but also focused on the personal, psychological, emotional, and brand recognition among consumers as well.

2.5 Purchase intention

Customer purchase intention refers to an attempt to purchase a product or service . The consumer's perceptions and attitudes toward the product will influence the intention to purchase the product)Das, 2014 .(According to a study by Grewal et al) .1998(, purchase intention was used as a predictor of purchase and linkage between storage and purchase intention .In the study, there were three issues to consider as drivers; purchasing decisions, brands environments, and perceptual experiences .Wu et al) .2011(said the purchase intention can be used as consumer's behavioral estimator who are willing to purchase product.

Richard, Loury & David)2013 (mentioned that purchase intention identifies the willingness and possibility of consumers to purchase in the future . The purchase intention is determined by the individual's willingness to purchase a particular brand that they choose after some evaluation .Purchasing intention is often based on past experience and their satisfaction with the product, as well as on the external environment to gather information for evaluating choices and making decisions .The brand image is important because it affects the consumer's desire and willingness to purchase .D'Astous & Ahmed)1999 (identified some of the resistance associated with consumer reporting in assessing, the actual influence of the country of origin such as to make more sense in enhancing the characteristics of the product within and considering the brand as a source of origin)COO.(

Nor & Wan's)2016 (study shows that the country of origin, product quality, and brand image have a relationship with the purchase intention . From the previous study, the researchers develop the conceptual framework base on the above framework, several hypotheses are tested as follow:

Independent Variables   Dependent Variables
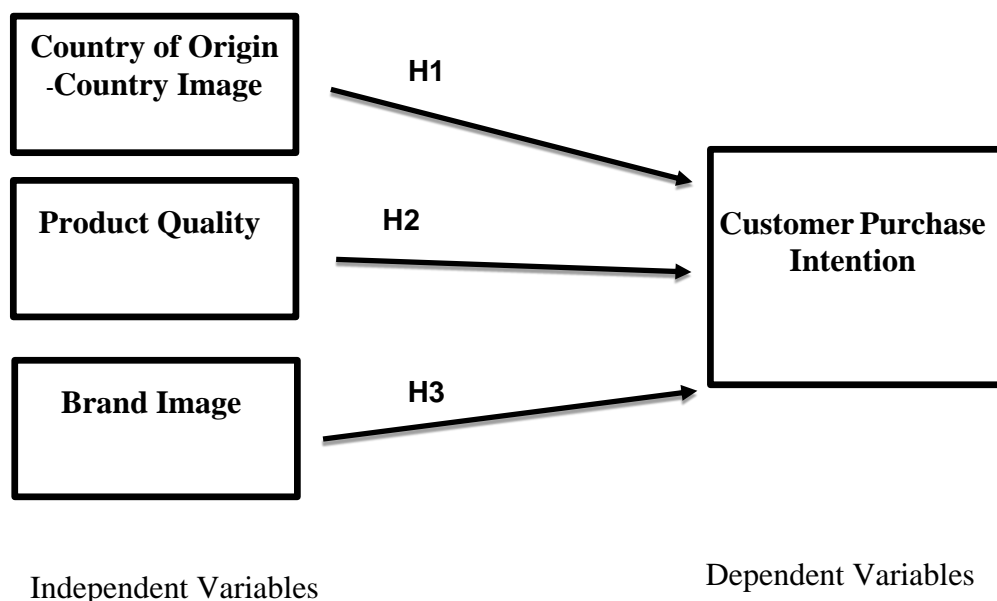
Hypothesis 1: Country of origin has a positive effect on customer purchase intention of soap product.

Hypothesis 2: Product quality has a positive effect on customer purchase intention of soap product.

Hypothesis 3: Brand image has a positive effect on customer purchase intention of soap product.

3. METHODOLOGY

Conducting quantitative method which all information from primary sources, the primary data was collected through the questionnaire survey which was divided into two parts; the first part includes personal questions)gender, age, education level, income, occupation, and marital status(, and the second part includes questions that are related to independent and dependent variables .It has been adopted a five-level Likert scale) Strongly agree)5 (to strongly disagree)1(, and the data were collected in Vientiane, Lao PDR.

The study uses a descriptive research design with independent variable and dependent variable. First hypothesis; the independent variable is country of origin, and dependent variable is purchase intention. Second hypothesis; the independent variable is product quality and dependent variable is purchase intention. Third hypothesis; the independent variable is brand image and dependent variable is purchase intention. The questionnaire items of country of origin adapted from Khosrozadeh , Heidarzadeh & Kambi (2011) , and Momani (2015) , the questionnaire items of product quality adapted from Momani(2015), the questionnaire items of brand image adapted from Josphine & Mark (2015), and the questionnaire items of purchase intention adapted from Aman .et al. (2012) . The Cronbach's alpha coefficient was as follows: Country of origin was 0.783, product quality was 0.842, brand image was 0.740, and purchase Intention was 0.891.

Data analysis is use the data collection to summarize and analyzed the quantitative result .The first step analysis the statistical data using IBM SOSS software 20 to analyzed the demographic characteristic)frequency and percentage of respondents .(Secondary analyzed the descriptive statistics for each variable influencing purchase intention .According to Cavana)2001(, there are 4 types of constructs measurement .There are interval scale, nominal scale, ordinal scale and ratio .This research has used interval, nominal, and ordinal scale to measure behavior.

4. RESULTS

There were total 389 valid questionnaires that were collected. The main respondents were women (65 percent), aged between 20-30 years (56.6 percent) had a single marital status (60.2 percent), earning between 1,500,000 to 3,000,000 kip (49.9 percent). Their main education level was Bachelor's degrees (52.4 percent) and many of them worked at government agencies (30.8 percent).

First, descriptive analysis was conducted to statistically describe the variables involved (see Table 1). It is evident the relatively high mean scores of the country of origin and purchase intention variables

studied. Second, multivariate analysis has been customer to test the hypotheses set and assess the strength of the cause and effect relationships among the variables. The multivariate regression performed, uses purchase intention as a dependent variable (see Table 2).

Table 1: Descriptive Statistics for all Multi-item measures used.

Measure	Item	Min	Max	Mean	S.D
Dependent Variables					
Purchase intention	5	2	5	3.66	0.75
Independent Variables					
Country of origin	5	2	5	3.76	0.74
Product quality	3	2	5	3.61	0.74
Brand Image	3	2	5	3.59	0.81

The model includes three factors (independent variables), the rest of the factors are found to have an impact on customer's intention to purchase soap products.

Table 2: Regression results on the Determinants of consumers' Intention to Purchase soap products.

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.714	.133		5.372	.000		
Country of Origin	.144	.051	.135	2.797	.005	.427	2.343
Product Quality	.198	.055	.195	3.608	.000	.338	2.957
Brand Image	.471	.050	.515	9.386	.000	.329	3.039

a. Dependent Variable: Purchase Intention

b. R=0.786, R^2=0.618, Adjusted R^2=0.615, F=207.653

According to table, the result showed that there was 61.8% (R^2= 0.618) of variance in the purchase intention (dependent variable) which can be explained by the country of origin, product quality, brand image (independent variable). The brand image exhibits a significant, positive relationship with

intentions to purchase soap products (t=9.386, p<0.00), followed by the product quality (t=3.608, p<0.00). Also, country of origin (t=2.797, p<0.05) exhibit significant positive relationships with purchase intentions.

Against the above findings, three hypotheses involving intentions to purchase soap products (i.e. H1, H2, and H3) have been supported. The findings regarding the country of origin (H1), product quality (H2) and brand image (H3), highlight the fact that customers' intention to purchase soap products is primarily driven by brand image, product quality and country of origin.

5. CONCLUSION AND DISCUSSION

Based on model analysis, the country of origin, product quality, and brand image influence purchase intention on soap market in Vientiane Lao PDR. The model developed by the researcher was consistent with the empirical data and statistically significant at all values. It shows that the purchase intention of soap of the population in Vientiane is influenced by country of origin, product quality, and brand image. Currently, the market of soap in Vientiane is very competitive. The results of this research can identify that they are all positively correlated in order of importance as follows; the first is brand image, the second is product quality, and the last is country of origin. The company can apply the results of this research as a guideline to improve the marketing strategy, therefore they can respond to the target group more effectively. The information in this section will help to develop the design of soap as well as the way of selling products in Vientiane, Laos.

5.1 Recommendation for future research

1. Determining the variables that influence the intentions of the next purchase may be based on other ideas or theories to better understand the factors that influence the purchase intention.
2. Based on this research the data collection tools to provide accurate information from shoppers, other tools may be used to support the same questionnaire such as focus group or interview. And future research can add more factors to be considered such as promotional, brand loyalty, and customer satisfaction, etc.
3. The data collection is limited in Vientiane, Laos only. The next research may expand the area of study to find the differences of consumer groups who are more likely to purchase products, such as Luang Prabang province, Pakse province, and Savannakhet province, etc. It will fully help the future research to get more specifically information for the new enterprise wants to enter the soap market in Laos.

REFERENCE

Ahmed, Z .U., Johnson, J .P., Yang, X., Fatt, C .K., Teng, H .S., & Boon, L .C) .2004(. Does country of origin matter for low-involvement products. *International Marketing Review, 21*)1(, 102-120.

Bao, Y., Bao, Y & Sheng, S) .2011(. Motivating Purchase of Private Brands :Effects of Store Image, Product Signatories, a Quality Variation. *Journal of Business Research, 64*, 220–226.

Cosmetic import in LAO PDR. 2015, Retrieved from
http//:data.worldbank.org/indicator/NY.GDP.MKTP.CD?contextual=default&end=2015&locations=L
A&name_desc=false&start=1985&view=chart

Garvin DA.)1984(. What does product quality really mean?. *Sloan Manage .Rev.*, 25-43.

Huang, J-.H., Lee, B .C., & Ho, S .H) .2012(. Consumer attitude toward gray market goods. *International Marketing Review, 21*)6(, 598-614.

Keller, K.)1993(. *Marketing Management* (14e Global edition) Publisher :PEARSON.

Lee, J .K., & Lee, W .N) .2009(. Country-of-origin effects on consumer product evaluation and purchase intention :the role of objective versus subjective knowledge. *Journal of International Consumer Marketing, 21*)2(, 137-151 .

Mowen J. C .& Minor, M) .1993(. Consumer behavior, Prentice-Hall. United States of America.

Parkvithee, N., & Miranda, M .J) .2012(, The interaction effect of country-of-origin, brand equity and purchase involvement on consumer purchase intentions of clothing labels. *Asia Pacific Journal of Marketing and Logistics, 24(1), 7-22.*

Schiffman, L .G .et al,)1997(. Consumer behavior. New jersey: Pearson Education Limited.

Toivonen, R. M) .2012(. Product quality and value from consumer perspective :An application to wooden products. *Journal of Forest Economics, 18*, 157–173.

MARKEING – OPERATIONS ALIGNMENT, CUSTOMER ORIENTATION AND COMPETITOR ORIENTATION: AN EMPIRICAL NOMOLOGICAL VALIDITY TESTING

Kedwadee Sombultawee* and Sakun Boon-itt**

ABSTRACT

The aim of this study is to empirically test nomological validity the relationship of marketing-operations alignment, customer orientation and competitor orientation. The research was based on a dynamic capability theory. A surveyed of four target industries (Automobiles, Food, Furniture and Electronics), using a combination of email and mail surveys. A total of 319 responses (n = 319) were received. The data was analyzed by using structural equation modeling (SEM). The results show the structural equation modeling examines the nomological validity the relationship between marketing – operations alignment including coordination decision, information exchange, leadership strategy, reward system and performance evaluation with customer orientation and competitor orientation were concurrence with the empirical data at the acceptable criteria which indicated a strong degree of fit ($\chi^2 =$ 508.44, df = 574, p = .97; χ^2/df = .88; CFI = 1.00; GFI = .92; AGFI = .90; RMSEA = .000).

Keywords: Marketing-operations alignment, customer orientation, competitor orientation. Dynamic capability

1. INTRODUCTION

Historically, marketing and manufacturing have been considered distinct activities of the firm, and did not necessarily have a strong connection or clearly aligned objectives and tools (Benhabib, 2003; Sombultawee and Boon-itt 2018). Instead, manufacturing-led firms chose to distinguish themselves during the mass manufacturing period through aspects such as physical design or color, and marketing took place following the manufacturing of the goods (Benhabib, 2003; Blenkhorn & Noori, 2011). However, the relationship of manufacturing and marketing began to change in the 1970s and 1980s, when increasingly complex manufacturing processes and competitive markets began to create problems for firms accustomed to manufacturing goods in this way (Benhabib, 2003; Blenkhorn & Noori, 2011). Blenkhorn and Noori (2011), writing originally in the late 1980s, were one of the first authors that suggested that firms should use neither a demand-pull model (with manufacturing dictated by marketing) or a technology-push model (with marketing determined by manufacturing choices), but instead should try to balance the requirements of both manufacturing and marketing. This idea was relatively slow to develop, and it was

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not until the early 2000s that the first exploratory studies of alignment between marketing and manufacturing activities began to take place (Hausman, Montgomery, & Roth, 2002). Thus, even though marketing and manufacturing are clearly connected, it is only relatively recently that the two operational and strategic areas of the firm became more closely integrated.

Despite the operational and strategic importance of marketing-operations alignment, no single model or measure has emerged. There are a number of related concepts that fundamentally address the relationship between different organizational functions, such as integration, interface, coordination, and fit (Henderson & Venkatraman, 1999; Narver & Slater, 1990; Parente, 1998; Weir, Kochkar, LeBeau, & Edgeley, 2000). However, none of these alternative concepts have been developed very thoroughly either.

However, these studies are primarily exploratory and have not articulated a complete theory of marketing and operations alignment. They also have not identified a reliable, valid measure for marketing-operations alignment that can be used to assess its influence on the firm's performance. One possible theoretical model that could be used to understand the problem of alignment is configuration theory, which argues that the firm's structures and processes are shaped by the imperatives (or internal and external forces) that it faces (Miller, 1987). Thus, the problem of this research is how marketing-operations alignment can be theorized and measured and what relevance it has for the firm. This problem will be addressed through application of configuration theory.

2. LITERATURE REVIEW

2.1 Dynamic capability and organization alignment

Previous studies highlight a positive relationship between marketing-operations alignment and customer orientation and competitor orientation using dynamic capability. The research outcome of a study conducted by Hilman and Kaliappen (2014) demonstrated that market performance improves when customer and competitor orientation is exercised. A comparison of customer orientation and competitor orientation determined that an emphasis on customer orientation is even more beneficial than a focus on competitor orientation. However, this particular finding is not consistent with all previous studies, as the results have been found to be varied. Further studies, such as the one conducted by Zhou, Brown, Dev & Agarwal (2007), found differences in the influences of customer orientation compared with competitor orientation. Customer orientation gives a more positive influence in developed markets, while a greater focus on competitor orientation yields higher performance results in developing markets.

2.2 Marketing and Operations Alignment

This research is mainly concerned with one specific type of horizontal organization alignment: marketing and operations alignment. The definitions is that there is integration and even interdependence between the two organizational functions, which in turn requires the marketing and operation functions to work together and collaborate (Hausman, Montgomery, & Roth, 2002; Malhotra & Sharma, 2002; Gattiker, 2007; Piercy, 2007). However, there are also some areas of clear delineation of the responsibility of each of the organizational functions. This is most vible in Erickson's (2012) definition, which outlines

the responsibilities of each unit. In contrast, Paiva (2010) delineates activities and processes that are the joint responsibility of both groups. The operational definition of marketing and operations alignment used in this study, based on these definitions as well as the operational definition of organizational alignment, is the extent to which the operations, tactics and strategies of the marketing and operations units within an organization are consistent and the extent to which the marketing and operations units work together interdependently to achieve short-term and long-term business goals."

Coordinating decision-making within the organization refers to the process of making decisions that are aligned to achieving the same goal, providing support for other decisions made throughout the organization (Pérez López, Montes Peón, & Vázquez Ordás, 2004). Coordinating decision-making has been identified as an aspect of interdepartmental coordination and interaction in the foundational models for this research   (Parente, 1998; Swing & Song, 2007).

Information exchange refers to formal and informal communication between individuals or departments to enable the communicators to achieve shared goals (Parente, 1998). Information exchange between departments can occur either through technological means (for example enterprise resource planning systems or related business information systems) or through direct exchange between staff members (Song, Berends, Van der Bij, & Weggeman, 2007). Previous studies have demonstrated why alignment of information exchange systems is one of the dimensions of marketing-operations alignment. A previous study on the new product development (NPD) process showed that effective information exchange between marketing and manufacturing functions was a critical success factor in the process (Swing & Song, 2007).

The reward system refers to the system of incentives, rewards, and recognitions that the firm uses to recognize individual, team, and department performance (Ashdown, 2014). The firm's motivation and reward system is designed to provide financial and non-financial incentives to achieve specific performance goals, which are based on performance measures that are aligned with the strategic goals of the firm (Ashdown, 2014).

Leadership strategy refers to the establishment of vision and goals by leaders of the organization and approaches used by these leaders to achieve the goals (Mostovicz, Kakabadse, & Kakabadse, 2009). The leadership imperative of configuration theory encompasses leadership strategy, holding that one of the internal forces that the organization changes in response to is the goals and visions of the leaders of the organization (Miller, 1987; Miller, 1990). As a consequence, changes in the leadership imperative cause organizational change (Miller, 1987). Thus, it must be considered that leadership strategy is one of the dimensions that must be aligned between the marketing and operations functions of the organization.

Performance evaluation refers to the systems and processes the firm uses to establish performance expectations, measure and monitor performance, and evaluate performance against the expectations that were set (Ashdown, 2014). Performance evaluation systems, also known as performance management systems may address multiple dimensions of performance at different levels, including the organizational, department, team, and individual levels. One of the challenges of marketing-operations

alignment is establishing shared performance metrics that address the process of interaction between departments and the establishment of shared goals (Paiva, 2010).

2.3 Customer orientation and Competitor orientation

The conceptual framework addresses the relationship of marketing-operations alignment relates to market orientation, specifically customer and competitive orientation. It is notable that in the interviews, responding to customer demand was one of the most important factors identified for the cooperative activities included under marketing-operations alignment above. Market orientation, or the ability to respond to the market's demands, underlies many of the definitions and causal explanations for marketing-operations alignment and related concepts in the literature (Feng, et al., 2008; Hill & Birkinshaw, 2008). Market orientation is a concept that has long existed, but suffered from very little conceptual or theoretical development in its early years, with poor definitions, measurement models, or empirical research (Kohli & Jaworski, 1990). Since then, the idea has been developed more fully. Customer orientation can be briefly defined as a set of company visions and strategies in which the firm is driven by discovering and fulfilling customer needs (Morgan, Vorhies, & Mason, 2009). In brief, this means that the firm's activities focus on providing customers with what they want, rather than convincing customers to buy what the firm has provided. Competitor orientation refers to the firm's ability to discover and respond to competitor strategies and actions (Gatignon & Xuareb, 1997). This means that the firm is following the lead of competitors or responding to their strategies by meeting new needs.

Customer and competitor orientations can be viewed as a firm capability, or a tool the firm can use to provide competitive advantage. As Morgan, et al. (2009) noted, simply being market oriented (with either a customer or competitor orientation) is not enough to generate firm performance. Instead, they view market orientation and marketing as complementary capabilities, both of which are necessary for the firm to gain competitive advantage and generate increased revenues and profits (Morgan, et al., 2009). Thus, market orientation and marketing are not separable or opposing forces within an organization. Customer and competitor orientations are a determining factor in various organizational processes like new product development that require the participation of both marketing and operations departments, along with other departments like product development or engineering (which may or may not work within the operations department) (Zhang & Duan, 2010). For example, product development processes may begin with consumer surveys and/or market surveys to identify unmet customer needs, followed by a new product development team that either creates new products or services or adapts existing ones to better meet those needs (Zhang & Duan, 2010). This provides an opportunity for marketing-operations alignment to take place, as representatives from both departments are required. As previously noted, customer orientation is in fact a determining element of marketing-operations alignment or related concepts exactly because of these processes and the need for interaction and cooperation (Feng, et al., 2008; Hill & Birkinshaw, 2008).

In brief, it can be stated that the reason to engage in marketing-operations alignment activities at all is to respond to the market's demands. Thus, marketing-operations alignment contributes to the

customer and competitor orientation, and customer and competitor orientation offers a reason for the firm to engage in marketing-operations alignment. This makes marketing-operations alignment and market orientation related organizational processes that help to achieve the same goal.

3. METHODOLOGY

3.1 Research Questions

The purpose of this research is to advance the state of knowledge regarding cross-functional alignment between marketing and manufacturing using dynamic capability theory. Thus, this research purpose to empirically nomological validity test the relationship of marketing-operations alignment, customer orientation and competitor orientation. Questions that can be defined based on the research objectives; what is the empirical nomological validity relationship of marketing-operations alignment customer orientation and competitor orientation in the manufacturing industry?

3.2 Data

The questionnaire was distributed to a full list of registered firms operating in the four target industries (Automobiles, Food, Furniture and Electronics), using a combination of email and mail surveys. A total of 319 responses (n = 319) were received. The data was analyzed by using structural equation modeling (SEM).

4. RESULTS AND DISCUSSION

To aid analysis and provide a sample profile that could be compared to determine representativeness, various respondent and firm characteristics were these characteristics demonstrate who responded to the sample. Although the full sample included 319 firms, only 319 firms provided personal or firm information. Since this information was not critical to the analysis, the firms that did not provide this information were included in the further analysis rather than being removed from the sample.

The position of individual respondents was the first piece of information collected. The largest group of individual respondents held general manager (51.7%). A small group of top management respondents were also included (4.1%). Executive management in operations (13.5%) and marketing (8.2%) were also relatively well-represented. Respondents were also likely to come from the middle management tier of the operations (5%) or marketing (17.6%). The representation of operations (18.5%) and marketing (25.8%) was slightly disproportionate.

Respondents were also asked about the number of years working in the company and the number of years in the current position. It was most common for respondents to have worked at the company for more than 10 years (33.5%), followed by two to five years (23.5%), less than two years (21.9%), and six to ten years (21%). Overall, fewer respondents were relatively inexperienced (less than six years of experience) (45.4%) than relatively experienced (six years or more of experience) (46.5%). The level of experience was relatively higher. The largest group did have less than three years of experience

(37.3%). This was followed by those with seven to nine years of experience (31.3%), 10 to 12 years of experience (17.9%), more than 12 years of experience (16.9%), and four to six years of experience (6.6%). Overall, a smaller group was inexperienced (six years or less) (43.9%) than experienced (seven years or more experience) (56.1%). Overall, the individual respondent characteristics indicate that the respondents were experienced and well-placed to respond to questions about marketing-operations alignment.

The purpose of this analysis was to empirically test nomological validity the relationship of marketing-operations alignment, customer orientation and competitor orientation. Table 4.1 summarizes the goodness of fit criteria, which were evaluated using the same values as above. As this table shows, the model passed both absolute and relative goodness of fit tests, and therefore was adequately fitted to the data (χ^2 = 508.44, df = 574, p = .97; χ^2/df = .88; CFI = 1.00; GFI = .92; AGFI = .90; RMSEA = .000). Therefore, the goodness of fit of the model as developed is adequate.

List	Criteria	Calculating value	Results
X^2	Not significant at .05	508.44	-
df	-	574	-
p-value	P>0.05	0.97	-
X^2/df	X^2/df<2	0.88	Pass criteria
CFI	Value close to 1.0	1.00	Pass criteria
GFI	Value close to 1.0	0.92	Pass criteria
AGFI	Value close to 1.0	0.90	Pass criteria
RMSEA	Value close to 0.0	0.00	Pass criteria

Table 4.1 Results of Confirmatory factor analysis second level of relevance between marketing and operation functions (n=319)

Reliability, convergent validity and discriminant validity (Fornell & Larcker 1981) were evaluated to begin with, in order to assess the fundamental characteristics of the proposed scales. These tests were performed on the larger sample (n = 319). Reliability was evaluated using Composite Reliability (CR > 0.7) (Hair, Anderson, Black, & Babin, 2016) . Convergent reliability (AVE > 0. 5) and discriminant validity ($\sqrt{AVE} > \alpha$) were also tested (Hair, et al., 2016). Results are summarized in Table 6.34. As this shows, all scales passed the tests. CR values ranged from .847 to .866 for all scales tested, all of which are above the threshold of CR > .7. This indicates that composite reliability was strong for all constructs. Similarly, AVE for the constructs ranged from . 64 to . 88, all of which are above the estimated values, demonstrating convergent validity. Discriminant validity was also demonstrated. Therefore, the scales can all be demonstrated to be statistically reliable and have both convergent and discriminant validity.

		□	AVE	CR	1	2	3	4	5	6	7
1	Coordination decision	0.881	0.85	28.45	**(0.96)**						
2	Information exchange	0.863	0.88	37.30	.127	**(0.99)**					
3	Leadership Strategy	0.628	0.81	20.76	.039	.095	**(0.98)**				
4	Reward System	0.818	0.64	8.58	.407	.003	.065	**(0.95)**			
5	Performance Evaluation	0.799	0.63	8.64	.191	.079	.022	.063	**(0.98)**		
6	Customer Orientation	0.745	0.63	8.53	.205	.080	.118	.304	.343	**(0.24)**	
7	Competitor Orientation	0.718	0.71	9.72	.114	.019	.363	.096	.670	.411	**(0.52)**

The numbers on the diagonal (bold in parenthesis) are the square root of AVE for each factor.

Table 4.2 Reliability and Convergent and Discriminant Validity Statistics

Construct	Items	X^2/df	P-Value	GFI	NNFI	CFI	Composite reliability	AVE
CD	5	0.07	P = 0.93	1.00	1.00	1.00	.847	0.85
IE	5	0.40	P = 0.81	0.96	0.94	1.00	.849	0.88
LS	5	0.45	P = 0.72	1.00	1.00	1.00	.853	0.81
RS	5	0.42	P = 0.66	1.00	1.01	1.00	.854	0.64
PE	5	0.84	P = 0.47	1.00	1.00	1.00	.866	0.63

Table 4.3 Reliability and Validity of Marketing-Operations Alignment Constructs

In summary, marketing-operations alignment, customer orientation and competitor orientation indicates that the theoretical relationships did exist (Figure 4.1). In addition to the multidimensional component structure of MOA, which was tested in the section above, the results showed the expected effect of MOA on CUO and COO. Furthermore, there were minimal indirect effects in the model, indicating that there are no latent relationships that would add substantially to the accuracy of the model if included. Therefore, the relationships proposed within the model are consistent with what was observed in the data. Thus, this model is the most parsimonious model available and does not require any further adjustment to account for missing relationships.

The relationships between marketing – operations alignment, customer orientation and competitor orientation did exist, with a strong total effect of marketing-operations alignment on both customer orientation and competitor orientation. Customer orientation and competitor orientation are both constructs that reflect the firm's market orientation, or the approach it uses to identify and meet the needs of its market (Grinstein, 2008). Firms do not necessarily use only a single market orientation; instead, they may choose different market orientations for different activities, or as part of a spectrum of development activities (Grinstein, 2008). Thus, it is possible that marketing-operations alignment could have different structural relationships to each of these outcome constructs depending on the firm's mix of activities. In practice, the total effect of marketing-operations alignment on each of these outcomes was similar, and there were few indirect effects detected in the second-order testing. This indicates that it is the marketing-operations alignment (latent) variable, rather than the individual dimensions of these variables, that has the strongest effect on the customer orientation and competitor orientation of the firm.
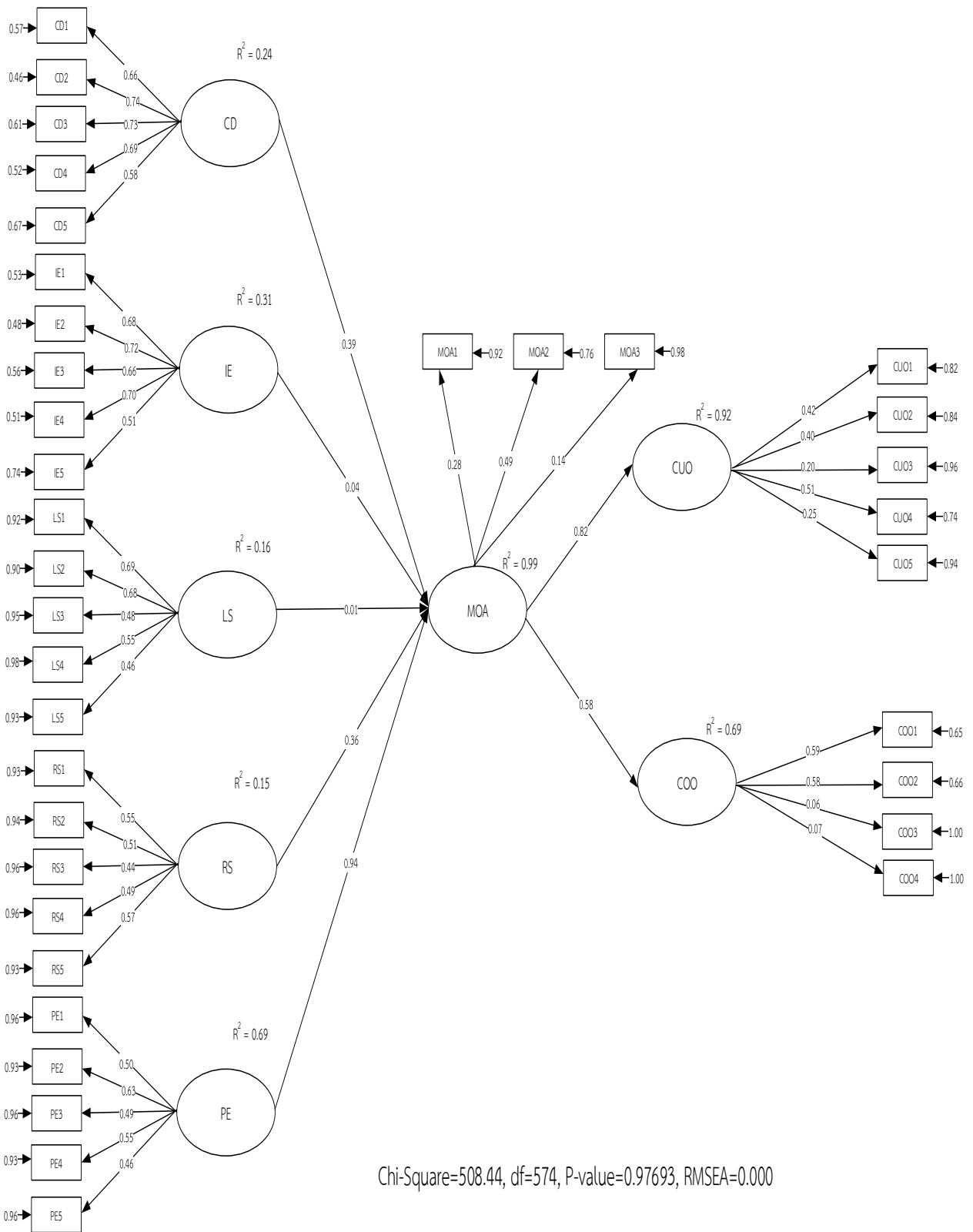
Figure 1 CFA model for nomological validity testing

Chi-Square=508.44, df=574, P-value=0.97693, RMSEA=0.000

5. CONCLUSIONS AND RECOMMENDATIONS

The definition of the marketing constructs provides evidence that these two factors are in fact related. For example, customer orientation relates to how the firm identifies and meets the needs of its customer base (Deshpandé, et al., 1993), while competitor orientation relates to how the firm acts in response to its competitors (Grinstein, 2008). In the terms of configuration theory, these two organizational characteristics relate to how the firm identifies and responds to internal and external imperatives (Miller, 1987). Thus, the structural relationships between the constructs are explained by their theoretical linkage, even though this linkage has not been explored in detail previously.

There is still more work to be done in this area which could improve the understanding of marketing-operations alignment. For example, further research could address factors like the organizational, leadership, market antecedents of marketing-operations alignment, following configuration theory's proposal that organizational, leadership, and external imperatives influence the structural configuration of the firm (Miller, 1987). Further research could also help identify further consequences of marketing-operations alignment, such as financial performance or other organizational performance measures.

REFERENCES

Ashdown, L. (2014). *Performance management.* Philadelphia, PA: Kogan Page.

Benhabib, B. (2003). *Manufacturing: Design, production, automation and integration.* Boca Raton, FL: CRC Press.

Blenkhorn, D., & Noori, H. (2011). Advancing the art of product design: Synchronizing the customer's needs with manufacturing capabilities . In R. McTavish (Ed.), *Linking marketing and technology strategies: December 3-5, 1989.* Chicago, IL: Marketing Classics Press.

Deshpandé, R., Farley, J. U., & Webster, F. E. (1993). Corporate culture, customer orientation, and innovativeness in Japanese firms: A quadrad analysis. *Journal of Marketing, 57*(1), 23-37.

Erickson, G. M. (2012). Transfer pricing in a dynamic marketing-operations interface. *European Journal of Operational Research, 216*, 326-333. Doi: 10.1016/j.ejor.2011.07.042.

Feng, Y., D'Amours, S., & Beauregard, R. (2008). The value of sales and operations planning in oriented strand board industry with make-to-order manufacturing system: Cross functional integration under deterministic demand and spot market recourse. *International Journal of Production Economics, 115*, 189-209. Doi: doi:10.1016/j.ijpe.2008.06.002.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research 18*(1), 39-50.

Gatignon, H., & Xuareb, J. M. (1997). Strategic orientation of the firm and new product performance. *Journal of Marketing Research, 34*(1), 77-90.

Gattiker, T. F. (2007). Enterprise resource planning (ERP) systems and the manufacturing–marketing interface: an information-processing theory view. *International Journal of Production Research, 45*(13), 2895-2917. Doi: 10.1080/00207540600690511.

Grinstein, A. (2008). The effect of market orientation and its components on innovation consequences: a meta-analysis. *Journal of the Academy of Marketing Science, 36*(2), 166-173.

Hausman, W. H., Montgomery, D. B., & Roth, A. V. (2002). Why should marketing and manufacturing work together? Some exploratory empirical results. *Journal of Operations Management, 20*, 241-257.

Henderson, J. C., & Venkatraman, N. (1999). Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal, 38*(2/3), 472-484.

Hill, S. A., & Birkinshaw, J. (2008). Strategy-organizational configurations in corporate venture units: Impact on performance and survival. *Journal of Business Venturing, 23*, 423-444. Doi: 10.1016/j.jbusvent.2007.04.001.

Hilman, H. & Kaliappen, N. (2014). Market Orientation Praices and Effects on Organizational Performance. Sage, 1 – 8. Doi: 10.1177/2158244014553590.

Kohli, A. J., & Jaworski, B. J. (1990). Market orientation: The construct, research propositions, and managerial implications. *The Journal of Marketing, 54*(2), 1-18.

Malhotra, M. K., & Sharma, S. (2002). Spanning the continuum between marketing and operations. *Journal of Operations Management, 20*(3), 209-219. Doi: 10.1016/S0272-6963(02)00019-0.

Miller, D. (1987). The genesis of configuration. *The Academy of Management Review, 12*(4), 686-701.

Miller, D. (1990). Organizational configurations: Cohesion, change and prediction. Human Relations, 43(8), 771-789.

Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009). Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal, 30*(8), 909-920.

Mostovicz, E. I., Kakabadse, N. K., & Kakabadse, A. P. (2009). A dynamic theory of leadership development. Leadership and Organization Development Journal, 30(6), 563-576.

Narver, J. C., & Slater, S. F. (1990). The effect of marketing orientation on business profitability. *Journal of Marketing, 54*, 20-35.

Paiva, E. L. (2010). Manufacturing and marketing integration from a cumulative capabilities perspective. *International Journal of Production Economics, 126*, 379-386. Doi: 10.1016/j.ijpe.2010.04.031.

Parente, D. H. (1998). Across the manufacturing-marketing interface: Classification of significant research. *International Journal of Operations and Production Management, 18*(12), 1205-1222. Doi: /10.1108/01443579810236638.

Pérez López, S., Montes Peón, J. M., & Vázquez Ordás, C. J. (2004). Managing knowledge: the link between culture and organizational learning. Journal of *Knowledge Management, 8*(6), 93-104.

Piercy, N. (2007). Framing the problematic relationship between the marketing and operations functions. *Journal of Strategic Marketing, 15*(2/3), 173-195. Doi: 10.1080/09652540701319037.

Sombultawee, K. and Boon-itt S. (2018). Marketing – operations alignment: A review of the literature and theoretical background. *Operations Research Perspectives*, *5*(2018), 1-12.

Swing, M., & Song, M. (2007). Effects of marketing-manufacturing integration on new product development time and competitive advantage. *Journal of Operations Management, 25*(1), 203-217.

Weir, K. A., Kochkar, A. K., LeBeau, S. A., & Edgeley, D. G. (2000). An empirical study of the alignment between manufacturing and marketing strategies. *Long Range Planning, 33*(6), 831-848.

Zhang, J., & Duan, Y. (2010). The impact of different types of market orientation on product innovation performance: Evidence from Chinese manufacturers. *Management Decision, 48*(6), 849-867.

COMMUNICATION STYLE AND AUDIT QUALITY

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ABSTRACT

This study explicates the impact of communication style on how clients evaluate the quality of financial audits. The current study of 190 incorporated firms listed on the Stock Exchange of Thailand (SET) and Market for Alternative Investment (mai) demonstrated that, consistent with social interaction theory, an affiliation communication style, rather than a dominant communication style, had the most significant impact on client perceptions of audit quality. Two dimensions of audit quality – competence and relationship - positively influenced client perceptions of value as a means to establish long term client relationships

Keywords: Communication style, audit quality, value, relationship commitment

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ENTREPRENEURIAL CHARACTERISTICS AND SERVICE PERFORMANCE

*Saifon Chairungruang**

ABSTRACT

This research aims to provide a better understanding in a case study of café and restaurant businesses (non-franchise or chain operation) in Waikato and Auckland region, New Zealand regarding entrepreneurial characteristics in owners and how these characteristics impact on service performance of their employees and organisational performance. By using mixed research methods in this case study, the findings from interviews are strongly supported the surveys that the relationship between entrepreneurial characteristics (passion, tenacity, new resource skills, self-efficacy, communicated vision, and goals) are strongly exhibited in these entrepreneurs and their enterprises service performance. The interview data is also supported the positive relationship of entrepreneurial characteristics and service performance in employees.

Keywords: Entrepreneurship, entrepreneur, entrepreneurial traits, service performance, research methodology

1.INTRODUCTION

Entrepreneurs are the drivers of economic growth since they not only provide a source of revenue and employment for themselves, but also create employment for others. Policy makers and related stakeholders are highly aware of the significance of entrepreneurship. The factors of entrepreneurial activities are varied from growing economies to developed economies. In developing countries or growing economies, entrepreneurs may start a business as a survival tool of earning an income to cover basic needs, or as an instrument to overcome unemployment. In developed countries or mature economies, on the other hand, entrepreneurs may be more motivated by lifestyle factors (e.g. being your own boss) and see entrepreneurship as a way to achieve financial freedom.

From academic perspective, Shane and Venkataraman (2001) proposed three reasons for studying entrepreneurship: (1) entrepreneurship is a machine by which people transform ideas into products and services; (2) entrepreneurship is a mechanic to reduce chronological

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and longitudinal difficulties in an economy; and (3) entrepreneurship is a driver of change in a capital economy. The inadequate understanding of entrepreneurship renders the comprehension of business context incomplete (Shane & Venkataraman, 2001).

Thus, this study concentrates on entrepreneurs, which simply means individuals who spot opportunities and exploit them by starting business ventures, taking on some form of risk: financial risk, managing and growing their ventures, and employing other people. The discussion of entrepreneurship in this study focuses on entrepreneurs' actions and the owner-manager perceptions.

2. LITERATURE REVIEW

The literature of entrepreneur definition and paradigms are interrelated and potentially interchangeable. The personal assessment of an entrepreneur's values, and those of entrepreneurial traits might assist in explaining the decision making and redirecting of organisations in competitive situations like present. This study was identified the connection between entrepreneurial traits, skill and situational specific motives (passion, tenacity, new resource skills, communicated vision, self-efficacy and goals) and firm performance; and how the staff and organisation where the individual experience of entrepreneurs and the impact of their encounters from specific practices and form an organisation's culture.

Sexton and Bowman (1985) found the relationship between entrepreneur and the organisation and on the process by which entrepreneur's characteristics affect organisational outcomes, has a significant implication than simply focusing on the entrepreneurial traits (Low & MacMillan, 1988). Schein (1983) studied the role of the founder entrepreneurs within an organisation in the way that they create organisational culture, and the process through which the entrepreneurs interrelated with their organisation involvement to determine culture.

Psychology-based studies have restored the importance of entrepreneur's personal characteristics as predictors of success by an extended focus on traits to research on competencies, motivation, cognition and behaviour (Baum, Locke, & Smith, 2001; Mitchell, Smith, Seawright, & Morse, 2000). Baum et al. (2001) in their longitudinal two-year research argued that personal characteristics were insignificant for new firm performance and failed to

identify the indirect effects and personal characteristics other than traits. Baum and Locke (2004) expanded their research to include entrepreneurial traits and skills: passion, tenacity and new resource skills, and situational specific motivation, which measures communicated vision, self-efficacy and goals. They found that goals, self-efficacy and communicated vision had direct effects on firm performance and these factors mediated the effects of passion, tenacity, and new resource skills on subsequent firm growth.

The following traits, skill and situational specific motives are adopted in the present study based on Baum and Locke (2004) as these seemed promising in a variety of factors and in terms of entrepreneurship theoretical support (Baum & Locke, 2004; Locke, 2000) as predictors of firm performance. This research is explored these six factors as discuss below.

Passion for work has had limited empirical research (Baum & Locke, 2004) whereas love of one's work had been identified in a number of qualitative studies. Baum and Locke (2004) believe that entrepreneurs who have passion or a genuine love of their work have the tenacity to pursue their goals, given the many challenges that they would confront. Smith (2000) stated that "Passion will take you anywhere, reward your singularity with success, fame and inevitably, riches" (p. 94) and the passion quality has been proven for many of New Zealand's business leaders and entrepreneurs. Locke (2000) identified passion as a core trait of great wealth creation. They assessed passion for work as similar to the emotions of love, attachment, and belonging. Passion keeps entrepreneurs continuing working, even on the days when they may not feel like working (Chang, 2001). In addition, Haar, Taylor and Wilson (2009) studied a high level of owner passion in a sample of 146 owner-managers as well as the same dimensions reported by a sample of 124 employees from the same firms in the New Zealand context.

Tenacity has been repeatedly recognised as an entrepreneurial trait relating to the perseverance or endurance involved in facing market entry barriers when starting up, and sustained goal-oriented action and energy to confront difficulties. Hence, one important factor that enables entrepreneurs to work through the problematic issues of start-up and operation is their tenacity and ability to not give up. Entrepreneurs, who hold on to their goals and do

not wish to give up, increase their opportunity of start-up survival and success (Timmons, 1999). Baum and Locke (2004) found no direct effect of tenacity on venture performance but proposed that this trait may rather have indirect effects on performance rather than direct effects. Recently, there a survey research from 1,500 participating entrepreneurs in Malaysia confirmed that tenacity is one of the factors which is vital to the success of native Malaysian entrepreneurs (Abdullah, Hamali, Abdul, Saban, & Abg Zainoren, 2009). Hence, there is international support for this trait beyond a typical western approach, such as the United States by Baum and Locke (2004) and Haar et al. (2009) in New Zealand.

New resource skills or organisational skills as studied in Baum et al. (2001) was defined as the capability to obtain and systemise the functioning of required resources to start and develop a business. Finding capital and human resources and setting up new operations and new systems are exhibited as entrepreneurs' new resource skill (Bhide, 2000). A thriving entrepreneur has to recognise how to search for and acquire resources, both financial and human, while facing resource shortages, extreme uncertainty and new markets (Bhide, 2000; Smith, Smith, & Bliss, 2011). Entrepreneurship has been designated as the acquisition, merging, and redeployment of resources to provide new products and services through new firms to new markets (Bygrave, 1993). The study by Baum and Locke (2004) was claimed to be the first empirical study of new resource skill in entrepreneurship. They found that new resource skill encouraged more challenging visions, higher goals and self-efficacy. New resource skill is acquired through experience. Their findings could support an insight into why consecutive and habitual entrepreneurs were more reliable founders of successful businesses (Wright, Westhead, & Sohl, 1998).

Communicated vision was believed to be a major factor because vision is a content of motivating high firm performance (Baum & Locke, 2004). Vision is also a motivational general goal. An entrepreneur has a vision of the organisation that s/he wants to create which includes reflections of growing businesses, reputation, and personal prosperity (Bird, 1989). Communicated vision could enable support for entrepreneur and employee goals. An empirical study of vision content by Larwood, Falbe, Kriger and Miesing (1995) suggested that

the amount of executive control over their firms and the rate of organisation change were related to the content of vision, but they did not study the relationship of vision content to firm performance. Baum and Locke (2004) were the first to suggest that communicated vision related to performance over a multiyear period; and it not only had a direct effect on growth but also an indirect effect through specific goals.

Self-efficacy signified a confident sense of capability which an entrepreneur draws from experience and business achievement. In social cognitive theory, Bandura (1997) defined self-efficacy as particular task self-confidence and individual's opinion of him/herself being able to attain a goal. For instance, empirical research shows that high self-efficacy is fundamental in most performance including efforts at attaining high academic achievement and social influence (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999) and, most importantly, upon organisational performance (Bandura, 1997). Furthermore, entrepreneurs who are more confident about their entrepreneurial abilities may achieve business growth in an entrepreneurship setting in which the outcome is uncertain (Baum & Locke, 2004). High self-efficacy is an important determinant of successful entrepreneurial behaviours, but overconfidence could be risky if it is based on invalid conditions and assumptions (Baum & Locke, 2004).

Goals were considered to be significant factors in firm growth and new business survival. Goal-setting theory was first introduced into industrial-organizational psychology by Vroom (1964). Substantial research on goal setting shows that challenging goals (ones that are difficult and specific) boost performance on many diverse tasks (e.g., Latham & Locke, 2006; Locke & Latham, 2013). Entrepreneurship scholars cited "goals as important factors in venture growth and new venture survival" (Baum & Locke, 2004, p. 590). The independent effects of goals was consistent with the results from other performance studies.

Service performance is influenced by service climate and eventually influences customer satisfaction (Liao & Chuang, 2004). Service performance captures multiple facets of performance in the service and hospitality industry to provide customer satisfaction and gain an appreciable level of profits. The first service interaction with a customer will be a key

influence of whether the customer will return. Most previous work on service performance has centred on either organization level or individual level analysis, while Liao and Chuang showed that both individual- and store- level factors were significantly associated with employee service performance (Liao & Chuang, 2004).

3. METHODOLOGY

The study sample excludes organisations without employees, and franchise or chain cafés/ restaurants due to their nature of having more systematic practices in place and certain protocols set by franchisor. This yielded a total population of 249 firms for the Waikato but received 47 respondents back. Therefore, the research was extended to Auckland in order to increase the response rate. A total of 114 owner/manager surveys were returned but of the 114 firms, seven respondents were only owner/managers with no employees and were thus unusable, as owner/manager surveys had to match with an employee survey. That yielded a total of 107 surveys from two sources returned for a final response rate of 26.8 percent. There were 9 respondents (6 top ranked and 3 lowest ranked) who volunteered and consented to participate in interviews.

In this study used two methods to explore the research questions: (1) quantitative surveys and (2) qualitative in-depth, semi-structured interviews. the surveys were carried out from owner/manager and employee informants to gain a better understanding of individual and organisational level effects, and a clearer picture of performance within the hospitality industry. Service performance perceptions are composed of commitment to customer service, employee involvement, and extra-role service behaviours. In addition to the survey, which is the main tool of this study, face-to-face semi-structured interviews were conducted to explore the respondents' entrepreneurial background, characteristics, and traits.

3.1 Modelling Volatility

Several steps were taken to determine the validity and reliability of the self-report data. To reduce common-method variance (Spector, 2006) and construct temporal inference from the variables studied, the survey information was obtained from two distinct sources at

one time from 107 firms, which were manager/owner and their employee survey includes questions regarding service performance.

To alleviate concerns about common-source bias, the testing of two different geographical regions (Waikato and Auckland) by t-test also show that there is no significant result across the total variables except owner/manager self-rated tenacity (t=5.8, p< .05) where Auckland owner-managers reported slightly higher levels. Therefore, the full sample of 107 firms was retained to increase statistical power and estimation efficiency.

3.2 Data

To improve the validity and generalisability of research findings from surveys, the surveys were pilot tested (Zikmund, 2003). The pilot surveys were carried out with approximately 41 respondents (2 café owner/managers, 4 employees and 35 customers) within the University of Waikato students and café's owners within the university. Overall, there was extreme resistance from owners/managers on this potential data collection phase and as such it was ultimately dropped from the study.

Data were collected from two sources: (1) the owner/manager, and (2) one random employee per organisation. A total of 114 firms, seven respondents were only owner/managers with no employees and were thus unusable, as owner/manager surveys had to match with an employee survey. That yielded a total of 107 surveys from two sources returned for a final response rate of 26.8 percent.

4.RESULTS AND DISCUSSION

The result of service performance is measured on the organisational level, which focuses on providing quality service and a good customer experience, that are both important for the service and hospitality industry. The scale (a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree) was adopted from Liao and Chuang (2004). This service performance variable is tested 7-items at the organisational level. One question asked was "To what degree are you: Being friendly and helpful to customers?" Another question asked, "To what degree do you "Approach customers quickly?" Another question asked was "To what degree is the employee "... able to help customers when needed?" This scale measures the degree of perception of owners/managers and the employees of the service performance

of their restaurants and cafés. Overall, the measure had good reliability with the owners/managers measure (Cronbach's alpha of .89 for the seven-item scale) and the employee's measure (Cronbach's alpha of .87 for a six-item measure). The reason for dropping an item in the employee rated measure of service performance was to increase reliability of this scale from .51 to .89. The deleted item was "Asking good questions and listening to find out what a customer wants."

A similar perception of service performance is reported by both owner/managers (mean = 4.39) and employees (mean = 4.25). Consequently, both owner/managers, and employees report similarly high level of service performance. In other words, both groups feel that they provide very good service to customers. There is little variance in views of service performance among either owner/managers or employees (min = 3, max = 5). In addition, 3 percent of owner/managers as well as employees gave a 3 rating whereas 19 percent of owner/managers and 17 percent of employees gave a 5 rating, showing that only a small proportion feel they give 'average service' (3 out of 5) whereas a larger proportion feel their business offers 'excellent service' (5 out of 5).

Model of owner/ manager rating *service performance* (dependent variable). Entrepreneurial traits and characteristic variables with 1 percent significance level could explain 23 percent of variance in owner/manager *service performance*, which has an individual level and organisation level. The result of service performance indicates the provision of service quality and good customer experience, which are important for the service and hospitality industry. The F statistic is significant at 1 percent and suggests that overall at least one variable has statistical significance. The only estimated parameter for tenacity $(p<.05)$ has statistical significance. A one-unit change in owner/manager working hard on doing something is associated with an increase of 0.21 unit in organisational service performance. In other words, the owner/managers, who persist at work while others quit, were likely to perceive that their businesses provided exceptional service to their customers.

Table 1: Analyses of owner/manager rating entrepreneurial traits and characteristics variables predicting dependent variables

Explanatory Variable	Service performance
Passion	.18
Tenacity	.21*
New resource skills	.12
Communicated Vision	-.04
Goals	.08
Self-efficacy	.15
R^2	.23
F statistic	4.43**

*p<.05, **p<.01, ***p<.001.

The interview data also supported the relationship of entrepreneurship and service performance. Service performance is the indication of providing quality service and good customer experience, both of which are essential for the service and hospitality industry. The results of the survey showed that entrepreneurial variables, especially tenacity, can partially explain service performance. This is in line with the statements of a number of owner interviewees, who claimed to be the first in the market to introduce innovations such as serving breakfast, challenging consumers with a new menu and implementing an international standard of service. They also believed that they had superior service performance, as demonstrated by one owner, who stated:

"We do not worry much about how other people are doing or what they do. We concentrate strongly on what we want to do and how we measure up against those expectations we have ourselves...and we are quite confident that we are happy [the way] the business has run since we opened it and it has gone from strength to strength".

Service performance could be seen in all interviewees' organisations. One interviewee stated that the business provided "a whole experience about coming somewhere welcoming and to an environment where people will chat and be friendly as appropriate." Another insisted that it is "...not just food, you know, it's about service and smiles." One interviewee

stressed that "many of our customers that come in, we even know them by name, or if we don't know them by name, we know them by what they are going to buy…"

Similarly, other interviewees said that "We go out of our way to produce good products and good services as much as we can". One interviewee further maintained that the business put a significant effort into maintaining the consistency of taste and food quality in order to deliver the best quality dining experience to their customers. Authenticity was also mentioned by a few of the respondents, for example, "…a relaxed atmosphere, very good food, a really authentic taste experience…". Service performance aside, word of mouth seemed to be the most effective marketing tool. For example, one respondent explained that "…good service as much as possible. The word gets out there and people come back…" and "the first-time people come in, they might like your food and coffee, but the reason they come back is because they like you."

Service performance refers to the provision of quality service and a good customer experience, both of which are vital for café and restaurant businesses. There is a model of owner/manager entrepreneurial traits, skill and motivation variables, especially tenacity, which can partially explain the direct relationship to owner/manager service performance. With this model, the present study has made a contribution by differentiating the role played by entrepreneurship variables. The combination of entrepreneurial traits, skill, and motivation factors (the significant trait being tenacity) was a medium (between strong and weak) predictor of service performance as reported by owner/managers.

Additionally, at the detailed level, findings relating to the positive effects of goals and communicated vision (as a part of entrepreneurial traits, skill, and motivation factors) are consistent with the results of previous applied psychology and social psychology research (Bandura, 1997; Locke & Latham, 1990) and other performance studies (Baum & Locke, 2004). Determined and higher goals are intended to improve performance by disrupting self-satisfaction, promoting new ways of thinking, encouraging search and innovation, stimulating employees, and guiding effort and perseverance.

5. CONCLUSIONS AND RECOMMENDATIONS

There is a co-relation among the dependent variable (service performance – both in owner/managers and employees) and entrepreneurship variables in owner/managers. As well as, the moderate positive associations between organisational service performance are reported by owner/managers and the combination of entrepreneurship variables which has been encouraged more recently in the literature (Haar & White, 2013), especially in the entrepreneurs, who had work persistent or tenacity, and their perception of providing higher service (service performance) as well as their employees.

In entrepreneurship and performance research, the researches tend to concentrate on financial parameters in terms of measuring a firm's performance (e.g. Birley & Westhead, 1990; Bracker et al., 1988; Richard et al., 2004). This study used non-financial parameters which is service performance. Therefore, this paper is intended to make contributions by extended the literature on entrepreneurship and firm performance. It contributes the appreciation of the entrepreneur as the driver of strategies in SMEs. The practical contribution of this research is by showing and encouraging tenacity in entrepreneurs to provide service performance.

Future research could study the relationships between entrepreneurship factors and firm performance using both financial and non-financial measurements. The use of such performance parameters would facilitate comparison with previous research and extend the literature. Moreover, future studies in the same hospitality industry in the different context or geographic such as in Thailand might be carried out as a fruitful comparative study.

REFERENCES

Bandura, A. (1997). *Self-efficacy : The exercise of control*. New York, NY: Freeman.

Bandura, A., Pastorelli, C., Barbaranelli, C. & Caprara, G. V. (1999). Self-efficacy pathways to childhood depression. *Journal of Personality and Social Psychology, 76*(2), 258-269.

Bass, B. M. & Stogdill, R. M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York, NY: Free.

Baum, J. R., Locke, E. A. & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal, 44*(2), 292-303.

Baum, R. J. & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology, 89*(4), 587–598.

Bhide, A. V. (2000). *Origin and evolution of new businesses*. New York, NY: Oxford University.

Bird, B. (1989). *Entrepreneurial behaviour*. Glenview, IL: Scott Foresman & Company.

Birley, S. & Westhead, P. (1990). Growth and performance contrasts between 'types' of small firms. *Strategic Management Journal, 11*(7), 535-557.

Bracker, J. S., Keats, B. W. & Pearson, J. N. (1988). Planning and financial performance among small firms in a growth industry. *Strategic Management Journal, 9*(6), 591-603.

Busenitz, L. W. & Lau, C.-M. (1996). A cross-cultural cognitive model of new venture creation. *Entrepreneurship: Theory and Practice, 20*(4), 25-39.

Bygrave, W. D. (1993). Theory building in the entrepreneurship paradigm. *Journal of Business Venturing, 8*(3), 255-280.

Cardon, M. S., Zietsma, C., Saparito, P., Matherne, B. P. & Davis, C. (2005). A tale of passion: New insights into entrepreneurship from a parenthood metaphor. *Journal of Business Venturing, 20*(1), 23-45.

Chang, R. (2001). *The Passion Plan at Work: Building a Passion-driven Organization*. San Francisco, CA: Jossey-Bass.

Cronbach, L. J. (1972). *The dependability of behavioral measurements: Theory of generalizability for scores and profiles*: City, Country: John Wiley & Sons.

Haar, J., Taylor, A. & Wilson, K. (2009). Owner passion, entrepreneurial culture, and financial performance: A study of New Zealand entrepreneurs. *New Zealand Journal of Applied Business Research, 7*(2), 19-30.

Haar, J. M. & White, B. J. (2013). Corporate entrepreneurship and information technology towards employee retention: A study of New Zealand firms. *Human Resource Management Journal, 23*(1), 109-125.

Howell, J. M. & Frost, P. J. (1989). A laboratory study of charismatic leadership. *Organizational Behavior and Human Decision Processes, 43*(2), 243-269.

Kirkpatrick, S. A. & Locke, E. A. (1996). Direct and indirect effects of three core charismatic leadership components on performance and attitudes. *Journal of Applied Psychology, 81*(1), 36-51.

Larwood, L., Falbe, C. M., Kriger, M. P. & Miesing, P. (1995). Structure and meaning of organizational vision. *Academy of Management Journal, 38*(3), 740-769.

Latham, G. P. & Locke, E. A. (2006). Enhancing the benefits and overcoming the pitfalls of goal setting. *Organizational Dynamics, 35*(4), 332-340.

Liao, H. & Chuang, A. (2004). A multi-level investigation of factors influencing employee service performance and customer outcomes. *Academy of Management Journal, 47*(1), 41-58.

Locke, E. A. (2000). *The prime movers: Traits of the great wealth creators*. New York, NY: AMACOM.

Locke, E. A. & Latham, G. P. (1990). Work motivation: The high performance cycle. In U. Kleinbeck, H.-H. Quast, H. Thierry & H. Hacker (Eds.), *Work motivation*. Hillsdale, NJ: Erlbaum Associates.

Locke, E. A. & Latham, G. P. (2013). *New Developments in Goal setting and Task Performance*. New York: Routledge.

Low, M. B. & MacMillan, I. C. (1988). Entrepreneurship: Past research and future challenges. *Journal of Management, 14*(2), 139-161.

Mitchell, R. K., Smith, B., Seawright, K. W. & Morse, E. A. (2000). Cross-cultural cognitions and the venture creation decision. *Academy of Management Journal, 43*, 947-993.

Richard, O. C., Barnett, T., Dwyer, S. & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of Management Journal, 47*(2), 255-266.

Schein, E. H. (1983). The role of the founder in creating organizational culture. *Organizational Dynamics, 12*(1), 13-28.

Sexton, D. L. & Bowman, N. (1985). The entrepreneur: A capable executive and more. *Journal of Business Venturing, 1*(1), 129-140.

Shane, S. & Venkataraman, S. (2001). Entrepreneurship as a field of research: A response to Zahra and Dess, Singh, and Erikson. *Academy of Management Review, 26*(1), 13-16.

Smith, J. K., Smith, R. L. & Bliss, R. T. (2011). *Entrepreneurial finance strategy, valuation, and deal structure*. Stanford, CA: Stanford Economics and Finance.

Smith, P. (2000). Pursuing passion. *New Zealand Management, 47*(11), 94-97.

Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend?. *Organizational Research Methods, 9*(2), 221-232.

Timmons, J. A. (1999). *New venture creation :Entrepreneurship for the 21st century* (5th ed.). Boston, MA: Irwin/McGraw-Hill.

Vroom, V. H. (1964). *Work and motivation*. New York, NY: Wiley.

Zikmund, W. G. (2003). *Business research methods* (7th ed.). Mason, OH: Thomson/South-Western.

DISTRACTION DURING ONLINE BUSINESS FORM FILLING:

AN EYE TRACKING EXPLORATION

Chatpong Tangmanee and *Puripant Ruchikachorn***

ABSTRACT

Visitors to an online business form should be attentive to the input fields and responding to them accordingly. However, form designers must add other contents to the form so the visitors could understand how to fill in it correctly. Such contents include the label, the logo or the button. Nonetheless, no empirical work has explored whether other contents accommodate or distract visitors' attention while filling in the online form. The current study hopes to fill the gap.

Using the Tobii eye tracker, we were able to record eye movements of 79 participating students while filling in student's initial enrollment online form. The recorded fixation activities confirmed that (1) the participants were most attentive to the input fields which could further imply other contents accommodate, (i.e., do not distract) the form-filling activities; (2) the participants appears to have stronger attention to the contents placed next to the input fields than those placed far away from them.

In addition to extending insight into the human interaction through online forms, practitioners may apply our findings to adjust the online form design in order to gain attention from visitors.

Keywords: Distraction, Online Business Form, Filling, Eye Tracking

1. INTRODUCTION

Among interaction channels between users and computers, online business forms have received remarkable attention, especially from practitioners. Jarrett and Bergstrom (2014) claim that web forms have been used for direct data entry by website visitors as they are registering for online services, placing an online order, sharing their complaints or responding to online questionnaires. However, the purpose of their visit is not primarily to fill in the online forms. Their visit intents basically have to do with the services provided by the websites. For instance, visitors to electronic commerce websites expect to complete their business transaction quickly. Hence, the process of filling in online forms (e.g., order sheet) should go smoothly with no consequent problems. The form designers mainly anticipate that the viewers understand the details and ultimately fill in the form properly (Das, et.al., 2008; Inal, 2016). In sum, the form design must communicate the correct contents to visitors and subsequently guide them to properly respond to all input fields.

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The ideal design of an online business form should drive visitors to visualize an input field. They then start typing all detail and finally hit the submission (or the next) button. Nonetheless, form designers must supply other content on the form so users would not make a mistake while filling in the form. Such content includes corporate logo, field labels, or buttons signifying certain actions (Wroblewski, 2008; Enders, 2016). On the one hand, those contents will promote clear understanding for those who fill in the online forms. On the other hand, they might have distracted the visitors' attention and certain mistake may take place. As such, online business form designer should be able to examine the extent to which the detail on an online form webpage distracts attention of those who are filling in it.

Asking whether people have seen an input field on a web form or which item on the form that has drown most of their attention during a visit at the form webpage is much challenging since they may not be able to recall what they fixate or they may refuse to share properly what they actually look at. An eye tracking device could be the solution. The device is non-intrusive and its records of eye movement are reliable and valid (Jarrett & Bergstrom, 2014; Bergstrom & Schall, 2014). Such measurement of the eyes could be regarded as a person's attention to form-filling activities (Strohl, et al., 2015; Zambarbieri, et al., 2008). Yet, previous work using an eye tracker to study behavior of those who fill in an online form is rare. As a result, the study's main objective is an initial attempt to explore into whether visitors are visually distracted while filling in online business forms using an eye tracking device.

2. LITERATURE REVIEW

2.1 Online Form: Acceptance and Design Principle

Online forms have been increasingly critical to business. Failure in electronic business could have been a result of poor design of corporate form. Here is an example from college administration. One student could have been dismissed because she thought she had filled all required information for one important event but she finished only the first page and left out the rest. She stated in her petition later that she did not notice the form was not finished and she did not notice the next button at the end of the first page. Although it was difficult to prove, her petition was honored. Such error could have happened with online store's order form or a web-based insurance claim. Hence, the way to minimize such error in the form-filling process is critically needed.

Given the wide acceptance of online platform, organizations have established a digital connection to their stakeholders. The connection includes a corporate website, a visitor's registration to certain services, a customer's complaint filing or a student's response to a university's online petition form (Strohl, et al., 2015; Wroblewski, 2008). In addition, the acceptance is highly visible for the abundance of commercial services including Google forms (Enders, 2016). The interaction between human and online forms have long been recognized in the area of human-computer interaction (HCI). The forms can be regarded as the contact points between the two parties. One is the person who fill in the form and the other is the entity (e.g., a company or a website) with which the person is interacting. The online forms will be usable only if visitors understand what the content on the form is and supply the

required detail accordingly. However, to fill in it may not be the main reason that they visit the website. The form design is only the touching point through which visitors share information. It is thus important to have the proper and smooth exchange of information (Bargas-Avila, et al, 2010). Incorrectly filled online forms may result in inaccurate database, an executive's poor decision or perhaps a firm's profit loss (Roth, et al., 2013). Poor design of online forms has resulted in a fair number of drawbacks. A survey of web design elements ascertained that poor interactivity (e.g., confusing label or no help function) significantly led to users' irritation (Faisal, et al., 2018). An online questionnaire is a specific type of online forms. Krosnick and Presser (2010)'s comprehensive review confirms that poor design of questionnaire instruction could ruin the quality of the collected data. The worse part is researchers often overlook at the interaction between the samples and the online questionnaire. The poor design of online forms was also emphasized by online practitioners in that the form design must balance between its usability and its ascetics (Fansher, et al., 2018).

According to experts in human-computer interaction (Nielsen & Pernice, 2010; Shneiderman & Plaisant, 2016), an online form is a channel through which a user interacts with a computer system and want to supply content to the system. Should the online form design be too technical, it could gather data with high performance but users may not be able to use it. On the contrary, if its design is much toward human, the form could be behind modern technology. As a result, human-computer interaction theorists have stressed the importance of balancing between the user and the system (Nielsen, 2000).

In general, visitors to an online form webpage should quickly notice an input field (i.e., where to type the input) and shortly start typing their input. The form with only the input fields would preferably be of the great design since there is no other detail on the form to distract the visitor's attention. However, no one would figure out which inputs are required, not to mention other detail such as the format or the language (Wroblewski, 2008). As a result, online form developers recommend that other details be added only to communicate to those who need to fill in the form such that they are able to supply the proper information in the right format. The details could be the company logo, the field label, the filling instruction or the submission button. Should the detail be too much, visitors could be distracted and consequently supply erroneous content to the form. In other words, the detail on the form should be clear to visitors so that they are able to fill in the form correctly (Jarrett & Graffney, 2009).

2.2 Assessing Form Quality Using an Eye Tracker

Recommendations on the online form design are plenty. Most of them claim they are able to capture visitors' attention so they could concentrate on the form-filling activities, yielding the correct outcomes. Yet, relatively little amount of work has verified such claim for lack of tool to assess the attention. Nonetheless, an eye tracking device may lend itself to assess the online form design (Redline & Lankford, 2001; Bergstrom & Schall, 2014; Inal, 2016). The device allows researchers to capture fine indicators that can point validly to whether a subject has fixated on an online form's area of interest (AOI). For instance, Tangmanee (2016) used the eye tracker to assess whether visitors to YouTube had seen an advertising banner embedded on the YouTube clip. The banner was therefore the AOI in his

paper. In addition to fixation counts (FC), the eye tracker offers other reliable indicators including the amount of time to first fixation (TFF), the time to first mouse click (TFMC), or the fixation duration (FD). The definitions of these variables are in Table 1. All indicators are also of Bylinski, et al. (2017)'s interest. They recommend that various records of eye movement help shed light on human's fine behavior such as fixation and subtle behavior such as attention. Researchers should clearly report the fixation behavior and their corresponding area of interests (AOI) (Bylinski, et al., 2017).

Table 1: Definitions of fixation indicators in the current study

Names	Abbreviations	Definitions
Fixation counts	FC	The number of one's fixation on an area of interest (AOI)
Fixation duration	FD	The amount of time that an AOI is fixated on.
Time to first fixation	TFF	The amount of time prior to one's first fixation on an AOI
Time to first mouse click	TFMC	The amount of time prior to one's first click on an AOI

According to Strohl, et al. (2015), measurements from an eye tracker is objectively reliable, especially it is not self-report. Roth, et al., (2013) used TFF to confirm that placing form objects (e.g., input fields or labels) at the location viewers expect to see is more efficient than placing them where the form developers expect viewers to encounter. In other words, TFF is significantly short when the form objects are placed on online forms as viewers expect. An examination on label alignment using fixation indicators has confirmed the importance of their proximity to the input fields. The left alignment should be avoided since users will have relatively longest fixation duration (FD) as compared to the top and the right alignments. Roth, et al. (2013)'s findings, however, contradict to those in Bargas-Avila, et al. (2010) in which the fixation on the top-aligned label has the shortest fixation duration. Wroblewski (2008) recommended that the form design be visually different from the webpage design because webpage viewers would only fixate on the page but those who type into the input fields must fixate and fill the items simultaneously. He further offers a few recommendations on the design of these two topics. Yet, no empirical work has verified his suggestions. In addition, the design issues which form developers must take into account consist of (1) the content and the layout; (2) the submission and error handling; and (3) the input fields (Bargas-Avila, et al., 2010).

According to the usability guidelines (Wroblewski, 2008; Bargas-Avila, et al., 2010; Jarrett & Gaffney, 2009), viewers to an online form should fast discover the location of input fields and consequently start typing the required detail into the fields. All other detail such as a logo, a field label or a button should promote the smooth communication between the viewer and the form designer so the online form is correctly filled and promptly submitted. Previous work have examined usability across various placements of labels, buttons (Jarret & Bergstrom, 2014; Das, et al., 2008), or logo (Zambarbieri, et al., 2008). A fair amount of previous work using an eye tracking device has confirmed that the labels should be placed close to the associated input fields (Secker, et al., 2012). The left-aligned labels should be avoided for the longest time of fixation between the labels and the fields (Bargas-Avila, et al., 2010).

According to Zambarbieri, et al. (2008), a logo on online newspaper did not distract visitors' attention. However, Wroblewski (2008) often remind that visitors to a website is different from those who arrive at the online form and subsequently urge researchers to carefully examine these two different contexts. With its relatively small size, a button should have a simple design. Slight decoration may result in viewers' distraction as they attempt to make sense out of the button embellishment (Jarrett & Gaffney, 2008). Yet, no empirical work investigating whether a button could distract viewers while filling in an online form is located. Taken previous work together, there is no empirical work using variables for an eye tracker (e.g., TFF or FC) to examine the extent to which the detail such as logo, label or a button distract viewers' attention while filling in an online business form. We thus attempt to address the void.

3. RESEARCH METHODOLOGY

To respond to the study's objectives, here are four issues of our research methodology: online form; participants, task, and technology; variables from eye tracker; and data analysis and hypothesis testing.

3.1 Online Form

In order to assess whether contents in other areas on an online form could distract one's attention while filling in it, we selected a student's initial enrollment web-based form at Chulalongkorn university as a stimuli. There are two reasons behind this selection. First, given the permission from Chulalongkorn Business School to use their facilities including the eye tracker, we must inevitably recruit the students in this school to participate in the study. The form is 8x11 inches in size, replicating the initial enrollment currently used by the university. Its layout has four major components (see Figure 1 for reference). On the left is the university logo, next to which is the label. The names in Figure 1 are Logo and Label, respectively. On the right is the area of the input fields where a participant must start to type in his or her personal data as part of the initial enrollment in the university student record system. Since the form has two pages, there is the next button on the bottom right of the form. Note that our main research interest to assess whether the logo, the label or the button sections may distract attention of those who were filling in the initial enrollment form. Hence, our context includes only the form's first page.

Second, the content the participants had to fill in are their personal data (i.e., their name, their birth date, or their contact address). The task is mainly simple and dealing with what the subjects are fully aware of. In other words, the participants already know the answer to the form item. Had the form required the details that the subjects must think harder than what they already know, their fixation behavior may not have fully reflected their attention (Jarrett & Bergstrom, 2014). Should the participants have to get the answer elsewhere, their fixation while responding to an online form will not be in harmony with their mind. Keeping track their fixation would not manifest their thought. Their attention and their gaze are completely directed at the form only when they know the detail they are responding to the form item. As a result, the online form context in the current study is considered appropriate.

3.2 Participants, Task and Technology

We announced a call for research participation in a few classes in Chulalongkorn Business School. Students in the school voluntarily signed up to take part in the current study. They have about the same experience with this form because they had filled this form in their first semester. A participating student earned a reward of US$ 2 cash. Faculties in certain classes also supported the current study by giving their students one extra point toward their final grade in return for their participation.

All participants learned on the sign-up day that they were invited to assess a new design of the initial enrollment online form. They were also informed that the assessment will use an eye tracking device. On the appointment day, the subjects were greeted by a research assistant after which they were asked to have the eye tracker calibration which took about two minutes. All subjects passed the calibration test. The research assistant then gave the participants the instructions on how to respond to the form as if they were accepted to Chulalongkorn Business School. While the participants were filling in the form, their eyes were tracked and recorded. The entire process of data collection took no longer than five minutes.

On the day of data collection, a participant was seated approximately 45-60 centimeters in front of a notebook computer and an eye tracker was at the bottom of the notebook screen. On its screen was the initial enrollment online form. Its first page similar to Figure 1 fits well on the screen. We used a screen-based Tobii Pro x2-36 eye tracker with the 3.4.8 version of Tobii Studio Software and the notebook used Windows 10 with 2.50 GHz processor and 8 GB RAM.

During the six weeks of data collection, there were the total of 79 participants. Given the laborious work of the eye tracking study, the number of samples should not be determined using a typical suggestion. For an exploration, the sample size larger than 50 is justified (Nelson, 2000; Nelson & Pernice, 2010). In a traditional eye tracking experiment, a researcher needs at least 12 participants per one experimental condition. In the current study, 70% of the participants are female. The average age is 22.4 years old. They are all Thai. All of them have normal or corrected-to-normal vision.

Figure 1: The online form used in the current study as classified into four areas of interest (AOIs): Logo, Label, Input Fields, Button

3.3 Variables from the Eye Tracker

Four quantitative variables from the Tobii eye tracker are of our interest: (1) time (in seconds) to first fixation (TFF), (2) fixation duration (in seconds) (FD), (3) fixation count (FC), and (4) time (in seconds) to first mouse click (TFMC). Together with variables from the eye tracker, researchers must identify the area of interest (AOI) associated with the variable. In our study, we identified four locations of the AOI. Referring to Figure 1, there are logo, label, input field, and button areas. Hence, the complete sets of all variables in the current study is in Table 2.

Table 2: Variables and their definitions

Variable Names	Definitions
TFFlog	Time (sec) to first fixation on the logo area
TFFlab	Time (sec) to first fixation on the label area
TFFinp	Time (sec) to first fixation on the input field area
TFFbut	Time (sec) to first fixation on the button area
FDlog	Fixation duration (sec) on the logo area
FDlab	Fixation duration (sec) on the label area
FDinp	Fixation duration (sec) on the input field area
FClog	Fixation counts on the logo area
FClab	Fixation counts on the label area
FCinp	Fixation counts on the input field area
TFMCinp	Time (sec) to first mouse click on the input field area

3.4 Data Analysis and Hypothesis Testing

Our aim is to verify if the location of the input fields where subjects must fill in their information is able to grab their attention better than the other contents in the online form. The other contents include the logo, the label and the button. Put it differently, the other locations on the online form should not compete for a subject's attention with the input fields. Hence, the amount of time to first fixation (TFF) on the input fields should be less than that on the logo, the label and the button areas. The first three hypotheses are:

H1: Time to first fixation on the input fields is significantly less than that on the logo area,

H2: Time to first fixation on the input fields is significantly less than that on the label area, and

H3: Time to first fixation on the input fields is significantly less than that on the button area.

Not only does a participant fixate on the input fields, we are also interested in their attention to fill in the online initial enrollment form. Such attention is regarded in the current study as the amount of time the subject spends until he or she first clicks a mouse on the input field (TFMC). Should the input fields be able to quickly draw the subject's attention, the time to their first mouse click should be shorter than the time to first fixation on the logo, the label, or the button locations. Hence, the next three hypotheses are:

H4: The time the subjects first click mouse on the input fields is significantly shorter than the time to first fixation on the logo area,

H5: The time the subjects first click mouse on the input fields is significantly shorter than the time to first fixation on the label area, and

H6: The time the subjects first click mouse on the input fields is significantly shorter than the time to first fixation on the button area.

Finally, if participants are mostly attentive to the input fields, their fixation duration and their fixation counts on them should be larger than those on the logo and the label areas. Note that we excluded the fixation behavior on the button since participants would pay attention to the button only after they finish filling in this page and ready to move to the other page using the next button at the bottom right of the page (see Figure 1 for detail). As such, the final four hypotheses are:

H7: The fixation duration on the input fields is significantly higher than that on the logo area,
H8: The fixation duration on the input fields is significantly higher than that on the label area,
H9: The fixation counts on the input fields is significantly higher than that on the logo area, and
H10: The fixation counts on the input fields is significantly higher than that on the label area.

To test all hypotheses, we used the paired-sample t-test. We also report descriptive statistics of all major variables.

4. RESULTS

Based on the 79 participants who were eye-tracked while filling in an initial enrollment online form, descriptive statistics of the eleven variables were reported in Table 3. The amount of time in seconds that the subjects spent until their first fixation on the form's four major areas (e.g., TFFlog, TFFlab, TFFinp, and TFFbut) confirm that the participants discovered the input fields before noticing the other areas since the TFFinp is the shortest and statistically significant less than the time to first fixation on the other three locations. The proximity of the other areas in relation to the input fields may explain the increasing amount of time the participants spend prior to noting the input fields. In other words, the participants spent in average 8.30 seconds before discerning the input fields. About 2.37 seconds later they fixated on the label area which was right next to the input fields. The participants then gazed on the logo and finally on the button which could indicate they were done with the filling on the first page.

About the same time the participants fixated on the input fields, they started to click on the field. This speculation came from the non-significant comparison (t=1.115, df=78, sig=.268) between the amount of time to first fixation on the input fields (8.30 seconds) and that to the first click on the same location (6.98 seconds).

Table 3: Descriptive statistics of the eleven variables from the eye tracker

Variables	Mean	Standard deviation
TFFlog	67.55	73.94
TFFlab	10.67	11.34
TFFinp	8.30	9.57
TFFbut	111.54	59.16

FDlog	1.28	1.74
FDlab	26.97	22.42
FDinp	55.55	37.67
FClog	4.14	5.47
FClab	66.76	47.18
FCinp	121.68	59.47
TFMCinp	6.98	5.53

Regarding the fixation duration and the fixation counts, the longest duration and the highest counts were both on the input fields. They are 55.55 seconds and 121.68 times, respectively. The sequences of the two fixation behaviors are much similar to the amount of time to first fixation (TFF) in that the second to the longest duration and that to the highest counts were on the label location and the final were in the logo which is located farthest from the input fields.

Table 4 reports the outcome of the 10-hypothesis testing. All hypotheses are significant, although H2 is marginally significant. Hence, there are three major findings. First, the outcomes of the first three hypothesis statements confirm using the eye tracker data that the participants were able to locate the input fields faster than the contents in the other locations on the same form (i.e., the logo, the label, or the button). Second, once the participants fixated on the input fields, the filling also started. This is a result of the H4 to H6 testing. Finally, the participants hold the longest fixation duration and the highest fixation counts at the input fields as compared to the logo and the label locations.

Table 4: Results of paired sample t-test

Hypotheses	t (df)	P-value (one-sided)
H1: TFFinp < TFFlog	-6.03 (57)	.000
H2: TFFinp < TFFlab	-4.72 (75)	.048
H3: TFFinp <TFFbut	-11.03 (41)	.000
H4: TFMCinp < TFFlog	-6.16 (57)	.000
H5: TFMCinp < TFFlab	-2.50 (75)	.015
H6: TFMCinp < TFFbut	-11.44 (41)	.000
H7: FDinp > FDlog	10.12 (57)	.000
H8: FDinp > FDlab	6.08 (75)	.000
H9: FCinp > FClog	13.60 (57)	.000
H10: FCinp > FClab	6.22 (75)	.000

5. CONCLUSION

An online business form must have input fields waiting for people to fill in the information. Complement with the input fields are the company logo indicating who the responsible organization is, the label explaining what the fields are or the button signifying what action is preferred. Logically, visitors to the webpage containing an online form should be attentive to the input fields and promptly start to fill in all fields. However, the attention is difficult to measure unless researchers have an eye tracker.

In the current study, we used the Tobii eye tracker to record a few number of fixation activities of 79 students who were asked to fill in a revision of the online initial enrollment form with which they had experience in their first semester at Chulalongkorn university. The activities include the time to first fixation (TFF), the time to first mouse click (TFMC), fixation duration (FD) and fixation counts (FD) on the form's four major locations: the university logo, the labels, the input fields, and the button. See Figure 1 for the locations of these four areas.

The analysis confirmed that the input fields were able to capture the visitors' attention fastest as compared to the other locations on the forms. It is because the time to first fixation on the input fields (TFFinp) was the shortest. In addition, once gazing on the input fields, visitors started typing the detail into the fields for the insignificant difference between TFFinp and TFMCinp. Hence, it is reasonable to conclude that subjects did notice all locations on the online form but none has distracted them from fixating the input fields and subsequently typing the content into the fields. Regarding the fixation duration and fixation counts, the highest value of these two indicators on the input fields (i.e., FDinp and FCinp) also verified that visitors had their fixation mostly on the fields. It further implies no distraction from contents in other locations of the initial enrollment online forms. Given no empirical work in the past addressing whether other contents had distracted visitors from noticing input fields, our finding should be an empirical and unique contribution to the field of human computer interaction.

The second conclusion comes from the value of TFF, FD and FC on the input fields, the label and the university logo. All three indicators on the input fields, are the highest followed by those on the label and smallest are on the logo areas (see Table 3 for detail). Such a decreasing order may denote the critical role of the proximity of the three areas. The closer the areas to the input fields, the more attention participants would give to them. This findings are in line with recommendations in Jarrett and Bergstrom (2014), Roth, et al. (2013) and Bargas-Avila, et al. (2010). We are perhaps the pioneers to offer empirical evidence to support the recommendations. It is however premature to assume the order we discovered in the current study is valid, especially when none of previous research has empirically addressed the fixation order on an online form. Hence, there is a call for empirical research to focus on the order of eye movements in the context of online form filling.

Our findings offer both theoretical and practical contributions. Theoretically, our findings have extended insight into online form design using an eye tracker to measure an array of fixation behavior. With reliable measurement of subtle behavior, we were able to confirm that the input fields on an online

form are able to draw attention quickly from participants to start the filling process. The other contents did not distract them from focusing on the input. Moreover, the other contents (e.g., the field label) placed close to the input fields receive higher attention from participants than those placed away from the input fields. The finding could be regarded as empirical work on the interaction issues of the human computer interaction field.

Our findings also have practical value. Two recommendations are suggested. First, given the findings in which the logo, the label, or the button did not distract attention of those who fill in an online form from noticing the input fields, online form designer may add visual detail on the logo or adjust the label to promote clear understanding between the designers and those who supply detail via the forms. Nonetheless, the detail must not overwhelm them. Second, online form designer may place vital content near the input fields and marginal one away from them. This suggestion is a result from the finding in which our participants were less attentive to the content located in longer distance from the input fields than those right next to the fields. An example of the insignificant content may be the contact detail while that of the critical one could be the field label that indicates the correct input format.

Similar to other research, our exploration does have two limitations. First, while acceptable, our scope might limit the finding generalizability. We attempted to explore whether a variety of contents on an online form accommodate or distract each other. Our specific context is students' filling in a university initial enrollment form using a notebook computer. We used the Tobii eye tracker which has been confirmed in previous studies to yield valid and reliable records of eye movements. While the conclusion is valid, we are unable to discuss the issues on far different contexts. Second, the technology as well as the business environment have changed tremendously fast. Many online forms are moving to reside on the mobile platform. The small screen inevitably forces certain content (e.g., logo) off screen. Further, the form-filling process may be affected by a user's personal detail including familiarity. Hence, academic scholars and practical researchers could subsequently join an effort to address the business online forms deeply, perhaps using advanced data collection and analysis techniques.

6. ACKNOWLEDGEMENT

7. REFERENCES

Bargas-Avila, J. A., Brenzikofer, O., Roth, S. P., Tuch, A. N., Orsini, S., & Opwis, K. (2010). Simple but crucial user interfaces in the world wide web: Introducing 20 guidelines for usable web form design. In *User interfaces*. InTech.

Bergstrom, J. R., & Schall, A. (Eds.). (2014). *Eye tracking in user experience design*. Elsevier.

Bylinskii, Z., Borkin, M. A., Kim, N. W., Pfister, H., & Oliva, A. (2015, October). Eye fixation metrics for large scale evaluation and comparison of information visualizations. In *Workshop on Eye Tracking and Visualization* (pp. 235-255). Springer, Cham.

Das, S., McEwan, T., & Douglas, D. (2008, October). Using eye-tracking to evaluate label alignment in online forms. In *Proceedings of the 5th Nordic conference on Human-computer interaction: building bridges* (pp. 451-454). ACM.

Enders, Jessica (2016). *Designing UX : Forms*. Australia: Imprint Collingwood.

Faisal, C. M., de Andres-Suarez, J., Gonzalez-Rodriguez, M., Fernandez-Lanvin, D., Ahmad, M., & Habib, M. A. (2018, April). Impact of web design features on irritation for E-commerce websites. In *Proceedings of the 33rd Annual ACM Symposium on Applied Computing* (pp. 656-663). ACM.

Fansher, M., Chivukula, S. S., & Gray, C. M. (2018, April). # darkpatterns: UX Practitioner Conversations About Ethical Design. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems* (p. LBW082). ACM.

Inal, Y., & Ozen-Cinar, N. (2016, July). Achieving a user friendly error message design: Understanding the mindset and preferences of Turkish software developers. In *International Conference of Design, User Experience, and Usability* (pp. 377-385). Springer, Cham.

Jarrett, C., & Bergstrom, J. R. (2014). Forms and surveys. In *Eye Tracking in User Experience Design*, Bergstrom, J. R., & Schall, A. (Eds.). (2014). Eye tracking in user experience design. Elsevier. (pp. 111-137).

Jarrett, C., & Gaffney, G. (2009). *Forms that work: Designing web forms for usability*. Morgan Kaufmann.

Presser, S., & Krosnick, J. A. (2010). *Question and Questionnaire design*. Handbook of Survey Research.

Nielsen, J. (2000). *Web usability*. Apogeo Editore.

Nielsen, J., & Pernice, K. (2010). *Eyetracking web usability*. New Riders.

Redline, C. D., & Lankford, C. P. (2001). Eye-movement analysis: a new tool for evaluating the design of visually administered instruments (paper and web). *Proceedings of the Survey Research Methods Section of the American Statistical Association*. Retrieved from www. amstat. org/Sections/Srms/Proceedings/y2001/ Proceed/00248. pdf

Roth, S. P., Tuch, A. N., Mekler, E. D., Bargas-Avila, J. A., & Opwis, K. (2013). Location matters, especially for non-salient features–An eye-tracking study on the effects of web object placement on different types of websites. *International journal of human-computer studies, 71*(3), 228-235.

Seckler, M., Tuch, A. N., Opwis, K., & Bargas-Avila, J. A. (2012). User-friendly locations of error messages in web forms: Put them on the right side of the erroneous input field. *Interacting with Computers, 24*(3), 107-118.

Shneiderman, B. & Plaisant, C. (2016). *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (6th ed.). NY: Pearson publication.

Strohl, J., Gonzalez, C., Sauser, J., Montazeri, S., & Griepentrog, B. (2015, August). Creating forms and disclosures that work: using eye tracking to improve the user experience. *In International Conference on Universal Access in Human-Computer Interaction* (pp. 121-131). Springer, Cham.

Tangmanee, C. (2016). Fixation and recall of YouTube ad banners: An eye-tracking study. International Journal of Electronic Commerce Studies, *7*(1), 49.

Wroblewski, L. (2008). *Web form design: Filling in the blanks.* Rosenfeld Media.

Zambarbieri, D., Carniglia, E., & Robino, C. (2008). Eye tracking analysis in reading online newspapers. *Journal of Eye Movement Research*, *2*(4).

THE KNOWLEDGE, ATTITUDE AND PRACTICE OF TRADITIONAL THAI MEDICINE (TTM):
TRADITIONAL FORM AND FINISHED FORM

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ABSTRACT

This qualitative study explores the medicinal-impact perceptions of Thai users of Traditional Thai Medicine (TTM). Consumer participants were invited to the study though participation of 8 focus groups. Drawing on a Knowledge, Attitude, and Practice (KAP) framework and the voices of 57 TTM partakers, a thematic analysis identified overarching themes evident across all groups. The findings review that the meanings of TTM, as attributed by the participants, are focused to two areas: "a household treatment" and "a decoction or medicinal pots" and that each represent aged Thai wisdom, traditions, and cultural beliefs, as well as contemporary individual beliefs. Of note, the findings show that the participants demonstrated a high level of awareness of TTM in traditional form (e.g. unprocessed natural products) whereas 61.40 percent were unaware of the finished forms (e.g. manufactured and packaged tablets, capsules, mixtures). The contribution of the study is its original reveal that first: the traditional forms of TTM become "obsolete, devalued, and no longer proper to use" for the majority of participants; and second, the finished forms cannot demonstrate relative advantages equal to Western form medicine in terms of quality, efficacy and accessibility. As a result, both forms of TTM were considered, by participants, to be the second choice and/or last choice for personal and/or family healthcare treatment. To improve TTM uptake, a raised consumer awareness and knowledge of finished form, in particular, could be gained through heightened government engagement with strategic Integrated Marketing Communications (IMC) to strengthen media exposure. The study calls for further research on the comparative benefits of TTM to Western form medicine to validate any such moves toward government health policy communications.

BACKGROUND

Traditional Thai Medicine (TTM) was withdrawn from the official public health care system in Thailand across the period 1916 – 1978 (Kudngaongarm, 2011). During this time of TTM denigration, the Thai government lost its ability to control its national spending on health care. These challenges and problems have forced Thailand to try to reduce the cost of health services and products and to promote primary healthcare facilities to have greater access to healthcare within the country's limitations (Chokevivat and Chuthaputti, 2005). Thus, TTM is considered to be an option for this situation (Thongruang, 2014). Since then, Thailand has integrated TTM at the national level with the creation of The 4th National Economic and Social Development Plan (1977-1981) until the present (Chokevivat and Chuthaputti, 2005).

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Based on the philosophy of King Bhumibol Adulyadej's "Sufficiency Economy." The notion of sustainability that is mobilized in the sufficiency economy is not concerned only with the natural environment but one that encompasses ideas of social and political sustainability (McGregor, 2008). Thus, under the umbrella of the 10th National Economic and Social Development Plan including the 10th National Health Development Plan (2007-2011), the "Sufficiency Health System" was formulated that aimed at achieving good health and good service, as well as helping to develop the country's macro-economics (World Health Organization, 2009, p. 100). The Ministry of Public Health (MoPH) announced a policy to integrate TTM into the national health system. A target usage for TTM was set at a minimum level of 5 percentage of the total value of all medicines used per year at all levels of Public Health Service facilities by 2011 Vadhnapijyakul and Suttipanta, 2014). The revival of TTM's policy was revived in the new environment of Thailand's public healthcare system and represents new ideas of practice, and thus, in order to improve the use of TTM, the MoPH has created a slogan that invites Thais to use TTM for minor illnesses before going to see a doctor Sompopcharoen and Sresumatchai, 2015). Therefore, the finished form of TTM is being widely promoted by the MoPH, especially self-care at the family level (Thongruang, 2014).

Despite the fact that the Thai government had strongly supported TTM development and that the MoPH had implemented several policies to promote the integration of TTM into the health care system, the results were not as successful as had been expected. In the fiscal year 2011, the value of TTM products that were used in all levels of public health service facilities was only 3.5 percentage (Vadhnapijyakul and Suttipanta, 2014). In 2013, the National Statistical Office of Thailand reported a low level of TTM awareness and usage among Thai citizens (Ganghair, 2014). As recently as 2015, a systematic review of published and unpublished research was carried out to investigate the prevalence of Traditional Medicine, Complementary, and Alternative Medicine (TCAM) use in the general and clinical population in the Association of Southeast Asian Nations (ASEAN) consisting of the 10 countries including Thailand. The results found that the use of TCAM in Thailand was just about 2.6 percentage (Peltzer and Pengpid, 2015). Yet, TTM still has not fully been integrated into healthcare system in Thailand (Aphisamacharayothin, 2014).

It is clear that the understanding and beliefs about TTM have not yet been systematically investigated in existing health-based research, which has focused on simple measures of consumption and access. There is also an absence of research investigating the role of communication in the adoption of TTM. Consequently, the knowledge and beliefs of Thai people in relation to TTM need to be explored within a societal framework, in which social relationships, culture, lifestyles and healthcare in Thailand are all interrelated. Understanding this framework allows us to better comprehend the factors influencing the understanding of TTM among Thai citizens and, thus, suggest more effective forms of communication and promotion of TTM by the government to encourage greater usage in Thailand.

Nonetheless, within the international aid community, there is increasing recognition that improving the health of poor people across the world depends upon adequate understanding of the socio-cultural and economic aspects of the context in which public health programs are implemented (Launiala, 2009).

The information about TTM and how it is being currently used in Thailand should be uncovered in order to understand the current situation of TTM and to develop communication strategies that can help to improve its usage. Therefore, an analysis regarding TTM should be made that includes the following: 1) a study of TTM's current trends, and 2) Thai peoples' knowledge, attitudes and practice towards TTM. All of these need to be further explored within a societal framework (Corcoran, 2007, p. 6). Gaining a depth of understanding is essential because by increasing the use of TTM, the health care system in Thailand may be improved and this may lead to greater physical well-being for the Thai people and may, as a result, improve Thailand's economy.

METHODOGOGY

The process of collecting data is managed by conducting consumer focus groups. In the Thai social context, a hierarchical culture, status is especially important. Therefore, more homogeneous groups were needed with respect to status and power differences (Stewart, Shamdasani and Rook, 2007). It is considered very rude in Thailand for a younger person to even suggest they have a different opinion to either an older person or one who is more 'senior' or 'important'. Therefore, breaking up groups by 'age' and 'social class' as much as possible is more important than in Western countries (Davies, n.d.).Moreover, based on a review of literature, there are many factors related to the health of individuals and communities, such as age, genetics, gender, income and social status, environment and behaviour (Sumngern, 2011, p. 14).

Thus, the primary focus group segmentation was developed by identifying key population groups within the groups of people were 1) "TTM users", and 2) "Non-TTM users" (TTM user groups may take TTM ≥ 4 times/ year and TTM non-user groups may take TTM 1-3 times /year) within different demographics (gender, occupations, educational levels). The secondary segmentation was "an age" range of between 18 – 59 years of age. As a result, the focus groups comprised of 8 sub-groups with a total of 57 consumer participants who live in Udonthani Province, the Northeastern of Thailand to learn how respondents make sense of their experiences and act upon TTM as the role of end users. (See table 1)

Table 1 Total participants per group

Age range	TTM Users	TTM Non-users
18–26 years old	7	8
27–38 years old	6	6
39–50 years old	8	8
51–59 years old	8	6
Total	29	28

The question to guide this study: How do Thai people view TTM as it relates to their health care, culture, and life styles? That aims to identify gaps in knowledge, understanding and beliefs about TTM in Thailand and to enhance communication for the promotion of TTM in Thailand. Thus, the participants were asked questions in 3 separate sessions on the following topics: 1) their knowledge/information about TTM,

2) the role that TTM plays in their everyday lives, and 3) how, from their points of view, the use of TTM could be increased.

This study uses a Knowledge, Attitude and Practice (KAP) as the conceptual framework, as the KAP framework have been used as an evaluation tool to evaluate changes in human behaviour in specific interventions (Haloi, Ingle, and Kaur, 2014, p. 99). The questions from the KAP framework can assist in gathering and identifying current key knowledge about TTM, and reveal important information that relates the social skills of Thai consumers (Gumucio, 2011; Haloi, Ingle, and Kaur, 2014) in their everyday lives, as relevant to their culture, lifestyle and modes of health, as well as the problems associated with TTM.

DATA ANALYSIS

Thematic analysis by Braun and Clarke (2006) was used in this study. Its benefits lie in offering a more sophisticated accounting of the data and in having the ability to help the researcher to reveal the various patterns across the qualitative data. Consequently, thematic analysis helps in "reporting the data and theorising the language" (Jugder, 2016, p. 2). To improve the reliability and validity of the research, NVivo software was used to analyse the interviews together with Thematic analysis. NVivo is a dynamic tool with the ability to facilitate many aspects of the data analysis process (Hutchison, Jonston & Breckon, 2010). Moreover, it can provide the researcher with enhanced demonstration, identification, and validation of emerging themes and sub-themes. In addition, NVivo can be an efficient way to efficiently manage the data and to save time (Jugder, 2016).

RESULTS

The data analysis can be identified three meta themes consist of Theme 1. Knowledge of TTM: A superficial knowledge and awareness of TTM, Theme 2. Attitude towards TTM: TTM is inferior to Western medicine, and Theme 3. Practice of TTM: TTM is a second choice and only for the treatment of minor illness.

However, it is important to note here that in the participants had drawn their knowledge, attitude and practice of TTM by comparing them with conventional medicines. Moreover, they had not taken notice of the finished form until the researcher asked them about this form and showed them some samples of the finished form for the first time. The results can summarize the following.

1. Knowledge of TTM: A superficial knowledge and awareness of TTM

This section reviews the participants' knowledge about TTM in 3 areas are 1) forms of TTM, 2) the properties and dosages about using TTM, and 3) the side-effect of TTM, that can summarize the followings.

1.1 A high awareness of the traditional form VS unaware of the new finished form of TTM

The participants were asked at the beginning of the discussion to talk about what their understandings of TTM were and as a result, several definitions of TTM were uncovered in the discussions. Based on the participant voices there are 2 main definitions of TTM as follows, 1) TTM is a plant-based

medicine that can be prepared at home by the users themselves, and 2) TTM is the decoction or medicinal pot that can treat their illness as part of Thai way of life.

However, it is found that all participants demonstrated a high level of awareness of TTM in its "traditional form" in particular decoction/medicinal pot. Yet, 61.40 percentage of the total participants were unaware of the new "finished forms of TTM" At the interviews, some stated that they were seeing the finished forms of TTM for the first time.

Moreover, the participants, with previous knowledge of the finished form, could be grouped into two categories: 1) individuals, who had seen the finished form, but had never used it (17.54 percentage), and 2) those, who had used it (21.05 percentage). It is important to note that members of the 2 groups had seen and/or had used the finished form before the interviews. Nevertheless, when they were explaining their comprehension of TTM, none of them mentioned anything about having seen or being aware of the finished form. Without the researcher specifically asking the participants about the finished form, they would have been unable to compare and contrast their viewpoints of both forms.

1.2 A lack of knowledge on properties and dosages of both forms of TTM

The findings review that some participants believed that they could make the traditional form of TTM themselves by using fresh herbs or of boiling a single herb and made according to a local method. However, they believed that to use TTM one must have sufficient knowledge of what kinds of herbs to use for each disease. This thought not only came from the non-user groups but also came from a member of a users' group as noted below:

"If I think of herbs, they must be in the woods or along the garden fence, and they are complex things. Therefore, you need to know how to use them. If not, they cannot be useful because they need to be mixed and (you need to consider) what diseases they will cure." (A 50-year-old Male user)

According to a non-users' group, some of them admitted that they did not use the "traditional form" because they did not have adequate knowledge. They felt that they were unfamiliar with how to choose and prepare the herbs, as well as were unsure of which herbs could cure which illnesses. Thus, they had decided not to use TTM because its usage is too complex and complicated for them. For, instance, two teenagers from a non-users' group with an age range of 18-26 years old (being of different genders and having different educational levels and occupations) similar mentioned that, *"I do not have any information in which herbal medicine can cure illness."*

Regarding TTM's "finished form", three farmer participants (one Female user from the 51-59 years old group and 2 Male non-users from the 27-38 years old group) with the different educational levels specific claimed that they did not know about the "properties and dosages" for taking TTM, which is different than conventional medicine that they had just read the label as noted below:

"For herbal medicine, we do not know the exact dosage we have to use, which makes us scared of using them. It is different from conventional medicines which are prescribed by the doctors that are wholly disclosed on the drug cases." (A 56-year-old Female user)

1.3 The understanding of both forms of TTM is fewer side-effects

With respect to side-effects of TTM, it is significant to note that all of the participants had *a high degree of individual perception and blind faith* that "both forms" of TTM offer few to no side-effects as compared to modern medicines. The main reasons was TTM are made from plants that have been used since ancient time. Thus, TTM are fewer to no side-effects and that safer than modern medicines. Without having any personal experiences to support their statements, almost of the participants believed that if TTM were shown to have side-effects, there would be only certain symptoms, such as having a rash or itchiness. Furthermore, they explained that unlike using modern medicines, TTM would not affect their kidneys and livers as noted below:

"People who take herbal medicine continuously may have the risk of having accumulated substances or retroactive effects which are similar to taking conventional medicines. However, it may not have a lot of effects and is unlikely to affect the liver and kidney like conventional medicines." (A 54-year-old Female   user)

In fact the findings revealed that many of participants were not concerned about TTM's side-effects because they claimed to just boil them and drink them as they had for many years. Moreover, they mentioned that the TTM will be automatically excreted from their bodies. In addition, the findings showed that a 54 –year - old housewife non-user with a Primary School education had the conception that being "allergic to TTM" meant that detoxification was taking place.

In summation, the participants had been using TTM without having sufficient knowledge. They had utilized TTM (the traditional form) by using simple processes to treat their illnesses without realizing the existence of new finished forms of TTM. This was due to the fact that their knowledge and understanding of TTM had been solely based on using the traditional form, in which the process consists mainly of boiling the herbs. The findings also showed that the majority of consumer participants were unaware of the new finished form of TTM as well as suffered from a lack of knowledge about side-effects when using TTM, as well as a lack of knowledge about TTM's properties and dosages.

2. Attitude towards TTM: TTM is inferior to Western medicine

In order to gain a great understanding of TTM from consumer's viewpoints, next stage, they were asked a few intermediate questions concerned with their usage of TTM, and as a result, the findings indicate that currently traditional form of TTM become "obsolete, devalued, and no longer proper to use" for them. While, the finished form of TTM cannot compete with Western medicine according to efficacy that can summarize the followings.

2.1 The traditional form of TTM was dirty VS The finished form of TTM was cleanliness similar to conventional medicines

The findings revealed that some of the participants had the perception that the traditional form of TTM was dirty because they perceived the image of TTM that in the past herbs and TTM were put on the floor. Besides, most of the participants had the perception that the benefits of TTM not only came from the kinds of herbs which were used, but also came from the ways in which they were prepared. The findings

from the users and non-users with an age range of 27-38 years old (particularly the "Female" participants) noted that the production process of this form really depended on the makers. Therefore, if the TTM had been made improperly, this form of TTM would be unclean and may lead to bad results. Consequently, one of the Female non-user said that *"The dirtiness (of TTM) is one of my consideration on using TTM"*

However, when the participants have seen the finished form, the findings showed that the perceived quality of the finished form, particularly its "degree of cleanliness", has a high impact on using TTM. Moreover, this factor has shifted consumer confidence from the traditional form making TTM's new form more acceptable. A 31-year-old Male non-user, stated: *"If it is taken by the means of being sharpened from fresh herbs and is mixed with water, I cannot take it because I do not know if the water mixture is clean or not. But, if it is transformed to capsule medicine, I might try it."* Another statement from a 32-year-old Female user also emphasized the importance of cleanliness by stating: *"The more the finished pattern of herbal medicine compares with Western medicines, the more I (would) choose using herbal medicine because at present it is contained in clean packaging."* Thus, in term of the production process "the cleanliness" was the most important factor when making decisions about using "both forms of TTM" in particular the finished form.

Nonetheless, a few participants expressed concerns about the quality of the finished form with regard to the degree of cleanliness which is similar to the opinions of the traditional form. For example, one of two housewife users from the same age group (27-38 years old) and having the same educational level, Senior High School, stated, *"I do not trust in the quality of the capsulized drugs contained therein."* (a 35-year-old Female non-user). The explanation provided by another housewife user who shared her ideas that due to the perception of the "traditional form" being unclean mentioned above, the image of the "new form (finished form)" may be affected as shown below:

"It may (be) because (of the fact that) before being capsulized, the herbal medicine had been placed on the floor. In my opinion, some people think that it is dirty, smells awful, and is bitter." (A 32-year-old Female user)

2.2 Traditional form is old fashions and does not belong to them VS Finished form is modern like conventional medicine

Despite the differences in the demographics and the various viewpoints of the participants, it was found that their attitude and perceptions of the traditional form" had been constructed and shaped by the life experiences of their family members and culture. From the researcher's perspective, it is important to note that when the participants explained traditional of TTM, they meant that as a part of TTM local wisdom, traditional beliefs, individual beliefs, and culture also came along with TTM. Not only has this TTM ancient wisdom been passed from generation to generation, it has been directly transferred from person to person, family to family via the beliefs and experiences of each family member. Notably, from their vantage point, the traditional form of TTM with its "complex method of use", such as the decoctions and medicinal pots, is the ideal expression of the "roots of Thai-ness and Thai wisdom treatments" from the past.

Based on the discussions, some participants had formed their attitudes by using three criteria, 'age', 'illness' and 'culture', to explain their attitude towards using the traditional form of TTM. Consequently, they mentioned that TTM does not belong to them. Three females with an age range of 27–38 years, with different educational levels and occupations, had the following perception: "*TTM was primarily used by the elderly.*" Therefore, one ofthem used 'age' as the criteria for using TTM. For instance, a 31-year-old Female non-user mentioned, "*It is a drug that elderly people have liked to make since ancient times, such as decoction, medicinal pot, or wrapped herbs that are used for solving sprains. I also consider that it is not my age to use herbs.*"

Another attitude is: "*TTM is for people who have serious illnesses.*" This statement comes from a 52-year-old Female Housewife non-user who further stated: "*Only people who have diseases consume herbs. I also started drinking Dao-Inca (Sacha Inchi) and Pandanus leaf mixture for curing my high (blood) pressure*". These attitudes and perceptions made some participants believe that TTM did not belong to them and, therefore, they did not want to use it.

However, the major conflict in attitudes on using TTM represented the current culture of their healthcare and health choices. The findings revealed that five out of eight groups (groups 2–5 & 7) mentioned that they (including others) believed that "*they were not born into a personal culture that included herbs, but had been born into a culture of modern medicines*", as follows:

"*I think (that) they (the non TTM users) are their belief and culture, that they have not been accustomed to using Thai herbs since they were young. Just like us, we are familiar with conventional medicine since we were young.*" (A 27-year-old Male user)

In contrast, once the participants had seen the sample of "the finished form of TTM", almost all of them (except the users' group with an age range of 51-59 years old) expressed their positive views the following: "*It is easy and convenient to use the finished form. (It is) similar to modern medicines.*" Yet, "a pattern form of TTM" has revealed itself and represents a shift in the perception of TTM from the negative viewpoints about the traditional form to more positive expressions. This shift has led to a better acceptance of TTM's new form because the major groups have placed the following values on the "finished form of TTM": 1) cleanliness, 2) ease of use, and 3) convenience. Furthermore, these values are similar to those that they have placed on conventional medicines. Additionally, it has been significant to uncover that the new finished form has gained greater acceptance due to the value placed on its ease of use and convenience which, when compared the traditional form, can reduce the participants' preparation time. Examples of the ideas expressed by participants having different demographics are shown below:

"*I have just seen (it) today and think that if it is packed in the box with the description of its properties, like conventional medicines, it would look desirable. Suppose that you have a stomachache and it takes a lot of time to find and make the herbs, this is very uncomfortable. Yet, if herbs are adjusted to be in the case or capsule, it will much more comfortable and convenient.*" (A 41-year-old Male non-user)

2.3 The belief of both forms of TTM offers slower recovery

The findings revealed that members of all groups, particularly the users' group with an age range of 51-59 years old in particular the "female participants" had a high perception and attitude according to TTM's efficacy based on direct or indirect experiences that *"both form TTM offers a slower recovery"*, but cures completely particularly the traditional forms, whereas conventional medicines offer a fast recovery time.

"Once I asked my mother about the results of TTM (traditional form), and she said despite (the fact that) it took long time to cure, it completely cured." (A 32- year-old Female non-user)

Yet, the participants still value the capacity of TTM when conventional medicines are their criteria for measurement. Therefore, they compared TTM's duration of treatment with that of conventional medicines and were able to explain their understanding of the capacities & efficacy of TTM and were able to elaborate their ideas. It was found that the participants (both users and non-users) in particular "female participants" were using the words, "faster", "quick", and "better", to emphasize their ideas regarding TTM's values with conventional medicine's value. Finally, they were able to form their personal understandings of TTM and place a value upon it in terms of the duration of treatment that demonstrates for them that TTM has lesser value than conventional medicine as noted below:

"For the believability, I think conventional medicine is better." (A 32-year-old Female user)

It can be concluded that participants had constructed their attitudes towards both form of TTM based on three major reasons: 1) a lack of trust about TTM products in terms of 'efficacy' in that both forms of TTM offer a slower recovery time; 2) the production process concerned with degree of 'cleanliness' (in particular traditional form), and 3) a lack of 'a sense of TTM belonging to them' because they were unaccustomed to TTM.

These three factors made some non-user group members dislike herbs and TTM, shun the knowledge of its benefits, and as a result had rejected TTM:

"I have never used herbal medicines. I, therefore, barely know how many advantages they have. Usually, I use the hospital's medicine. Maybe it is because I am not interested in herbal medicine, so I am not interested to find out about its information." (A 32-year-old Female non-user)

One of the users stated that, based on his experiences, people who do not use TTM may think that TTM cannot compete with conventional medicines:

"Another opinion is that Thai herbs do not cover every illness, so they cannot compete with modern drugs." (A 27-year-old Male user)

Thus, with respect to that attitude towards both forms of TTM, it can be concluded that from the majority of participants' vantage point, TTM is inferior to conventional medicine in many aspects, except side-effects.

3. Practice of TTM: TTM is a second choice and only for the treatment of minor illness.

This section presents the current practice of TTM based on the participant voices. The findings review that the behaviors of the participants on using TTM including the barriers on using it, depends on

the situations that affect their decisions. The results are presented as follows:

3.1 Traditional form of TTM depends on family members VS The finished form of TTM depends on the medical doctors

The findings uncovered that most of participants had explained their experiences about using TTM based on their direct or indirect experience of using *"TTM in the traditional form"*. Their experiences mostly focused upon the decoction/medicinal pot to treat their minor illness that their attachment to TTM based on their childhood usage when family members, such as grandfathers and grandmothers, had given it to them or when they had seen their family members (or others) use it when they were young as noted below:

"I have some for certain diseases. When I have illness, my mother and my grandmother will sharpen drugs and have me drink it, like a tradition that has been passed on by the generations" (A 23-year-old Male user)

The findings also unveiled that the participants had frequently mentioned that based on the treatments their family had done for them in the past, they currently often used the same traditional treatments in particular when having wound. Consequently, the participants who still continue using TTM in the traditional form, had the confidence to use them because they felt that they could trust the recommendations of family members or friends. Nevertheless, the reason most often mentioned for discontinuing use the "traditional form" was that the family member, who had helped them with TTM, had died. Another reason to stop using the traditional form came when some of the participants were being treated by medical doctors. They stopped using TTM because they were afraid that the medical doctors would blame them for using TTM (traditional form). Therefore, some of them had stopped using TTM while being treated with conventional medicines.

Regarding the "finished form", based on information previously mentioned that the percentage of participants who had used it themselves was 21.05 percentage (12/57 participants). However, it was significantly found that the percentage of participants, who had used this form of TTM, had had them prescribed by medical doctors was 75 percentage (9/12 participants). The findings uncovered that sometimes the medical doctors prescribed the finished form of TTM in conjunction with treatment with conventional medicine. It was significantly discovered that many participants, particularly those in the non-users' group, stated that they would use "TTM in finished form" if the doctors prescribed them because would feel safe using TTM under supervision of the medical doctors, the participants, who had chronic diseases, would especially be comforted by that fact because they depended on the decisions medical doctors and would not go against their decisions.

"I have never seen the finished form, but I know the kind of herb. So far, I have always used conventional medicines. If herbal medicine is recommended by the doctor, I think I would try (them)."
(A 45-year-old Female non-user)

In summation, the participants developed trust about using the "traditional form" based on the experiences of their family members and friends. Therefore, for their "family members and/or friends"

they act in the capacity of advisors by playing an important role and supporting the use of the traditional form. In contrast, the role of advisor for the "finished form of TTM" is played by "the medical doctors" because their patients place their trust in them and rely upon the authority of doctors. Yet, the medical doctors have exerted their influence to stop individuals from using "both TTM forms" and in particular, the traditional form. Based upon the circumstances, the consumers can shift between their roles as "users" and "advisors" when they feel that their TTM experiences have been positive enough to recommend TTM to others.

3.2 Both forms of TTM is a preventive and alternative medicines for minor illness and certain conditions

With respect to the "traditional form", the findings revealed that it was a "preventive medicine" for curing the participant's minor illnesses, such as fevers, chicken pox, wounds, and certain other conditions. For instance, there was significant evidence from female participants, who believe that it is good to use the traditional form after giving birth because it can help a woman's uterus to recover. While Two young male participants (one from the users' group and one from the non-users' group) with the same level of education (Vocational College) and the same occupation (General Contractor) strongly believed that traditional treatment and TTM were good after having an accident. Indeed one of them strongly belief that it was "a belief in Northeastern Thailand" (where the focus groups were conducted) as noted below:

"I used to try herbal medicine by drinking decoction to cure the bruised (area) as I was hit by a car." (A 22-year-old Male non-user)

Regarding "the finished form", it is found that the belief in the efficacy of TTM in finished form had been constructed based on the belief of the efficacy of "herbs and traditional form" that they have used in the past. Finally, a few female both users and non-users from groups with different age ranges significantly claimed that The Creat was good for curing sore throats and Turmeric was good for flatulence. Therefore, some, when they had symptoms, had continued using TTM.

3.3 The inconvenient nature of using Traditional form VS The finished form is in short supply

The inconvenience with the traditional form was a perception that it is "a complicated process which wastes time to produce", As a result, many participants stated that the traditional form of TTM was difficult to be use as noted below:

"For herbal medicines, it is difficult to take and to produce medicines because they need to be found and boiled before they can be used. Because of the many steps in the production, it makes me think that it is difficult to use." (A 40-year- old Male non-user)

Moreover, the participants from each of the groups highly agreed that the taste of the medicinal pot (traditional form) is harsh and bitter, plus it has a bad smell which makes it difficult for them to take. Therefore, some of them have refused to use it because it was inconvenient for them.

"It is bitter, harsh to the taste, and smells awful. Therefore, I would rather not take (it)even though I like herbs." (A 31-year-old Female non-user)

In contrast their positive views about the "finished form" that have the values similar to "modern medicines" had led many participants (both users and non-users) want to try it. The findings revealed that the main reasons for selection were its convenience over the previous form, participants did not have to make it themselves and that factor had reduced their barriers to use when as compared to the traditional form. This includes the participants have had trust in the quality of cleanliness and the belief that it has few to no side-effects for the new finished form. Therefore, the participants stated that they would like to use the "finished forms" as a replacement for modern medicine and/or being another option for their healthcare because they would like to avoid the side-effects from conventional medicines.

Despite the fact that "the finished form of TTM" could reduce the barriers of inconvenience that were involved with preparing and using the "traditional form", there was another problem. It was found that some participants had perceived a barrier to use by not knowing exactly where to find the finished form. For instance, a 42-year-old Female user said, *"I have never tried (finished form) because I think it is in short supply. I do not want to waste my time to find whereas conventional medicine is more convenient for me"* The results unveiled that members of the users' and non-users' groups had mostly thought that the "finished form" is in short supply and is only available from hospitals. While only six participants (10.52 percentage) had realized that the finished form of TTM were available in the marketplace. Consequently, from the participants' viewpoints, finding places to purchase the finished forms is another point of concern about using the finished form of TTM. Therefore, some of them would personally prefer to rely on conventional medicines as noted below:

"TTM cannot be found at every place, so we need to choose conventional medicine instead" (A 27-year-old Male user)

3.4 Traditional form could save the money VS The burden cost for the finished form of TTM

It is significant to note that all participants from both groups acknowledged that the "traditional form" could save them money because they could make it themselves by using vegetables/herbs that had already been planted at their homes. In contrast, for the "finished forms", the findings reviewed that some of them perceived the cost barrier on using it because they thought that some of finished from were more expensive than conventional medicines. For instance, a Male non-user who emphasized his idea by comparing the price of one kind of TTM with the price of Paracetamol as noted below:

"It has been said that some herbal medicines are more expensive than conventional medicines. As we have bought (them) at the drugstore, you will see that both drugs have the same efficacy, but the price tag of herbal medicines is higher. For example, Paracetamol is just ten baht whereas herbal medicine is more than twenty baht." (A 52-year-old Male non-user)

Besides, some participants believed that medical doctors would not prescribe the finished form of TTM for them. Therefore, they believed that they, themselves, had to buy it. As a result, the participants stated that even though they would like to try them, they did not want to buy the finished forms for two reasons: 1) the plants were growing at their homes, and 2) nearly all of them were using their social security card to cover their healthcare cost and did not want to pay extra for TTM. For instance, a 35-year-old

Female housewife from the users' group strongly stated, *"For me, I definitely will not buy those drugs (The Creat) because I already have The Creat trees at home"* While, a 54-year-old Female housewife non-user said, *"For me, whatever you say. Herbal medicine is alright. If the doctor prescribes for me, I will take. But if I have to pay for myself, I will not buy it."* Therefore, in order to reduce the cost of their health expenses the participants have rejected to use the finished form of TTM products accordingly.

In summation, TTM was considered to be their second choice and/or last choice for their healthcare treatment. This was because they had perceived barriers and limitations in regard to using TTM. However, it was found that when they had become dissatisfied with conventional medical treatments, they may turn to use TTM:

"I may try (TTM) if my illness cannot be cured by conventional medicines." (A 42-year-old Female user)

DISCUSSION AND IMPLICATION

This section presents the three conflicts with respect to the KAP of the consumer participants towards TTM are: *1). Insufficient knowledge and bias to use the traditional form; 2) A lack awareness of the finished form of TTM and its availability;* and *3) Conflict in knowledge, attitude and practice towards both forms of TTM in order to negotiate healthcare choices.*

1. Insufficient knowledge and bias to use the traditional form

Despite this fact, TTM was neglected for over 60 years, and thus modern medicines have come to replace TTM as the mainstream agent for Thailand's public healthcare (Chokevivat and Chuthaputti, 2005). However, by analyzing of the findings from the focus groups conducted in Udonthani in Northeastern Thailand, it was found that from an historical perspective, the *"traditional form of TTM"* has never been lost among Thai communities in this region of Thailand. Also TTM still has long remained a part of Thailand's healing culture (Mahidol University, 2012). It was for the poor, living in rural areas where modern medicines were not easily accessible (Chokevivat and Chuthaputti, 2005). Those, who had less access to medical care, had commonly been using TTM (Sumngern, 2011) because this part of Thailand has the highest availability of TTM services (Jehso, 2015) where TTM have served as *"household treatments"* that can be used as *"preventive and alternative medicines"* which represent the *"Thai way of life",* and which have been used for hundreds of years until the present day (Mahidol University, 2012).

Moreover, it is found that when they explained their understandings and experiences with using TTM, they meant that TTM was imbued with local wisdom, traditional beliefs, and culture. Furthermore, this was combined with individual beliefs regarding the value of TTM practices from each individual's vantage point. Aphisamacharayothin also mentioned, *"TTM involves the opinion, belief, and values to practice"* (Aphisamacharayothin, 2014, p.70). Therefore, it is considered appropriate that Thai people use holistic TTM treatments due to the *"cultural and historical"* influences of use (World Health Organization, 2013, p.27).

However, in order to treat some minor illnesses in their daily lives, they were using simple processes, such as consuming them fresh or by boiling them before consumption. They did not use traditional medicinal pots/decoctions unless their family members or folk doctors had made it for them, due to the discontinuance of TTM knowledge and its disappearance from Thailand (Chokevivat & Chuthaputti, 2005; Thongruang, 2014). Therefore, they did not know how to produce the traditional medicinal pots/decoction themselves.

Some non-users admitted that they had not used the traditional form because they felt that they did not have adequate knowledge. They were unfamiliar with how to choose and prepare the herbs, as well as how to ensure which of the herbs could be used to cure which illnesses. Thus, they had decided not to use TTM in its traditional form because, for them, its usage was too complex and complicated.

Chaichompoo, et al. (2012) noted that the attitude towards using TTM for treating illnesses in daily life had shown a significantly positive correlation with their behaviors when using TTM. Similarly, Omar and Putit (2012) noted that if the consumers' attitudes towards traditional remedies are more favourable, then people are more likely to purchase them. O'Connor and White (2009) also noted that people are more likely to use TM when they believe that there will be some benefits for their health.

Unfortunately, an analysis of the findings revealed the attitude of the consumer participants towards the *traditional form of TTM*. From the participants' vantage points, this form, with its complex methods of use, such as the decoctions and medicinal pots, is considered to be the ideal expression of the '*roots of Thai-ness and Thai wisdom treatments*'. Moreover, in the past it had been highly valued, but at present has been devalued. It was found that the consumer participants specifically used words, such as 'better', 'quicker', and 'faster' to emphasize their ideas when comparing the value conventional medicines to TTM's values (the traditional form).

The findings indicated that participants had changed the value of the traditional form of TTM in many areas. They had constructed their own values regarding the traditional form by using modern medicines as the standard for their evaluation. The following were compared and contrasted: 1) the medical benefits of TTM, in particular, the duration of the recovery period; 2) side-effects, and 3) the quality of the products and their safety. The positive aspects of the traditional form, side-effects, had mostly given a higher weight to TTM than to conventional medicines. However, the value of the traditional form of TTM is significantly less than that of conventional medicines. The end-users perceived three major barriers, related to the traditional forms of TTM as: 1) slower recovery period, including the taste and smell of the traditional form; 2) inconvenience of using, and 3) the production process concerned with cleanliness. It was significantly shown that these three factors have caused a decline in TTM usage.

The data analysis found a conflict in regard to knowledge, attitudes and perceptions when it came to refusing the traditional form of TTM. It was found to be related to the age of the user, and connected to a perception that the traditional form is only for the elderly, and not for younger people. Thus, by using age as a basis for making decisions about whether or not to use TTM, some consumer participants had not even considered consuming the traditional form of TTM because they had created a thought construct

based their own belief: it does not belong to them. Therefore, the findings from the focus group of consumer participants indicated that age is one of the factors that influences attitudes toward using the traditional form of TTM. Moreover, some consumer participants thought that TTM is for the people who have had serious illnesses. Consequently, they had also constructed their belief that TTM does not belong to them.

According to the K-A-P sequence, which often happens (Haloi, Ingle & Kaur 2014, p. 100), specific to the traditional form of TTM, it was found that the consumers' decision-making processes had followed the sequence. It was evident that they had consumed the traditional form of TTM via a simple process, such as boiling the herbs. Moreover, it is found that currently, the consumers' attitude towards the traditional form of TTM as 'it is obsolete, devalued, no longer proper to use and for the elderly and/or the people who have serious illnesses, not belonging to them'. As a KAP consequence, they rejected it. Thus, it can be concluded that the traditional form of TTM has a KAP conflict in the perception of the users.

2. A lack awareness of the finished form of TTM and its availability

Presently, in order to improve the use of TTM, the MoPH has created a slogan that invites Thais to use herbal medicines for minor illnesses before going to see a doctor (Sompopcharoen and Sresumatchai, 2015). In order to encourage TTM use for prevention of illness within the primary healthcare system (Sumngern, 2011), *"the finished form"* is being widely promoted by the MoPH, especially self-care at the family level (Thongruang, 2014). However, 61.40 percentage of the consumer participants are unaware of the existence of TTM's new finished form in both the public hospitals and the marketplace. The percentage of participants who had used the finished form was 21.05 percentage, but even if some had seen or used them before the interviews, no one mentioned the finished form of TTM when explaining their understanding of TTM treatment.

The studies of Chokevivat and Chuthaputti (2005) and Thongruang (2014) noted that the knowledge of TTM has been lost from Thailand for a period of 60 years and that was the factor that caused the decline in TTM usage. The researcher further noted that the knowledge of TTM has also been extracted, causing the consumer participants' unawareness of the new finished form of TTM, due to the fact that their perceptions of TTM had been solely based on the old traditional form which primarily had to be boiled before use. For instance, a 47-year-old Female non-user stated, *"It seems like people have been implanted (with the idea) that herbs must be boiled and several steps done."* In another statement from a 28-year-old Male user, who had once seen a sample of TTM "finished form", said, *"Although the herbal medicine is in capsules, it is not different from conventional medicine because it does not look old & classical and does not imply "herbs".* Therefore, the consumer participants might not have thought that it was truly TTM.

The results also unveiled that members of the users and non-users groups had mostly thought that the finished form is in short supply and only available from hospitals. Only 10.52 percentage realized that the finished form of TTM was available in the marketplace. Finally, it is found that the participants lacked proper knowledge of the properties and dosages that needed to be used in order to treat their

illnesses. Thus, based on an investigation of the findings, it can be concluded that currently the consumer participants lacked awareness and knowledge of the finished form of TTM.

'It is easy and convenient to use the finished form. (It is) similar to modern medicines.' Yet, a form of TTM use (tables, capsules etc) revealed itself and represents a shift in the perception of TTM (from the negative viewpoints about the traditional form) to more positive expressions. This shift has led to a better acceptance of TTM's new form because the major groups have placed the following values on the finished form of TTM: 1) cleanliness, 2) ease of use, and 3) convenience. It is important to note that these values are similar to those placed on conventional medicines.

As previous mentioned, the majority of the consumer participant had been unaware on the finished form of TTM, which means these attitudes mention above had been established before they had gained knowledge and used the finished form of TTM. The researcher was able to uncover the fact that both positive and negative attitude towards the finished form of TTM had been constructed by the consumer participants' knowledge and attitude towards "*the traditional form and conventional medicine*"

It is significant to claim that the finished form of TTM has gained greater acceptance because it showed superiority over the traditional form in particular in terms of the form of use*,* which meant that it was ready to use, which is similar to that of modern medicines, and when compared to the traditional form, the preparation time could be reduced. Consistent with Luo, Grundling, and Steynberg (2013), their findings reported that having access to usable resources was one of five factors that had influenced their participants' behaviours in using traditional remedies. Likewise, the new modern form of TTM retains a high level of credibility with respect to having few to no side-effects which, according to the participants' understanding, is similar to the traditional form. This is based upon the belief that the finished form of TTM has fewer to no side-effects as related to their existing values, and past experiences of the traditional form (Rogers, 2003, p. 15).

Despite the incorrect nature of this belief, it has led to the majority of the group members wanting to use the new form of TTM in order to replace modern medicines. Kongrerk (2013) highlighted the fact that consumer concerns about the undesirable side-effects of modern medicines has led to a preference for natural therapies. The belief that herbal drugs are free from side-effects is one of the significant factors that is contributing to the impressive rate of market growth for herbal medicines worldwide.

Based on the consumer participants' knowledge, understanding and beliefs in relation to the finished form of TTM, it was found that its sequence had been neither K-A-P nor P-A-K. In contrast, the decision-making process regarding TTM's finished form was found to have been constructed from positive attitudes, in particular when they perceived the relative advantage of the finished form over the traditional form. Consequently, they had considered using the finished form to treat some of their minor illnesses instead of conventional medicine. It can, therefore, be noted that the sequence for the finished form of TTM is A-P-K. In contrast, the traditional form of TTM was found to follow the K-A-P sequence.

However, when they have compared all three choices of healthcare treatment (traditional form of TTM, finished form of TTM, and conventional medicine), it is found that the finished form of TTM was

slightly different than conventional medicine in term of cleanliness, ease of use, and convenience but they show relative advantage over the traditional form significantly. Nonetheless, the poor knowledge and negative attitude of the finished form of TTM in term of quality, efficacy, and accessibility when comparing to conventional medicine has been affected their attitude towards the finished form significantly. Consequently, the finished form of TTM cannot show their relative advantage over the conventional medicine and thus, the finished form of TTM remain their place and a second choice after conventional medicines. Once again, the user participants claimed that the finished form of TTM is unable to compete with modern medicines. Thus, the researcher claims that the finished form of TTM has also had conflict in the perception of the users.

3. Conflict in knowledge, attitude and practice towards both forms of TTM in order to negotiate healthcare choices

The findings significantly indicated that user participants suffered from an incorrect perception: TTM has no side-effects. Some even thought that 'allergic to TTM' meant that detoxification was taking place. This evidence showed that currently the consumer participants have poor knowledge of TTM. Therefore, they used both forms of TTM without being concerned about the side-effects. Based on a review of literature, many studies in Thailand had revealed that Thai citizens think that TTM is a natural product with fewer side effects (Bhokanandh, 2001; Chungsomjatepaisarn, 2013; Putiyanan & Winijkul, 2008; Ruenkon, Likitkeitkhajorn, & Siththeimthong, 2003; Sompopcharoen & Sresumatchai, 2015). WHO also reported that many consumers have turned to TM products and practices on this assumption (World Health Organization, 2013), because TM is widely perceived as natural and safe, meaning non-toxic. This is also not necessarily correct (Wachtel-Galor & Benzie, 2011; World Health Organization, 2013); some TM are known to be harmful and fake forms ("Traditional medicine," 2011) and are believed to contain high levels of toxins or chemicals (Danubrata & Daga, 2013). Consequently, it can be strongly concluded that Thai citizens currently have had a poor knowledge of TTM and they are suffering from an incorrect perception about the medical benefits of TTM, and that TTM has no side-effects.

In fact, the WHO reported that one of the major challenges of the Member States is coping with a lack of knowledge about Traditional Medicines and Treatment (World Health Organization, 2005). Thailand, it can be significantly claimed that TTM's discontinuance and disappearance in the past, when TTM was withdrawn from official public health care system in Thailand (Chokevivat and Chuthaputti, 2005), and thus the abandonment of the systematic teaching of TTM sparked the decline in TTM acceptance, especially among well educated people in the urban areas for over 60 years and almost made TTM extinct (Chokevivat and Chuthaputti, 2005; Kongrerk, 2013). This phenomena continues to contribute to a lack of clarity about TTM knowledge today. Nonetheless, this factor of lacking knowledge and awareness of TTM reduces the roles and meanings of Thai traditional treatments, as well as TTM products in order to negotiate healthcare choice.

Anecdotal evidence shows that some patients use all forms of medical help simultaneously (Lawrence, 2013). Riley and Sermsri (1974) identified Thai behaviour in seeking healthcare as a 'switching

healthcare pattern'. An analysis of the findings, including an observation during the discussions with the consumer participants, revealed that the knowledge and perception of each individual consumer participant led to utilizing the traditional form as a second choice, when they were dissatisfied with conventional medicines and/or as a secret choice when they chose to take traditional form without telling their conventional doctors, such as using it to treat cancer. Lastly, traditional form of TTM was an alternative choice to maintain their health and wellbeing.

In some cases, the finished form of TTM could be the consumer participants' first choice for treating illnesses, but only in case of minor illnesses, such as fevers and sore throats. Yet, when compared to modern medicines, most participants retained their perceptions that the quality of the finished forms is that they have a slower recovery time as compared to conventional medicines. Similarly, Thongruang (2008) noted that the Thai users were uncertain about TTM's effectiveness and quality.

The changing values for both forms of TTM and its life styles of treatment have taken place because Thai life styles have been modified to become integrated into modern society through the following: 1) modernization, 2) social changes, 3) political problems, and 4) economic problems which have all contributed to modifying the Thai lifestyle (Chinnawong, 2007) including the culture of healthcare treatments. In fact, "the traditional form of TTM" have largely and gradually lost their authoritative status in the urban Thai context, but their status still remains intact in the rural and remote areas (Liamputtong and Kitisriworapan, 2014).

Despite "the finished form of TTM", has revealed itself and represents a shift in the perception of TTM from the negative viewpoints about the traditional form to more positive expressions. However, there is a cost barrier in order to use the finished form of TTM treatments, despite many studies have found that TTM is cost-effective (Aphisamacharayothin, 2014; Chinnawong, 2007; Chungsomjatepaisarn, 2013; Sumngern, 2011). For instance, Chungsomjatepaisarn (2013) noted that the prices of the "finished herbal medicines" used in the project and the prices for conventional medicines used to treat the same symptoms had revealed that the cost for conventional medicines was about four times higher than the cost of herbal medicines. In contrast, Thongruang (2014) noted that in some cases the cost per unit for some finished forms of TTM are more expensive than modern medicines in providing service delivery for the same treatment. Satyapan, et al (2010) also noted one of the constraints towards herbal use among a population in Bangkok was a high cost for TTM. Lastly, Kongrerk (2013) noted that the weakness of the finished form of TTM could be explained by its high cost of production.

Based on the findings, the participants noted that as compared to modern medicines, some "finished forms" have higher prices for individuals and for hospitals at about 2-4 times as much. Nonetheless, the focus groups for this study were conducted in Northeastern Thailand, where the highest incidence of poverty and the largest population of poor people in the nation exist (McGregor, 2008). With respect to a more complicated economy (Aphisamacharayothin, 2014), an analysis of the consumer participant's findings revealed that some of them had perceived cost barriers to using "the finished form of TTM" because the costs were high for them to pay by themselves. Therefore, they have considered not

buying the new finished form, but instead have chosen to use raw herbs to consume or to boil because many of the herbs found in the "finished forms" of TTM have been planted at homes, and this could help them save on some individual healthcare expenses. Thus, "the finished form of TTM" cannot compete with conventional medicines in terms of treatment costs. Therefore, this factor is one of the obstacles to integrating TTM into the public hospitals and the marketplace. The integration of TTM in the healthcare system has not been successful as expected (Vadhnapijyakul and Suttipanta, 2014). TTM still has not been fully integrated into healthcare system in Thailand (Aphisamacharayothin, 2014).

Another barrier is distribution channel to buy the finish formed of TTM, for instance, one of the user participants noted that, *"Conventional medicine is available at the pharmacies whereas TTM is not"* This related to Chungsomjatepaisarn studied, the development model for the promotion of TTM, used in the family healthcare in Thailand with 1,366 families in 4 different regions of Thailand (except Bangkok). From the results, he claimed that 49.50 percentage of the participants complained about places to buy TTM products because there were few locations to buy the TTM's finished form. (Chungsomjatepaisarn, 2013). Consequently, the distribution channel of the finished form of TTM in the marketplace is one of the barriers to TTM usage for consumers. Consistency with Kongrerk (2013) who noted that the distribution channels were the weakness point and remain an area of concern for TTM producers, because distribution channels and consumer motivation to use TTM are related (Rattanapikul and Fusiri, 2012). Therefore, all of these aforementioned factors have affected TTM usage, in particular a lack of knowledge and misunderstandings about TTM have made the users unaware of how fine the quality of TTM actually is (Sukhabot, 2013). Furthermore, it is found that the Thai users often compared TTM with modern medicines or with TM crafted overseas in countries, such as India and China (The Senate Kingdom of Thailand, 2011).

People's insufficient knowledge of health problems and/or TTM treatment benefits can put up barriers that impede behavioural changes (Haloi, Ingle & Kaur, 2014, p.100). Consequently, both forms of TTM does not suit their medical needs in the modern Thai lifestyle and, thus, TTM can only be their second choice and/or alternative choice, which reflects the negotiation of health choices that have caused Thai behavioural changes and a downturn in TTM usage. Therefore, TTM usage has not yet reached the minimum national target.

RECOMMENDATION

Several research studies has shown its readiness to accept TTM and to acknowledge the effectiveness and preventive qualities of medicinal herbs (Kongrerk, 2013). Based on the investigative findings from this study, the transcendent theme, emerging from the participants' narratives, has revealed that there is a significant factor that can spark consumers to use or reject TTM. This "spark" begins with TTM knowledge and wisdom that impacts the consumer and establishes trust and beliefs, as well as develops attitudes towards TTM by "re-constructing meaning and managing strategic communication" in order to play a role as an unseen power to increase the use of TTM.

In order to encourage TTM uptake for consumers this study proposes the strategic communication for the promotion of the finished form of TTM in Thailand by the Thai government by "Raising awareness of TTM by using Integrated Marketing Communications (IMC)", The findings were suggested that the MoPH should promote significant TTM, such as Turmeric and The Creat, to create an awareness of TTM's finished form given that both of these are well-known to Thai users and Thai Medical Doctors. The strategies and tactics consist of the following: 1. Knowledge Stage: Increasing awareness and knowledge of TTM 1.1) Increasing Awareness by Creating Campaigns for Planting Herbs; 1.2) Providing training by using two steps flow communication, 2. Attitude Stage: Increasing linking and preference of TTM 2.1) Gaining experience about TTM usage to create word-of-mouth communication; 2.2) Increasing the attitude of TTM products by developing product quality, packaging & design, 3. Practice stage: Convincing the medical doctors in order to adopt TTM. All of these may lead people create "layers" of the holistic method of TTM to dissolve any misunderstandings or misconceptions about TTM which leads to the final goal of practicing with them.

LIMITATION

With respect to focus group interviews the following weaknesses have been noted: 1) The focus groups were exclusively conducted in Udonthani Province, which means that the data was solely collected from only one of Thailand's 77 provinces, and 2) there were only a small number of participants (57) who were interviewed in the focus groups. Therefore, the sub-cultures of the people throughout Thailand's different regions may not be reflective of the perceptions of the participants sampled in this study.

REFERENCES

Aphisamacharayothin, P. (2014). Discursive Practice of Thai Traditional Medicine in Hospital: Case Study of a District Hospital in Nakhon Pathom Province. *International Journal of Behavioral Science, 9*(1).

Bharucha, D. X., Morling, B. A. & Niesenbaum, R. A. (2003). Use and definition of herbal medicines differ by ethnicity *Ann Pharmacother, 37*(10).

Bhokanandh, V. (2001). *Marketing communication of Abhaibhubejhr herbal medicine and the behavior of consumers' decision making.* (Master thesis Dhurakij Pundit University Thailand).

Chaichompoo, S., Shuaytong, P., Waseeweerasi, W. & Sonkosum, S. (2012). Factors related with people's behavior towards using medical herbs for illness treatments among people in region 11, Ministry of Public Health. *Kuakarun Journal of Nursing, 19*(2).

Chinnawong, T. (2007). *The influences of Thai Buddhist culture on cultivating compassionate relationships with equanimity between nurses, patients and relatives : a grounded theory approach.* (Doctoral thesis Southern Cross University Australia).

Chokevivat, V. & Chuthaputti, A. (2005). *The role of Thai traditional medicine in health promotion.* (Paper presented at 6th Global Conference on Health Promotion). Bangkok, Thailand.

Chungsomjatepaisarn, P. (2013). The development model for the promotion of Thai traditional medicine used in the family healthcare in Thailand. *Medical service journal, 32*(1).

Corcoran, N. (2007). Theories and models in communicating health messages. In *Communicating health strategies for health promotion* (1st ed). United States: SAGE Publications Limited.

Danubrata, E. & Daga, A. (2013). *From street stalls to bourses, South East Asia's traditional medicine makers promise panacea.* Retrieved from http://www.reuters.com/article/us-asia-health-herbalmedicines-idUSBRE9BJ0BK20131220

Davies, R. (n.d.). *Focus groups in Asia.* Retrieved from http://www.orientpacific.com/focusgroups.htm

Ganghair, G. (2014). *46% of Thai people did not know traditional Thai medicine*. Retrieved from http://www.thaihealth.or.th/Content/23956-คนไทย%252046%2520ไม่รู้จักสมุนไพรไทย.html

Gumucio, S. (2011). Data collection: quantitative methods the kap survey model (knowledge, attitude & practices). Franch: iGc communigraphie, 3-73.

Haloi, R., Ingle, N. & Kaur, N. (2014). KAP surveys and oral health: a detailed review. *Journal of Contemporary Dentistry, 4*(2), 99-105.

Hutchison, J. A., Jonston, H. L. & Breckon, D. J. (2010). Using QSRNVivo to facilitate the development of a grounded theory project: an account of a worked example. *International Journal of Social Research Methodology, 13*(4), 283-302.

Jehso, K. (2015). *Raising consciousness: The process of integrating Thai traditional medicine into current health care systems from physicians' experiences.* (Doctoral thesis Prince of Songkla University Thailand).

Jugder, N. (2016). *The thematic analysis of interview data: an approach used to examine the influence of the market on curricular provision in Mongolian higher education institutions*. University of Leeds: Hillary Place Papers*, 3*.

Kudngaongarm, P. (2011). Thai traditional medicine protection (Part I). *Thailand journal of law and policy, 14*(2), 1.

Launiala, A. (2009). How much can a KAP survey tell us about people's knowledge, attitudes and practices? some observations from medical anthropology research on malaria in pregnancy in Malawi. *Anthropology matters journal, 11*(1).

Lawrence, G. (2013). Traditional medicine and healing practices of Northern Thailand. In *Thai Massage & Thai Healing Arts: Practice, Culture and Spirituality*. Thailand, 1-3.

Liamputtong, P. & Kitisriworapan S. (2014). Authoritative knowledge, folk knowledge, and antenatal care in contemporary Northern Thailand. In P. Liamputtong (Ed.), *Contemporary Socio-Culture and Political Perspectives in Thailand*. Australia: Springer Dordrecht Heidelberg New York London.

Luo, Z., Grundling, J. & Steynberg, L. (2013). Attitudes, subjective norms and behavioural control towards traditional Chinese medicine in South Africa. *Paper presented at the Proceedings of 8th Annual London Business Research Conference Imperial College, London, UK, 8 - 9 July, 2013*, England: Imperial College.

Mahidol University, T. (2012). Time for the First Thai Traditional Medicine Hospitals. *Thai health : Outstanding health situation, 10*.

McGregor, J. (2008). Wellbeing, Development and Social Change in Thailand. *Thammasat Economic Journal, 26*(2).

Muangsai, C., Nunthiprapa, W., Napaporn, J. & Vadhnapijiyakul, A. (2014). A survey of marketing data and developing marketing plan of herbal medicines for U_Medical. *Isan journal of phamaceutical sciences 9*(Supplyment).

O'Connor, L. E. & White, M. K. (2009). Intentions and willingness to use complementary and alternative medicines : What potential patients believe about CAMs. *Complementary Therapies in Clinical Practice (CTCP), 15*(3), 136-140.

Omar, H. & Putit , L. (2012). Consumer behavioral intention to use omplementary alternative medicine. *International Proceedings of Economics Development & Research, 46*(22), 116-120.

Payyappallimana, U. (2010). Role of traditional medicine in primary health care: An overview of perspectives and challenges. *Yokohama journal of social sciences, 14*(6).

Peltzer, K. & Pengpid, S. (2015). Utilization and Practice of Traditional/Complementary/ Alternative Medicine (T/CAM) in Southeast Asian Nations (ASEAN) Member States. *Ethno Med, 9*(2), 209-218.

Putiyanan, S. & Winijkul, D. (2008). Screening for undeclared synthetic drugs in Thai traditional medicines for life style. *KMITL science journal, 8*(2), 66.

Rattanapikul, P. & Fusiri, P. (2012). Motivation in choosing traditional medicines of consumers in Bangkok. *Thai.ejournal, 2*(2).

Riley, J. N. & S, Sermsri. (1974). *The variegated Thai medical system as a context for birth control services*. Thailand. Bankkok: Institute for Population and Social Research, Mahidol University.

Ruenkon, N., Likitkeitkhajorn, P., & Siththeimthong, S. (2003). *The study on herbs use in Ma- Kham-Sung subdistrict of Mueang district, Phitsanulok province*. Thailand: Mistry of Public Health. T. Public Health Service.

Satyapan, N., Patarakitvanit, S., Temboonkiet, S., Vudhironarit, T., & Tankanitlert, J. . (2010). Herbal medicine: affecting factors and prevalence of user among Thai population in Bangkok. *Journal of the Medical Association of Thailand, 93*(Suppl 6).

Sompopcharoen, M., & Sresumatchai, V. (2015). *Systematic review: Marketing communication of Thai herbal products to enhance potential in becoming global products*. (Paper presented at The 1st International Conference on Innovative Communication and Sustainable Development in ASEAN) Bangkok, Thailand.

Stewart, W. D., Shamdasani, N. P. & Rook, W. D. (2007). Conducting the focus group. In *Focus groups*. United Kingdom: SAGE Research Methods. Retrieved from http://www.uk.sagepub.com/gray3e/study/chapter18/Book chapters/Conducting_the__Group.pdf

Sukhabot, S. (2013). Market segmentation of Thai herbal products : The southern Thailand market. *SIU journal of management, 3*(1).

Sumngern, C. (2011). *Study of factors influencing the Thai elderly on herbal medicine consumption.* (Doctoral thesis Universidade do Porto Portugal).

The Senate Kingdom of Thailand, T. (2011). Annual report of the problem of Thai herbs. Thailand: The Senate Kingdom of Thailand.

Thongruang, C. (2014). *The barriers to the adoption of Thai traditional medicine services in Thai community hospitals: A case study of community hospitals in Phitsanulok province.* (Doctoral thesis University of Wollongong Australia).

Vadhnapijyakul, A., & Suttipanta, N. (2014). The promotion of Thai traditional medicine policy in government hospital : Myth or reality. *Isan journal of pharmaceutical sciences, 9 (Supplement).*

Verle, L. (2008). *Interaction between artists in collaborative art and new media.* (Doctoral thesis Goethe University Frankfurt am Main Germany).

Wachtel, G. S., & Benzie, F. I. (2011). Herbal medicine. In *Herbal medicine: Biomolecular and clinical aspects* (2 ed.). United States: National Center for Biotechnology Information, U.S. National Library of Medicine.

Wongyai, S. (2004). *Traditional Thai medicnie to the fore.* Retrieved from http://www.thaihealingalliance.com/membersonly/Helpful_Information/Rangsit University Medicine Program.pdf

World Health Organization (WHO). (2005). National policy on traditional medicine and regulation of herbal medicines: Report of a WHO global survey. Geneva, Switzerland: n.p.

World Health Organization (WHO). (2009). Traditional medicine in Kingdom of Thailand: The integration of Thai traditional medicine in the national health care system of Thailand (pp. 97-120). Thailand: World Health Organization Regional Office for South-East Asia.

World Health Organization (WHO). (2013). WHO traditional medicine strategy 2014-2023. Hong Kong, China: n.d.

ESTIMATING HUMAN RESOURCE ABUNDANCE IN THAILAND FOR CONSERVATION

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ABSTRACT

The purpose of this study is to estimate human resource abundance, an abundance of visible and potential human resource with eligibility. Our target country is Thailand, one of the most promising destination of foreign expansion. Prior researches regarding human resource management (HRM) in the country focused on: educational attainment of labor force and human resource practices of expanding companies. The researches mainly put emphasis on the quality of labor force / employees, without considering its quantity. Currently, because of demographic situation and transformation to understand status of labor force, we should consider not only the quantity of the human resource abundance but also the quality. Using the state space methods, we estimated the human resource abundance with a simple model. As a result, we found two facts as follows: First, except for teens, the human resource abundance is almost similar by age. Seasonal fluctuation also exists, although its volume is lower than the human resource abundance. Second, overuse of human resource abundance appears in teens and 30-40s', main target of company's recruitment. It comes from other reasons such as low wage and long working hours. In other generations, overuse is not observed.

Keywords: Human resource abundance, Labor force, Thailand, State space model

INTRODUCTION

Purpose

The purpose of this study is to estimate human resource abundance (HRA).

Human resource (HR) is often regarded as one of the most vital management resources for an enterprise. It is also supposed to be a source of sustainable competitive advantage (Rynes, Colbert, & Brown, 2002; Wright, McMahan, & McWilliams, 1994). Many researchers consider the resource to be equivalent to mass of employees. The mass inside of a company is also called "human resource pool". It, however, is confusing that some researchers call HR, "worker" and others call it "labor". Then, what is the difference between labor force, employee, worker, and human resource?

Labor force is a mass of labour including current labour force and potential labour force such as unemployed persons, not in labor and others. The criterion includes not only persons with labor contract but also persons without contract. Employees are persons with labor contracts with companies. It includes merely employed persons and with labor contracts does not include any potential workers without labor contracts. It, however is not clear whether the persons can do their jobs sufficiently. They need to be

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refined or trained by the company. Worker is an employee who has gone through qualification process of human resource management practices such as training, retention, and compensation. As HRM process goes by, names of labor force appear change. Then, which groups do human resource include? To understand the range of HR, ILO's recommendation will help.

Currently, potentially eligible labor force is considered as another source of labor force. According to the International Labour Organization (ILO), such labor force is referred to "underutilized labor". ILO come to expand the range of labor force: Labor force includes not only current employees but also potentially eligible workers such as a part of unemployed persons and persons not in labour force. To understand current situation and number of underutilized labor, ILO recommends following new criteria regarding labor status; unavailable job seekers, available job seekers, and persons in time-related underemployment. Some countries such as Japan has decided to apply the new criteria as a part of *labor force survey* and started the renewed survey since CY2018. In detail of the labor underutilization, refer to ILO website (http: / / www. ilo. org/ global/ statistics-and-databases/ statistics-overview-and topics/ WCMS_470306/ lang--en/ index. htm). The ILO's transition implies that focusing merely on employees is not sufficient, since the traditional perception on HR misses the potentially eligible labor distributing outside of company. The fact that a company appoints employees as well as hires labors to fulfil its labor demand also supports ILO's perspective. We should refine the concept of human resource while including the potentially eligible labors. Namely, human resource is similar to the underutilized labor, conceptualized by ILO. For clear understanding, even in an academic sense, we need not distinguish the concepts from each other.
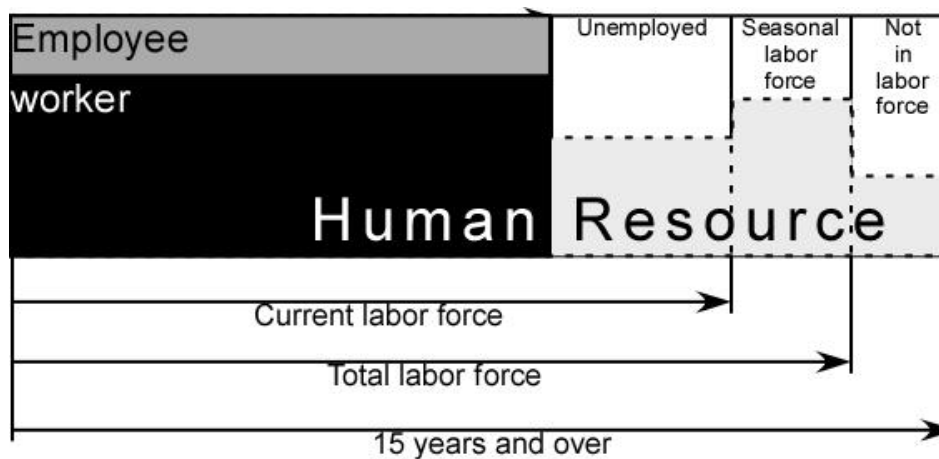

Figure 1 Concept of human resource and classification of labor force

One challenge is that we should estimate the abundance of HR (HRA) without the brand-new criteria and survey. Before 2018, we cannot understand the HRA correctly in Japan. In Thailand, they do not apply the new criteria, due to lack of data, so we cannot understand the HRA correctly still now. We should estimate the HRA with existing data in every country and region. How can we estimate the HRA?

PRIOR RESEARCH

Many researchers have conducted surveys and published publications all about HRM in Thailand, our target country. We can summarize the researches from two perspectives; education attainment and transferability.

The first perspective, education attainment, a parameter of quality of human resource, have played a main role in Thai HRM research. In the 1970s' to accomplish democratic industrialization, it was crucial value (Isarangkun Na Ayuthaya & Taira, 1977). The research also clarified that there has been a wage gap by education. This fact has fostered economists to implement detailed studies on relationship between wage and education. Since then, many have tried to discuss the extent of education suitable for an industrialized society and clarify factors and trend in educational attainment and relevant the issues. (Hawley, 2003, 2004; Mehta, Felipe, Quising, & Camingue, 2011; Paweenawat & Vechbanyongratana, 2015; Warunsiri & McNown, 2010). They reached positive conclusion regarding effect of education on wage level. As a progress of research in Economics of Education, recently some economist tried to calculate value of education (Asian Development Bank, 2015). They commonly prove that the attainment affects wage level. Still now, the attainment is one of the serious issues of Thai society. Not only World Bank but also Asian Development Bank reports on current situation regarding the attainment and proposed common suggestions; business-friendly higher education, enhancement of vocational education in secondary, and intensive math education. For more than 40 years, Thailand has realized economic prosperity and became an upper-middle income country. In terms of economic prosperity, the desired objective has been accomplished. Such suggestions have repeated frequently and confirmed effectiveness of education.

Along with the controversy on education attainment, some researchers have discussed the second topic; transferability of human resource practices from overseas. They set human resource management practices as a surrogate endpoint to measure whether the foreign practices can be transferred to a workplace in Thailand successfully. Today Thailand is one the most promising destination for manufacturers and it has a long history accepting the expansion. For example, according to "*Survey Report on Overseas Business Operations by Japanese Manufacturing Companies*" by Japan Bank for International Cooperation (JBIC), from the beginning of the survey in 1988, Thailand has been one of the most favorable destination of expansion for Japanese manufacturers (https://www.jbic.go.jp/en/information/research.html). Some Japanese manufacturers have expanded approximately in the 1950s' to Thailand and still in operation. Despite such a long history, research has started since in the 1980s'. At that time, localization has been a topic. In terms of extent of localization, the number / proportion of Thai managers and directors, extent of transfer Japanese-style management practice is discussed (Kamoche, 2000; Laohavichien, Fredendall, & Stephen Cantrell, 2011; Nitungkorn, 1985; Onishi, 2006; Petison & Johri, 2008; Sunthonkanokpong, Jitgarun, & Chaokumnerd, 2011; Uratsuji; & Arttachariya, 2009; Wad, 2009; Warner & Rowley, 2006; Yamauchi, Poapongsakorn, & Srianant, 2009). It is quite curious that the researches based on expanding companies have not discussed on the number /

proportion of employees even though they focused on the number / proportion of manager. These researches obviously reflect vigorous expansion of Japanese manufacturers after the Plaza accord (1985). As Japanese economic recession from the early 2010s', such controversy seems to have disappeared. We cannot also miss researches on HRM practices in Thai companies. As economic progress of Thailand has achieved, Thai companies' HRM has caught much attention (Andrews & Sununta Siengthai., 2009; Siriyupa Roongrerngsuke., 2010; Wailerdsak & Suehiro, 2004).

We can understand that prior researches have clarified the following topics. First, regarding educational attainment, it is one of vital topic still. Second, regarding HRM in overseas subsidiaries in Thailand, localization matters. Most of the prior researches have discussed the companies' effective use of human resource while focusing on quality of HR, not on quantity of HR.

Considering the contemporary demographic situation, we should take into account the sustainable use of HR as well as their educational attainment of the labor force and transferability. Currently, Thailand come to an era of labour shortages (Chandoevwit, 2004; Nitungkorn, 1985). Due to the shortages, some companies cannot often hire sufficient number of employees with eligibility. If it is true or not, the labor shortages are derived from aging of society or loss of demographic dividend.

HR's age also matters in terms of recruit. Many companies include candidates' age in their working condition when they recruit employees (Figure 2). The sampled manufacturers recruit mostly 18-35 aged workers and this fact demonstrates employees' age matters for the companies. In the past, age has been less important than education attainment with regard to wage level and prior researches have not carefully. Currently, age should be considered carefully.

In sum, prior academic researchers have focused on quality of human resource. We should consider the abundance of human resources by age to understand whole picture of contemporary human resource practices.

Figure 2 Signs for recruitment at an industrial estate in Thailand (CY2013. Photo: Author)

OBJECT AND METHOD

This research mainly deals with the abundance of human resource in Thailand. Using the *labor force survey* (LFS), we estimate the HRA from variety of traits such as age class, education attainment, occupation, type of job, and others.

Since 1963, the National statistics office (NSO), an agency of the Ministry of Digital Economy and Society of Thailand, has implemented the labor force survey. Between 1963 and 1970, the survey has implemented annually. From 1971, the survey has been implemented semiannually up to 1983. Between 1984 to 1997, the survey has been implemented three times per year. After since 4th. Quarter of 1998, the survey has been implemented quarterly. From 2001, the survey has been implemented monthly. Referring to the NSO website, we can access the data by quarter. Visible period is from 1st. Quarter of 2002 to the most recent one. To access older data, we have to use paper-based statistical books.

Currently, NSO follows the international classification of status in employment 1993 (ICSE-93) by ILO and implements the survey accordingly. NSO has not followed the new criteria on underutilized labor. In detail of ICSE-93, refer to a recommendation document by ILO (http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_087562.pdf). This time, we focus on current labor force by age, a classification of LFS. The current labor force contains not only employed persons but also unemployed persons. The criterion is the most similar to the concept of human resource discussed above. It does not contain persons not in the labor force. Target period is from 1st. Quarter of 2006 to 3rd. Quarter of 2017.

Figure 3 shows the number of current labour force in Thailand. Referring to left-side of the figure, the number of current labour force appears to remain stable among entire age classes. Focusing on movement by age class, however, situation changes. In 2006, employees were relatively young. Main component of labour force belonged to age class of 20-40s'. Currently such situation is changing because of the rapid increase of labor force in the 50-60s'. From around 2013, labour force at the age of 20-40 are on the decrease. Those in their 50s' are increasing. In the 1st. Quarter of 2016, the number of 50s' labor force became more than that of 20s'. Until 4th. Quarter of 2010, one in 40s' has increased. Afterwards, the population is on the decrease. Current labor force of Thailand has aged . We should consider the influence of age when we discuss on HRA in Thailand to clarify the human resource abundance.
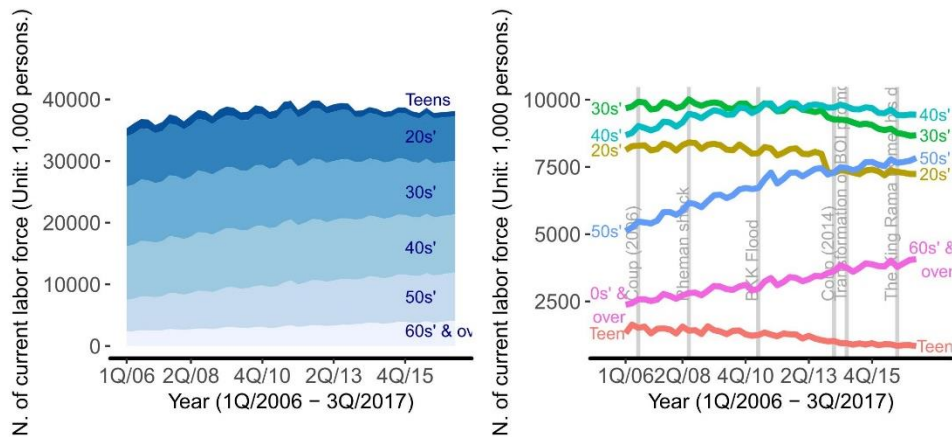
Figure 3 Annual trend of current labor force in Thailand by age class (Source: *Labor force survey* of Thailand.

Left: cumulative; Right line by age class)

METHODOLOGY

To estimate the human resource abundance, we employ state space method. As we have partly noted, the HRA includes unemployed labor force, not in labor force, and partly other potentially eligible labor force partly. The HRA and mechanism to generate HRA may differ. Conventional models such as AR, ARIMA, and other methods for time-series data cannot be used.

State space method (SSM) is a methodology of statistical inference to deal with such complex mechanism. Using the methodology, we can infer states, invisible mechanism generating visible observations. Of course, using SSM, we can deal with a simple model if we would not care some methodological problems. In detail of the state space model, some series of books provide clear explanation (Casals, 2015; Commandeur & Koopman, 2007; Durbin & Koopman, 2007) and appendix.

SSM is reasonable method because of its flexibility. Using the SSM, we can build models of states as we expect. Combining the states together as a observation equation, we can express total picture of observable phenomena and invisible states at a time. Due to multiple integration and computing capacity, however, results of inference might not be obtained within reasonable period when we employ the SSM. When a model contains a complex and conjugate errors, we should compute multiple integration. For such a case, Bayesian inference framework will help.

Bayesian inference is a statistical framework based on Bayes' theorem (Bernardo & Smith, 1994; Watanabe, 2018). The framework states the predictor as a stochastic variable following a certain sort of distribution such as normal distribution, not a fixed value. Combining with MCMC (Markov Chain Monte Carlo) sampling procedure, we can estimate the distribution within a reasonable period even though it is a model containing complex error distribution. Moreover, using the framework, we can add an a priori knowledge into the model by defining a posterior distribution and its parameters.

Before making our model to estimate the HRA, we summarize current situation of labor force in Thailand. First, the data changes over time and we should consider employing method suitable for time-series data. The HRA also changes over time and by age class. Second, among every age class, seasonal fluctuation. Seasonal fluctuation refers to a periodic movement derived from a seasonal event such as rice planting and Christmas selling. Such fluctuation is often observed in GDP, consumers' price, and other economic indicators. The fluctuation in our data appears depend on rice planting season. In fact, so far, to adjust influence of planting, NSO have adjusted survey period. We should be also decomposed the influence of seasonal fluctuation from level of HRA. We should decompose HRA and effect of seasonal fluctuation is observed. Finally, we should consider lag. The lag reflects companies' behavior: Companies appears to think about recruit plan annually as a part of business plan.

Considering the conditions above, we give our estimation model at period t in age class i follows:

$$Y_{it} \sim N\left(x_{it} + season_{it},\, s_i^y\right)$$

$$x_{it} \sim N\left(3x_{i,t-1} - 2x_{i,t-2} - x_{i,t-3}, s_i^x\right)$$

$$season_{it} \sim N\left(-\sum_{l=1}^{3} season_{it-l},\, s_i^{season}\right)$$

$$x_{it} \sim uniform(0,10000)$$

$$s_i^x, s_i^y, s_i^{season} \sim t(4,0,100)$$

Where Y_{it} denotes real number of current labor force; x_{it} denotes state of human resource abundance; $season$ denotes state of seasonal fluctuation; $s_i^y, s_i^x, s_i^{season}$ denote variance of each variable. We suppose that the observable number of current labor force Y_{it} is generated from normal distribution with $x_{it} + season_{it}$ as mean and s_i^y as variance. This assumes that mean of Y_{it} consists of distribution of HRA (x_{it}) and seasonal fluctuation ($season_{it}$) and follows normal distribution. The HRA contains 3-periods lag. It means that x_{it} is affected by the first, second, and third period prior to a period i. The seasonal fluctuation ($season_{it}$) moves quarterly and follows normal distribution. It means that the Y_{it} contains not only HRA but also seasonal fluctuation. In terms of type of SSM, this model is a sort of local level model and mostly equivalent with AR(3) of traditional time-series method.

Because of lack of prior information, we set noninformative prior distributions toward $x_{it}, s_i^y, s_i^x, and\ s_{it}^{season}$. For x_{it}, we employ a distribution following $uniform(0,10000)$. We employ a student-t distribution, $t(4,0,10000)$, as a weakly informative prior distribution for the $s_i^y, s_i^x, s_i^{season}$. We can know targeting data's standard deviation (SD = 3168.703) and apply the SD as prior information and add the information into the model from observation. The initial SD (10,000) is sufficiently large. In such a case, rather than typical uninformative prior distribution such as uniform distribution as above and

inverse gamma distribution, we should employ student's t distribution instead. The student's t distribution tails become thicker around 0 than the other distributions and suitable for prior distribution.

We inferred the parameters and hyperparameters to data by the Markov chain Monte Carlo method in STAN (Gelman et al., 2014). To confirm the posterior distributions, we executed four independent iterations. We obtained estimates from 4,000 iterations after a burn-in of 2,000 iterations, thinning at intervals of 10. Convergence of posterior was monitored visually for some of the results and checked with the Gelman-Rubin diagnostic $\hat{R}$ for all results. Values of $\hat{R}$ were less than 1.1, which we considered reasonable enough to evaluate the general performance of the model. For other analyses and drawing results, we used R (Version 3.4.2), a statistical environment.

RESULTS

How much abundance exist?

From the analysis, we can compute predictors' distributions as a product of distributions of likelihood and distribution of prior distribution. Using the most probable point of a posterior distribution, estimated a posterior (EAP), we can understand the model smoothly. The EAP is mostly similar to maximum likelihood estimates used in conventional statistical inference.

Regarding the EAP of HRA by age class, between 20s' and 50s', we estimated that around 4,000 k persons exist through our target period (Figure 4). For example, in the 4th. Quarter of 2016, mean of EAP, estimated posteriori, is estimated to be 669.48 (SD: 159.60) for these in their teens; 3,899.04 (SD: 635.75) in 20s'; 4,215.54 (SD: 513.80) in 30s'; 4,255.05 (SD: 467.67) in 40s'; 4,020.38 (SD: 579.64) in 50s'; 3,465.25 (SD: 272.18) in 60s' and over. Between teens and other generations, there is a huge gap. The difference, of course, is derived from difference of absolute numbers of Y_{it}. In the teen years class, there are merely a few years' worth of HRA in this class, since normally a company tries to hire employees who are mover 18 years old (Figure 2).

Seasonal fluctuation is smaller than HRA. Comparing with the estimated HRA, the fluctuation is estimated lower. For example, in the 4th. Quarter of 2016, the EAP of fluctuation is 175.20 for these in their teens; 433.43 (SD: 400.12) in the 20s'; 463.93 (SD: 400.88) in the 30s'; 485.59 (SD: 405.69) in the 40s'; 461.50 (SD: 402.95) in the 50s'; 319.09 (SD: 2552.64) in 60s' and over. For its EAP, SDs are larger than that of HRA.

It is surprising that the Lehman shock in 2008 does not appear to affect the HRA and seasonal fluctuation. Around and after the shock, no incident by the shock cannot found. This means that the HRA seems not to be affected by socioeconomic shock such as Lehman shock and Asian Financial Crisis in 1997.
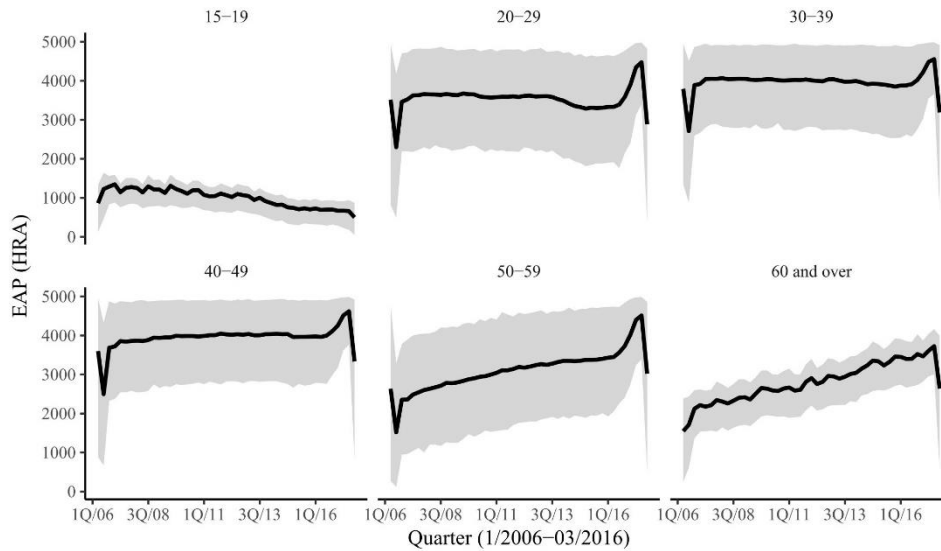
Figure 4 Estimated a posteriori likelihood of human resource abundance by age class. Lines denote EAP and grey-colored areas denote 95% CI
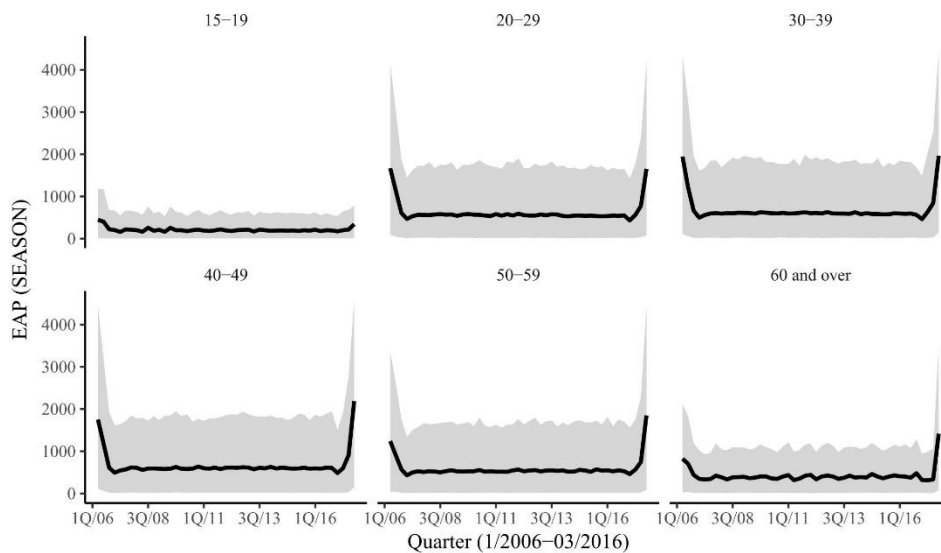

Figure 5 Estimated a posteriori likelihood of seasonal fluctuation by age class. Lines denote EAP and grey-colored areas denote 95% CI

Did overuse occur?

Overuse of HRA is not be estimated other than those in their 30s' and 40s'. The overuse refers to a situation in which a society use HRA more than available abundance.

We can evaluate the degree of overuse with two procedures: whether the EAP of y_{it} is within 95% credible intervals (CI) or whether the current labour force (Y_{it}) exceeds estimated a posteriori distribution of current labor force ($\widehat{y_{1t}}$) or whether gaps between the values ($Y_{it} - \widehat{y_{it}}$) are more than 0 or not. If the Y_{it} is inside of CI, our model can estimate movement of Y_{it}. If not, the model is not precise enough and we should consider adding other predictors into our model.

Using the results, we can estimate the number of current labour force and compare with real number of labour force. Figure 6 shows the estimated current labor force and real number of current labor force. The estimated number of current labour force belonging to teens and these in their 60s' and over is almost same as the real number. For example, in 4th. Quarter of 2016, the estimated $\widehat{y_{1t}}$ is 848.79 (SD: 102.99) in teens; 3,7896.01 (SD: 181.95) in 60s' and over. Our model estimated y_{it} of teens and 60s' and over well. Gaps between the estimated numbers and real Y_{it} are -4.91 (SD: 102.99) in teens and -2.85 (SD: 181.95) in 60s'. In terms of gap, our model works well for the two generations.

There are visible differences for those in their 30-50s' (Figure 6). For example, in 4th. Quarter of 2016 the difference is 2,799.90 for those in their 30s'; 3,452.91 for those in their 40s'; 1,826.24 for those in their 50s'. Although 95% CIs contain the Y_{it}, the gaps and SDs are obviously large. Also, it is thought that the large gaps mainly come from rather lower HRA. For the generations, we may improve our model to estimate the HRA correctly. Among 20-50s', gaps are larger. In the same period above, the gap is 2,952.47 (SD: 2,076.56) for those in their 20s'; 4,076 (SD: 2,078) for those in their 30s'; 4,686.25 (SD: 2,098.75) for those in their 40s'; 3,155 (SD: 2,144) for those in their 50s'. Between 2008 and 2016, for those in their 30s', Y_{it} excesses 95% CI. Between 2008 and 2016, for those in their 40s', Y_{it} excesses 95% CI.

These facts mean that overuse of HR might occur in teens and those in their 30-40s'. Particularly in teens, the trend come to diminish, and overuses might occur and become ahead. Considering trend of gaps (Figure 7), the labor shortages will start within a couple of decades.
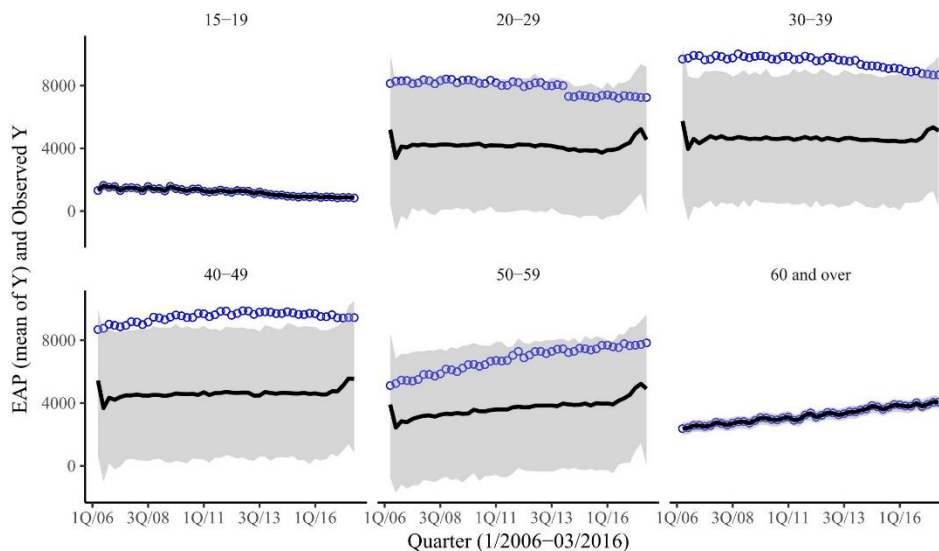

Figure 6 Estimated a posteriori likelihood of current labor force (y_{it}, black lines) by age class and observed

current labor force (blue dots). Lines denote EAP and grey-colored areas denote 95% CI.
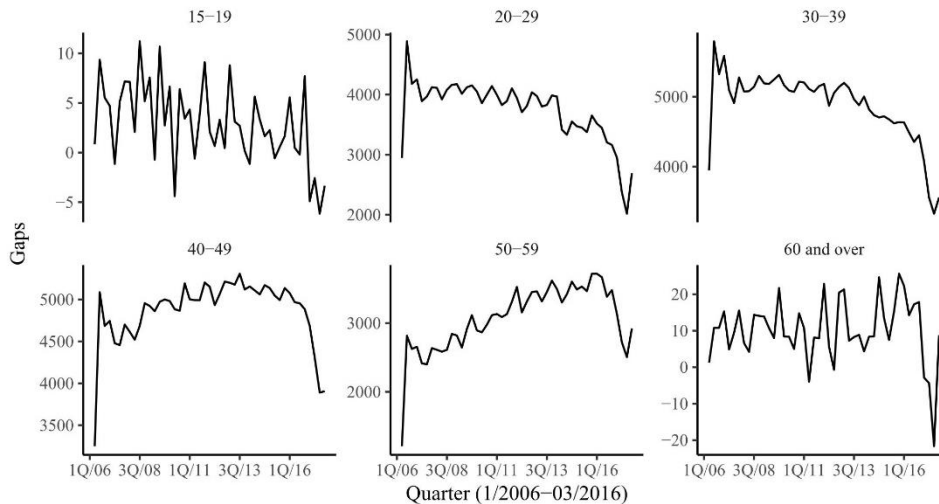
Figure 7 Gaps between observed current labor force and estimated a posteriori likelihood of estimated current labor force by age class

DISCUSSION

The purpose of this study is to estimate human resource abundance, an abundance of visible and potential human resource with eligibility. Our target country is Thailand, one of the most promising destination of foreign expansion. Prior researches regarding HRM in the country, there existed two aspects of researches; educational attainment of labor force and human resource practices of expanding companies. The researches mainly focus on quantity of labor force / employees, without considering its quantity. Currently, because of demographic situation, we should consider quantity of the human resource abundance as well as quality of them.

We found two facts in the following. First, except for teens, the human resource abundance is almost similar by age. Seasonal fluctuation also exists, although its volume is lower than the human resource abundance. Toward the HRA and seasonal fluctuation, socioeconomic shock does not appear to affect. Second, overuse of human resource abundance appears in teens and 30-40s', main target of company's recruit. Companies' sense of labor shortages might be delivered from labour shortage. In accordance with trend of the gap, the labor shortage will start within a couple of decades. In other age groups, overuse is not observed.

This research enables us to refine the concept of human resource carefully with affinity for official labor statistics. We need not confuse the human resource similar concepts with similar concepts such as labor, employee, and worker. Besides, the research also proves scientific replication of the abundance using open-access data as we have done in this paper. By adding past and newly-found findings via case studies, we will be able to refine the state space model flexibly foster HRM research dramatically based on qualitative bases. If a practitioner would like to apply the methodology, he / she is able to execute prediction of human resource abundance. The prediction will help decision making regarding foreign expansion in terms of human resource abundance.

CONCLUSION

Understanding HRA, we reach a starting point for sustainable human resource use. Like other natural resources such as fish, we may be able to manage resource amount based on scientific knowledge. Our results demonstrate that labor shortage will remain for a couple of decades from now. After decades, however, the shortage will be emerged. For after the decades, HR should be conserved.

To conserve the human resource, we should consider solution by age.

Conserving teens and elders is not challenging. According to our estimation, in both generations, teens and for those in their 60s' and over, the HRA appears to remain in accordance with local level and seasonal fluctuation. This fact implies that the HRA followed a simple and indigenous data generation process. We need not have to be concerned with other endogenous valuables when we estimate the HRA of teens and for those in their 60s' and over.

Conserving those in their 30s', we need to add some more predictor for precise estimation. According to our estimation results, HR belonging to their generation appears to face overuse of HR. This generation is a part of the main target of production workers as we noted. If companies would like to swipe their sense, they should upgrade their working condition.

In the long term, we may need to conserve those in their 40s' and those in their 50s' as well as those in their 30s'. In terms of age structure of current labor force, generations belonging to 40s' and 50s' will become a main HR source in the future. HRA of those in their 40s' and those in their 50s', particularly 50s', is increasing. This trend will continue for a couple of years if any socioeconomic event would not happen. This mean that we can make use of the resource fully without concerning depletion of resource.

Labor shortages may not affect HRM immediately. Current difficulty of hiring appears temporal. Macroscopic and real labor shortages, however, is expected to occur within a couple of decades. Similar to other countries, the shortage may not occur (Cappelli, 2015), and affect HRM practices.

One concern is not promising that foreign subsidiaries' managers operating in Thailand are not likely to hold long-term perspective regarding human resource use. Directors are still transferred by a couple of years, particularly in foreign subsidiaries. Although rational human resource management practices meeting the HRA situation may been introduced, the practices may be changed without any bases. To overcome the shortages, succeeding the practices while appointing Thai directors available to understand long-term trend of HRA is requisite.

Finally, we will note some limitation and future challenges. In other generation, we need to add some other endogenous explanatory variables to our models. Certainly our model has converged. Our model can mostly contain the real number of current labour force within 95% credible intervals. However, variance of estimated HRA is rather wider than ones in teens and 60s' and over. Some other variables should be accounted for more precise estimation.

APPENDIX A NOTE ON STATE SPACE METHOD

State space method (SSM) is a sort of statistical model applicable for time-series data, a set of one ordered over time. "State" refers to a sort of latent variable affecting observations (Durbin & Koopman, 2007). The methodology has been being applied actively since 1990s'(Hamilton, 1994; Jones, 1993; Kim, 2017; Wu, 2005), even though it was developed in 1960s' by Kalman (Kalman, 1960). The method is classic yet new.

Two simple ideas construct the SSM. First, current state x_t comes from the last-time state x_{t-1}. In many cases, current state is also affected by uncertain and independent events. This means that a noise $G(\upsilon)$ also affects to the current state. Second, current observation Y_t comes from current state x_t. Similarly, uncertain and independent events affect and a noize ω_t also affects to the current space. They give the model

$$x_t = F_t(x_{t-1}) + G_t(\upsilon_t)$$
$$y_t = H_t(x_t) + \omega_t$$

for $t = 1,2, \dots, t$ where the $G(\upsilon)$ and ω_t are independent and idependent mutually. The first equation denotes state model or system model. The second equation refers to observation model. The two models construct the SSM. F_t, G_t, H_t denotes m-and-l-dimension nonlinear functions. The ϵ_n in the first equation and ω_n in the second equation denotes noise following probability density distributions $G_t(\upsilon_t)$ and ω_t and called system noise and observation noise, respectively.

Using the SSM, different from conventional time-series analysis methods such as AR, ARIMA, var, we can express data generation process between the observations and latent variables flexibly and explicitly. In addition, using the SSM, we can deal with nonstational process without any transformation, data with missing observations. Moreover, SSM includes the conventional time-series method. For example, using the SSM framework, we can denote an AR (Autocorrelative) model, $y_t = y_{t-1} + \omega_t, \omega \sim N(0,\sigma_\omega^2)$ as $x_t = x_{t-1} + \omega_t, \omega \sim N(0,\sigma_\omega^2), Y_t = x_t$.

We can also denote the AR model as such: $x_t \sim N(x_{t-1}, \sigma_\omega^2), Y_t = x_t$. Of course, we cann add seasonal fluctuation, trend, and lag into the SSM model. These merits prove availability for social science researches, often containing nonstational data, missing observations, and structures affected by unobservable variables such as human resource abundance.

One difficulty of SSM is long computation period. When we employ maximum likelihood method for point estimation of variables' parameters, we are supposed to employ an optimization method which needs the long period. For example, when we use the maximum likely estimation method for a complex statistical model, we are supposed to compute maximum likely estimates from complex simultaneous distribution which may not be finished within a reasonable period.

To overcome such a constraint regarding the computation period, currently, we seek a distribution of maximum likelihood numerically while combining Bayesian Statistics framework and MCMC (Markov Chain Monte Carlo) method. Once we accept the Bayesian framework, we can compute to approximate the parameters numerically while generating random numbers following certain distributions. Statistics compatible with point estimations can be substitute with central tendency of computed probability distributions.

Two challenges, however, regarding estimation with the Bayesian framework still remain. First, we should choose appropriate probability distributions to generate the random numbers. When we choose an arbitrary distribution, results of estimation will become arbitrary. To avoid such a problem, we normally employ a noninformative distribution, which has a sufficiently wide range such as a normal distribution $N(0, 10^{10})$ and a uniform distribution $Uniform(-\infty, \infty)$. Also, even if we follow the Bayesian framework, depending on model, computation period is still long but the period is much reasonable than that of conventional methods.

REFERENCES

Andrews, T. G., & Sununta Siengthai. (2009). *The changing face of management in Thailand*. Routledge.

Asian Development Bank. (2015). *Thailand, industrialization and economic catch-up□: country diagnostic study*. Asian Development Bank.

Bernardo, J. M., & Smith, A. F. M. (1994). *Bayesian theory*. Wiley.

Cappelli, P. H. (2015). Skill gaps, skill shortages, and skill mismatches: Evidence and arguments for the United States. *Industrial and Labor Relations Review, 68*(2), 251–290.

Casals, J. (2015). *State-space methods for time series analysis□: theory, applications and software* (2nd. Ed.). Elsevier.

Chandoevwit, W. (2004). Labor Market Issues in Thailand. *TDRI Quarterly Review, 19*(2), 10–15.

Commandeur, J. J. F., & Koopman, S. J. (Siem J. (2007). *An introduction to state space time series analysis*. Oxford University Press.

Durbin, J. (James), & Koopman, S. J. (Siem J. (2007). *Time series analysis by state space methods*. New York: Oxford University Press.

Gelman, A., Carlin, J. B., Stern, H. S., Dunson, D. B., Vehrari, A., & Rubin, D. B. (2014). *Bayesian data analysis*. Boca Raton, FL: CRC Press.

Hamilton, J. D. (James D. (1994). *Time series analysis*. Princeton University Press.

Hawley, J. D. (2003). Comparing the payoff to vocational and academic credentials in Thailand over time. *International Journal of Educational Development, 23*(6), 607–625.

Hawley, J. D. (2004). Changing returns to education in times of prosperity and crisis, Thailand 1985-1998. *Economics of Education Review, 23*(3), 273–286.

Isarangkun Na Ayuthaya, C., & Taira, K. (1977). The Organization and Behavior of the Factory Work Force in Thailand. *The Developing Economies, 15*(1), 16–36.

Jones, R. H. (Richard H. (1993). *Longitudinal data with serial correlation : a state-space approach*. Chapman & Hall.

Kalman, R. E. (1960). A New Approach to Linear Filtering and Prediction Problems. *Journal of Basic Engineering*, *82*(1), 35.

Kamoche, K. (2000). From boom to bust: the challenges of managing people in Thailand. *The International Journal of Human Resource Management*, *11*(2), 452–468.

Kim, C.-J. (2017). *State-space Models with Regime Switching : classical and gibbs-sampling approaches with applications*. AFTERALL PUB.

Laohavichien, T., Fredendall, L. D., & Stephen Cantrell, R. (2011). Leadership and quality management practices in Thailand. *International Journal of Operations & Production Management*, *31*(10), 1048–1070.

Mehta, A., Felipe, J., Quising, P., & Camingue, S. (2011). Overeducation in developing economies: How can we test for it, and what does it mean? *Economics of Education Review*, *30*(6), 1334–1347.

Nitungkorn, S. (1985). The Changing Lobor Force and Employment Problem in Thailand. *Southeast Asian Studies*, *23*(2), 173–192.

Onishi, J. (2006). The transferability of Japanese HRM practices to Thailand. *Asia Pacific Journal of Human Resources*, *44*(3), 260–275.

Paweenawat, S. W., & Vechbanyongratana, J. (2015). Wage consequences of rapid tertiary education expansion in a developing economy: The case of Thailand. *Developing Economies*, *53*(3), 218–231.

Petison, P., & Johri, L. (2008). Managing local employees: Expatriate roles in a subsidiary. *Management Decision*, *46*(5), 743–760.

Rynes, S. L., Colbert, A. E., & Brown, K. G. (2002). HR professionals' beliefs about effective human resource practices: Correspondence between research and practice. *Human Resource Management*, *41*(2), 149–174.

Siriyupa Roongrerngsuke. (2010). *Best HR practices in Thailand*. Nation News Network.

Sunthonkanokpong, W., Jitgarun, K., & Chaokumnerd, W. (2011). Competence development in the electronics industry in Thailand. *Research and Practice in Human Resource Management*, *19*, 53–68.

Uratsuji;, Y., & Arttachariya, P. (2009). An examination of human resource management practices by Japanese expatriate managers and their impact on job satisfaction of employees of Matsui (Asia) Co., Ltd. *AU Journal of Management*, *2*(1), 1–8.

Wad, P. (2009). The automobile industry of Southeast Asia: Malaysia and Thailand. *Journal of the Asia Pacific Economy*, *14*(2), 172–193.

Wailerdsak, N., & Suehiro, A. (2004). Promotion systems and career development in Thailand: A case study of Siam Cement. *International Journal of Human Resource Management*, *15*(1), 196–218.

Warner, M., & Rowley, C. (2006). Conclusion: Whither business and management in South East Asia? *Asia Pacific Business Review*, *12*(4), 569–575.

Warunsiri, S., & McNown, R. (2010). The returns to education in Thailand: A pseudo-panel approach. *World Development, 38*(11), 1616–1625.

Watanabe, S. (2018). *Mathematical Theory of Bayesian Statistics*. CRC Press.

Wright, P. M., McMahan, G. C., & McWilliams, A. (1994). Human resources and sustained competitive advantage: A resource-based perspective. *The International Journal of Human Resource Management, 5*(2), 301–326.

Wu, Y. (2005). *Inference for change-point and post-change means after a CUSUM test*. Springer.

Yamauchi, F., Poapongsakorn, N., & Srianant, N. (2009). Technical change and the returns and investments in firm-level training: Evidence from Thailand. *Journal of Development Studies, 45*(10), 1633–1650.

CORPORATE SOCIAL DISCLOSURE THROUGH SOCIAL MEDIA: AN EXPLORATORY STUDY

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ABSTRACT

This research aims to determine the topic and intensity of Corporate Social Responsibility (CSR) disclosure in social media of companies included in SRI-KEHATI Index in Indonesia. The indicators used in this research are the category of CSR disclosure consisting of the economic category, environmental category, and social category. Data from 13 companies posted on social media from January 2017 to December 2017 and 2017 annual report are analyzed using NVIVO software. Data from annual reports are used to validate the disclosure in social media. The findings of this research indicate that the companies have disclosed the CSR information through social media, although not all indicators in the G4 guideline are disclosed by the companies. The majority of disclosures are made in annual reports, and topics about training, education, and skill building are the most disclosed topics by the companies.

Keywords: Social Media, Global Reporting Initiative (GRI), Corporate Social Responsibility (CSR)

INTRODUCTION

Social media has changed the way of communicating between companies and stakeholders and also in disclosing information. In general, companies use annual reports to disclose information. Cuong and Ly (2017) stated that quality information in annual reports plays an important role in influencing the quality of decision making. On the other hand, social media can be used to complement corporate communication facilities in spreading information related to the company (Blankespoor et al., 2013). Information that can be spread through social media is the company's financial and non-financial information which later can be used by investors and other stakeholders who are interested in investing activities (Akmese et al., 2016). The ability of social media to spread information widely and quickly compared to other types of media can be an advantage for companies to make voluntary disclosures to reduce information gaps (Blankespoor et al., 2013; Kurinyepa, 2016; Jung et al., 2017).

Information about Corporate Social Responsibility (CSR) is one of the information that can be disclosed to the public and stakeholders. The company reveals CSR activities to show that they took the initiative to engage and carry out CSR activities (Brunton et al., 2015). Companies can use G4 sustainability reporting guidelines to disclose CSR activities issued by the Global Reporting Initiative (GRI), which is an institution that promotes economic, environmental and social sustainability. The guidelines contain procedures for the disclosure of special standards which are divided into economic, environmental and social categories.

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Several studies have demonstrated the role of media in addition to annual reports in communicating the activities and information of companies' CSR (Verhage and Ward, 2014; Meixner et al., 2015; Cortado and Chalmeta, 2016; Cho et al., 2017). Although there is a tendency that companies still choose traditional media to communicate their CSR activities, these studies still have not discussed the topic and intensity of CSR disclosures in social media. Especially for Indonesia, based on a survey of the Indonesian Internet Service Users Association - (or Asosiasi Pengguna Jasa Internet Indonesia - APJII), 2017, the penetration of internet users in Indonesia was 54.68% of the total population of Indonesia and social media was the second most accessed service after messaging services. This phenomenon can be utilized by companies because social media opens opportunities for companies to use various ways to promote and build a positive corporate image (Mattila, 2009; Kuvykaite and Piligrimiene, 2013).

LITERATURE REVIEW

The Triple Bottom Line (TBL) is a concept related to sustainability created by John Elkington in 1997. Elkington (2004) states that this concept consists of three pillars used to measure the value of a company's success. A good company does not only aim for mere economic profit. Yet, it also has a concern for public welfare and environmental sustainability. This concept is also known as 3P (Profit, People, and Planet). The function of the TBL is to measure the company's performance and success using the pillars of Profit, People, and Planet (Goel, 2010).

CSR disclosure has increased in the last few decades and has become an important part of the company. Dias et al. (2016) stated that companies in developed and developing countries increase CSR information disclosure because they want to show how they face the social, environmental and economic consequences of their activities. The increase in CSR information disclosure is also due to the assumption that the level of CSR disclosure represents the company's intention to engage in CSR initiatives (Lone et al., 2016) and as a consequence of the increasing needs of stakeholders in receiving voluntary information disclosed to complete economic and financial information (El Ghoul et al., 2011). CSR disclosures generally consist of voluntary non-financial information covering issues such as social, community, environmental, personnel management, human rights, and product responsibility (Klerk et al., 2015; Lone et al., 2016). Voluntary disclosure of CSR information also contributes to reduce information gaps (Ho and Taylor, 2013; Zhong and Gao, 2017). The most frequently used media for disclosure in Indonesia is the company's annual report. Unlike other studies, Djajadikerta and Trireksani (2012) found CSR disclosures on the company's website even though the level of disclosure was still relatively low. Researches on CSR disclosure in Indonesia that have been carried out show that companies have tried to make CSR disclosures (Gunawan, 2007; Mirfazli, 2008; Gunawan, 2010; Djajadikerta and Trireksami, 2012).

According to Guthrie et al. (2004), stakeholder theory assumes that companies prefer to express organizational accountability that is voluntary rather than economic conditions and financial performance. Stakeholders will certainly ask the company to provide information that suits their needs. Pressure form stakeholder results in voluntary disclosure and companies use it to manage relationships with stakeholders

(Qu et al., 2013). If the company decides to incorporate CSR into their strategic planning, the company should involve stakeholders through various initiatives and activities (Cheng and Ahmad, 2010). To get a good assessment from the stakeholders, companies must be able to align the CSR goals and values embraced with expectations from the stakeholders (Lizarzaburu, 2014). Stakeholders are the key to the success of CSR practices, and companies will find it difficult to achieve their goals without their involvement, knowledge, abilities, talents, and loyalty (Nikolova and Arsic, 2017).

Annual report is the most often used media to disclose the company's CSR activities. This is due to the perception that in the annual report, most of the activities have occurred and the information is credible and has been audited (Tilt, 2008). However, not all stakeholders can access the company's annual report. The stakeholders are not all directly related to the company, so one way to overcome this gap is to make disclosures through the company's website (Kemp and Vinke, 2012). Disclosure on the website is one of the impacts of the development of internet usage. The internet is quickly becoming one of the tools used to communicate the CSR (Ozdora-Aksak and Atakan-Duman, 2015). The advantage of the internet compared to traditional media such as annual reports is that it can disclose information on time and in more detailed manner (Wanderley et al., 2008).

Social media offers features of two-way communication between companies and stakeholders, as well as among stakeholders (Asmussen et al., 2013; Alexander and Gentry 2014; Ali et al., 2015; Meixner et al., 2015; Cortado and Chalmeta, 2016 ; Cho et al., 2017) without constraints on location and can occur at any time. Similar to websites, social media can spread information in a timely manner to its users (Asmussen et al., 2013). In general, social media is used by people who are consumers of a product to interact about the products produced by the company. Consumers hope that companies can be more active on social media and can interact with consumers and other stakeholders (Culnan et al., 2010).

Researches on social media disclosures have more to do with voluntary disclosure and its impact on increasing liquidity, market and investor reactions, decreasing capital costs, and increasing corporate value (Blankespoor et al., 2013; Sprenger et al., 2014; Lee et al., 2015; Trinkle and Crossler, 2015). In relation to CSR in social media, several studies have more focuses on seeing corporate CSR communication in social media (Asmussen et al., 2013; Geerlinks, 2013; Alexander and Gentry 2014; Ali et al., 2015; Meixner et al., 2015; Cortado and Chalmeta, 2016; Cho et al., 2017). Therefore, there are still gaps on researches related to the topic and level of CSR disclosure in social media.

METHODOLOGY

1. Research Questions

The previous studies are more dominated by the use of social media in marketing activities and researches related to CSR are still limited to corporate communication activities on social media (Colleoni, 2013; Geerlinks, 2013). Therefore, the questions arose in this research are what are the topics and what is the intensity of the disclosure of CSR activities conducted by the company in social media?

2. Types and Sources of Research Data

This research was an interpretive case study with a qualitative approach attempted to answer the topics and intensity of CSR disclosures. The role of the case study method becomes more prominent if it examines the issues of education, sociology, and problems related to the community (Zainal, 2007), whereas CSR is an activity related to these matters. Interpretive methods were used to explain, understand, and interpret the intentions of humans (Khin and Ihantola, 2015). By conducting research on the topics and intensity of CSR disclosures in social media, the company's initiatives could be explained and understood. The disclosure intensity was obtained by calculating the frequency of CSR disclosures carried out by the company.

The SRI-KEHATI index in April 2017 became a reference in this study because companies in the Index had a close relationship with the social and environmental conditions around the company. Therefore, the companies included in the Index were always performing CSR disclosures well. The companies included in this study were those who had official Facebook and Twitter accounts. Facebook and Twitter were chosen because based on the survey, both social medias ranked first and third respectively as the most widely used social media in Indonesia in 2016 (www.statista.com). This study also used the disclosure of the company's annual report to compare disclosures in social media and traditional media. Excerpts from news were also used in this study to validate CSR activities carried out by the company.

3. Data Collection Method

Not all companies in the SRI-KEHATI Index had official Facebook and Twitter accounts, and not all required data can be collected by NCapture because of the limitations of social media. Therefore, the total number of companies in the SRI-KEHATI Index examined was 13 companies, as listed in Table 1.

Table 1 List of Companies

Company Name	Company Code	Business Sector
Adhi Karya (Persero) Tbk.	ADHI	Construction
Wijaya Karya (Persero) Tbk.	WIKA	Construction
Waskita Karya (Persero) Tbk.	WSKT	Construction
Bank Central Asia Tbk.	BBCA	Banking
Bank Rakyat Indonesia (Persero) Tbk.	BBRI	Banking
Indofood Sukses Makmur Tbk.	INDF	Food manufacturing
Japfa Confeed Indonesia Tbk.	JPFA	Food manufacturing
Astra Internasional Tbk.	ASII	Diversified
Kalbe Farma Tbk.	KLBF	Pharmacy
Semen Indonesia (Persero) Tbk.	SMGR	Cement industry
Timah (Persero)	TINS	Mining
United Tractors Tbk.	UNTR	Heavy equipment
Unilever Indonesia Tbk.	UNVR	FMCG

Source: IDX (2017)

The data collection in this study was carried out by calculating keywords to see disclosures in companies' social media such as Twitter and Facebook in the period of January 2017 to December 2017, as well as the company's 2017 annual report. NCapture web search extension was used to set aside data in social media so that the data used were only official posts from the company, not from the "retweet" posts. Then, all the data was collected with NCapture, which then be analyzed using NVivo 10 software.

4. Research Indicators

The keyword assistance referring the CSR indicators in the Tong's (2017) study based on the G4 issued by GRI was used in this study. GRI is an independent international organization that helps companies and governments to understand and communicate their actions in resolving sustainability issues. The list of keywords used is shown in Table 2 below:

Table 2 Research Indicators

| Economic | | Environment | |
|---|---|---|
| Economic performance | Water | Emission treatment |
| Financial performance | Effluent and waste | Pollution control |
| Market presence | Spills | Energy consumption and saving |
| Defined pension obligations | Greenhouse Gas (GHG) | Compliance and policies |
| Tax relief, credits and subsidies | Hazardous waste | Protection |
| Financial assistance and incentive | Discharge | Enviromental programmes |
| Risk management | Recycle | Costs (expenses) |
| Awards | Reclaim | Awards |
| Government grants | Restore | Biodiversity |
| Procurement practices | Reuse | Environmental impacts |
| Domestic job support | Recovery | Conservation |
| Infrastructure development | Composting | |
| Economic development | Preservation | |
| Research and development | Disposal | |
| Social | | | |
| Employment | Occupational health | Customer health |
| Remuneration | Employee benefits | Customer safety |
| Trade/labour unions | Employee share purchase schemes | Customer data and privacy |
| Collective agreement/bargaining | Retirement provision/plans | Community investment/programmes |
| Organisational communication | Insurance | Stakeholder engagement |
| Discrimination | Healthcare | Fines/litigation/claims |
| Child labour | Disability and invalidity coverage | Sanctions |
| Forced/compulsory labour | Training, education and skills management | Whistleblowing/ethics hotline/helpline |
| Work hazards | Performance/career developent and reviews | |
| Diversity | Corruption | |
| Minorities | Personal gift | |
| Equal opportunity | Anti-competitive/anti-trust behaviour | |
| Human rights | Product responsibility and labelling | |
| Occupational safety | Customer satisfaction | |

Source: Tong, X. F. (2017)

In calculating the keywords, the list of keywords above was then adjusted according to the context so that it was not immediately used in NVivo. For example, the keyword "waste" and "litter" in the calculation would be separated to make it easy to search and calculate.

RESULTS AND DISCUSSION

CSR Disclosure in Social Media

Processing results related to the number of CSR disclosures of each category in the company's Facebook and Twitter accounts is shown in Figure 1 below:
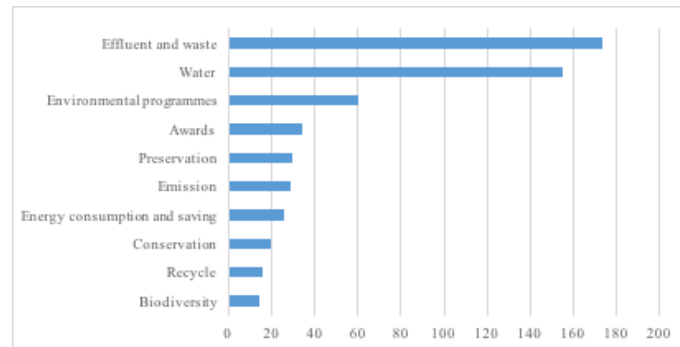
Figure 1 CSR Disclosure of Each Category in Social Media
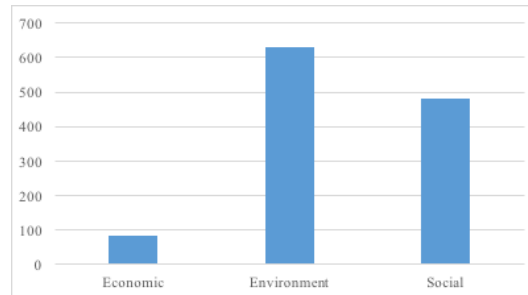
Source: Secondary Data, 2018

In Figure 1, it is seen that the disclosure of environmental category dominates in social media disclosures. This was because the level of company's concern to current environmental issues had increased (Akbas and Canikli, 2014; Nor et al., 2016; Nguyen et al., 2017). Lu and Su (2015) stated that companies which care about environmental issues would post more information about their activities related to the environment. This method was believed to reduce information asymmetry and attract more investors. Topics in the environment category in social media are shown in Figure 2 below:

Figure 2 The Most Disclosed Topics in Environment Category

Source: Secondary Data, 2018

Disclosure of Environment Category

CSR disclosure of environment category in social media is dominated by topics concerning effluent and waste, which are then followed by topics on water. The topic of waste and water were dominant because waste water disposal and waste water quality standards were such matters that were considered and regulated by the government in the Regulation of the Minister of Environment of the Republic of Indonesia Number 5 of 2014 concerning Waste Water Quality Standards. In addition to the company's business which had been considered good in preserving the environment, the companies in the SRI-KEHATI

Index also tried to show that they had taken action as requested by the government by disclosing the information.

Companies operating in the food industry sector (INDF AND JPFA) mostly reveal topics on effluent and waste in social media with Japfa Comfeed Tbk. as the company that makes the most disclosures. Companies discharged effluent and waste because of the assumption that if they had to treat waste it would lead to additional costs. Unlike Jayathilakan et al. (2011), they stated that waste from food comed pensionpany or company which processed meat, chicken and fish could be processed into higher value products. The same was stated by Bilinelli (2016) that by reducing waste, it would save the business and by increasing the re-use of raw materials, it would generate financial benefits. Examples of effluent and waste topics disclosed by companies in social media are as follows:

"Training on "Be Creative in Waste Treatment" #JAPFA4Kids in Simalungun District today make use of paper/plastic waste, making the environment cleaner! https://t.co/kdawaqrUdM", BersamaJAPFA (2017).

Disclosure of Economic Category

The most expressed topics in the economic category in social media can be seen in Figure 3 below:

Figure 3 The Most Disclosed Topics in Economic Category
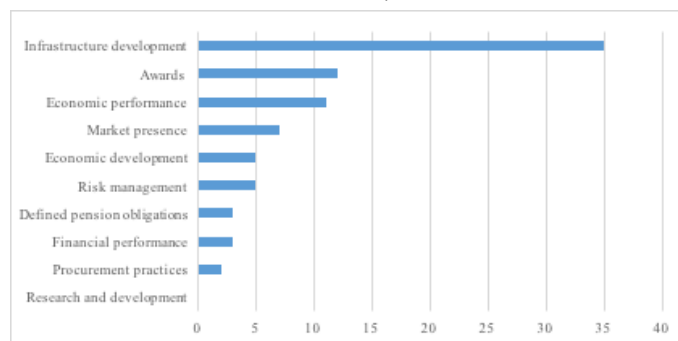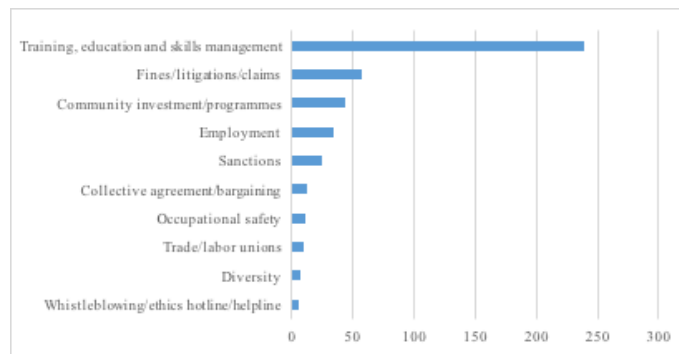

Source: Secondary Data, 2018

As seen in Figure 3, the disclosure of CSR in economic category in social media is dominated by the topic of infrastructure development. The construction companies (ADHI, WIKA, and WSKT) became the ones which revealed most topic on infrastructure development with Wijaya Karya (Persero) Tbk. as the one which dominated. The topic of infrastructure development was considered interesting to be revealed because the Indonesian government have also been increasing the infrastructure development projects in various regions (PwC, 2016) and this topic was such a concern to the public. In addition, Adhi Karya (Persero) Tbk., Wijaya Karya (Persero) Tbk., and Waskita Karya (Persero) Tbk. were companies involved as contractors in the projects run by the government. The three companies were also involved in providing assistance for repairing wooden bridges and places to worship, providing reading rooms, and repairing public facilities in Bengkulu (Angriani, 2017). Examples of posts made by companies related to the infrastructure development are as follows:

"Witnessed by President of France @fhollande, WIKA and Matiere signed a cooperation agreement to build roads and bridges. https://t.co/i5P4aH4qrV", waskita_karya (2017).

Disclosure of Social Category

Graphs describing topics that are most widely expressed in social categories in social media are as follows:

Figure 4 The Most Disclosed Topics in Social Category

Source: Secondary Data, 2018

Figure 4 shows that the CSR disclosures of social categories in social media are dominated by topics regarding training, education and skills management because of the interest of stakeholders, especially the government toward the information. Abeysekera (2008) stated that the government is very concerned about the availability of educated local workers. In addition, topics regarding training, education and skills management could also dominate because companies had realized the importance of improving the quality of human resources as assets for the sustainability of the company (Mirfazli, 2008).

For the topics on education, training and skills management, the most dominant company is Semen Indonesia (Persero) Tbk. which operates in the cement industry. This is interesting because so far, the cement industry has been believed to have a negative impact on the environment and the surrounding communities where they operated. Stajanča and Eštoková (2012) stated that the cement industry produces many emissions such as dust, carbon dioxide, nitrogen oxides, sulfur dioxide, odor, and noise pollution. Therefore, according to Sharma and Jain (2017), the cement industry is active in carrying out CSR to improve the economic, social and environmental conditions of the surrounding communities affected by their activities. One CSR that can be done is in the fields of education, training and community skills management, for example by providing skills training to 125 residents around the project area (Amiruddin, 2017). Examples of posts related to the training topics conducted by the company are as follows:

"1. Semen Indonesia helds a training on marketing technique "Marketing for SMES" for #MitraBinaanSMI as the actor of SMES. #SMIPeduli", semenku (2017).

Disclosure of CSR in Annual Report

The total number of CSR disclosures by companies listed in the SRI-KEHATI Index in social media and the company's annual report in 2017 can be seen in Table 6 below:

Table 3 Disclosure of CSR in Social Media and Annual Report

Media	Social Media	Annual report
Total of Disclosure	1194	9245

Source: Secondary Data, 2018

As seen in Table 6, the annual report is still the main choice because of the assumption that most of the activities reported in the annual report have occurred and the information is more credible because it has been audited (Tilt, 2008). In addition, in Indonesia, there is a Financial Services Authority Regulation Number 29 / POJK.04 / 2016 concerning Annual Reports of Issuers or Public Companies that require companies to disclose their social and environmental responsibilities in their annual reports, while for social media such as Facebook and Twitter is still not yet regulated. The processing results of the number of CSR disclosures for each category in the annual report can be seen in Figure 5 as follows:

**Figure 5** Disclosure of CSR of Each Category in Annual Report
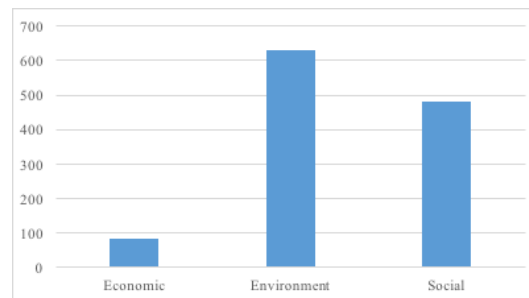
Source: Secondary Data, 2018

The graph in Figure 6 shows that the disclosure in the annual report is different from social media where despite of the environment category, the social category dominates the disclosure in the company's annual report. The results also support the findings of Dagiliene and Mykolaitiene (2015); Krivacic (2017); and Tong (2017) where CSR disclosures in social categories were higher compared to economic and environment categories.

Disclosure of Social Category

Topics that are most widely disclosed can be seen in Figure 6 below:

**Figure 6** The Most Disclosed Topics in Social Category
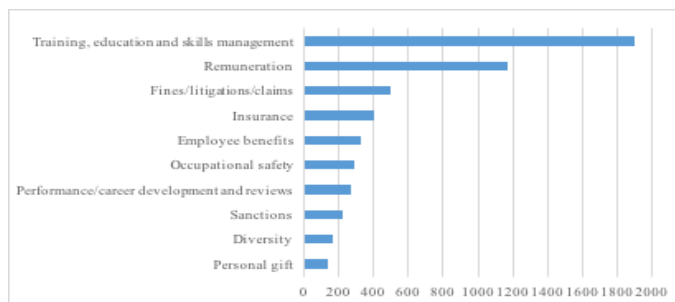
Source: Secondary Data, 2018

Similar to social media, topics regarding training, education and skills management also dominate in the annual report. The company which mostly discloses the topics in the annual report is Wijaya Karya (Persero) Tbk. As quoted from www.wika.co.id, the CSR program carried out by the company to improve community welfare would make the company to get social support from the community. One of them was by conducting training and development. The company was very concerned about this because construction activities had an impact that could disrupt the lives of people around the construction site (Zhao et al., 2016). Besides, Wijaya Karya (Persero) Tbk. also performed their CSR in the field of education to support the teaching-learning process at State Junior High School 29 Palembang (Siska, 2018).

Disclosure of Economic Category

The most expressed topics in the economic category in the annual report can be seen in Figure 7:

**Figure 7** The Most Disclosed Topics in Economic Category
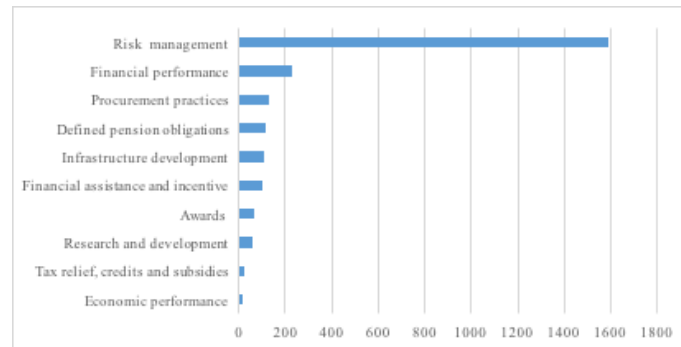
Source: Secondary Data, 2018

Risk management topics are dominantly expressed in annual reports, which is different from that in social media. Companies operating in the banking sector are the most ones which reveal topics on risk management and Bank Rakyat Indonesia (Persero) Tbk. becomes the most dominant company. The existence of Financial Services Authority Regulation Number 18 / POJK.03 / 2016 concerning Application of Risk Management for Commercial Banks which requires banking companies to implement risk management causes them to have important information related to risk management that can be disclosed to stakeholders.

Disclosure of Environment Category

Meanwhile, topics that are most widely expressed in the environment category in the annual report can be seen in Figure 8 below:

Figure 8 The Most Disclosed Topics in Environment Category
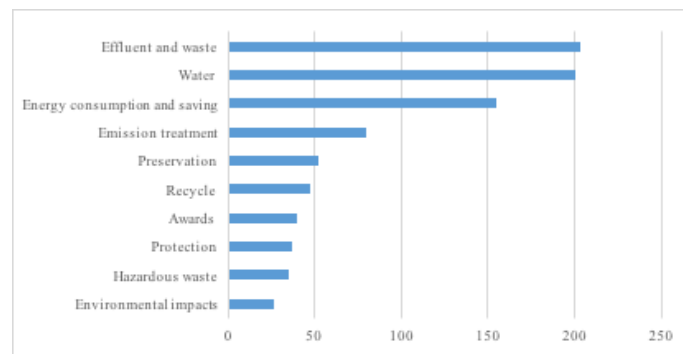
Source: Secondary Data, 2018

Similar to the findings in social media, topics about effluent and waste dominate in annual reports which are then followed by topics on water. The difference is in the dominating industry, whereas in the annual report, the company operating in the FMCG sector, namely Unilever Indonesia Tbk. becomes the most dominant company in disclosing the effluent and waste topic. Packaging produced by the industry often causes negative effects on the environment, both by companies and consumers. According to Sharma and Kiran (2012), the main challenge for companies operating in the FMCG sector was to reduce their product packaging materials.

CSR Disclosure: Social Media vs. Annual Report

The differences in CSR disclosures in social media and annual report are specifically found in the most disclosed categories, topics in the economic category, and dominating industries and companies.
In general, topics that dominate in social media have negative issues that are directly attached to the company's business sector. For example food companies related to environment, construction companies related to infrastructure development, and cement companies related to social issues. In order to maintain the view of the community related to the company's actions in dealing with these issues, the company uses various ways to promote and build a positive corporate image, one of which is through information disclosure in social media (Mattila, 2009; Kuvykaite and Piligrimiene, 2013).

Although, in general, CSR disclosures in the annual report have some similarities with disclosures in social media, disclosure in the annual report is more intended as a form of corporate accountability to stakeholders. The same thing also applies in Indonesia which has the Financial Services Authority Regulation Number 29 / POJK.04 / 2016 concerning the Annual Report of Issuers or Public Companies Article 4 where companies are obliged to report their environmental and social responsibility activities in the annual report. Therefore, disclosure of information in annual reports is more detailed and of high intensity because it contains the company's CSR activities within a certain period of time. This is different from social media which is relatively short, detailed and can be disclosed at any time. This has the advantage of using social media that can spread information in a timely manner to its users (Asmussen et al., 2013).

CONCLUSIONS AND RECOMMENDATIONS

The results of the research showed that the company had disclosed CSR information in social media, although the intensity of its disclosure was still under the annual report. The disclosure of CSR in social media was dominated by training, education, and skills management in social category with an intensity of 239. It was followed by topics on effluent and waste in the environment category with an intensity of 173 and the topic on infrastructure development in the economic category as much as 35. Disclosures in the annual report also were almost similar to disclosures in social media. Training, education and skills management topics dominated by 1663, followed by effluent and waste topics at 173. The difference was located in the economic category, where in the annual report, the topic on risk management dominated by 1586.

In general, in social media, the dominating topics were more intended to be used to maintain the company's image. While in the annual report, topics that dominated were related to the form of corporate responsibility towards stakeholders. The majority of disclosures were provided in the company's annual report because there was Financial Services Authority Regulations Number 29 / POJK.04 / 2016 concerning Annual Reports of Issuers or Public Companies that require companies to disclose their social and environmental responsibilities in their annual reports, while for social media such as Facebook and Twitter were still not yet regulated.

Disclosures in social media, especially CSR disclosures should also be provided as in the company's website which has been regulated in the Financial Services Authority Regulation Number 8 / POJK.04 / 2015 Regarding the Website of the Issuer or Public Company. With the existence of social media, everyone can provide information and rumors related to the company, whether it is right or wrong. By making the companies disclosing the information, especially related to their CSR, companies can make the wrong information clear.

This research could not be separated from some limitations. First, this research was limited only to companies listed in the SRI-KEHATI Index, further research is expected to increase the number of companies or to change the criteria of other companies because there are still many companies and types of companies other than the SRI-KEHATI Index that can be examined. This study adopts keyword searching techniques that have been carried out by prior researches, then future research is expected to search for and formulate keywords that can represent the overall disclosure guidelines used. Future research should also consider using company websites or other types of social media, and include comments on social media for deeper analysis.

REFERENCES

Abeysekera, I. (2008). Motivational behind human capital disclosure in annual reports. *Accounting Forum*, 1-13.

Akbas, H. E. & Canikli, S. (2014). Corporate environmental disclosures in a developing country: an investigation on Turkish listed companies. *International Journal of Economics and Finance*, 50-61.

Akmese, H., Aras, S. & Akmese, K. (2016). Financial performance and social media: a research on tourism enterprises quoted in Istanbul Stock Exchange (BIST). *Procedia Economics and Finance, 39*,705-710.

Alexander, R. M. & Gentry, J. K. (2014). Using social media to report financial results. *Business Horizons, 57*, 161-167.

Ali, I., Jimenez-Zarco, A. I. & Bicho, M. (2015). Using social media for CSR communication and engaging stakeholder. *Corporate Social Responsibility in the Digital Age*, 165-185.

Amiruddin. (2017). *PT Semen Indonesia latih 125 warga*. Retrieved from GoAceh Web site : https://www.goaceh.co

Angriani, D. (2017). *Perusahaan BUMN salurkan CSR Rp9, 2 miliar di Bengkulu.* Retrieved from http://ekonomi.metrotvnews.com.

Asmussen, B., Harridge-March, S., Occhiocupo, N. & Farquhar, J. (2013). The multi-layered nature of the internet-based democratization of brand management. *Journal of Business Research, 66*, 1473-1483.

Bilinelli, L. (2016). *Valuing the use of corporate social responsibility in the Australian food industry.* Venezia: Universita Ca' Foscari Venezia.

Blankespoor, E., Miller, G. S. & White, H. D. (2013). The role of dissemination in market liquidity: evidence from firms use of twitter. *The Accounting Review, 89*, 79-112.

Brunton, M., Eweje, G. & Taskin, N. (2015). Communicating corporate social responsibility to internal stakeholders: walking the walk or just talking the talk? *Business Strategy and the Environment*.

Cheng, W. L. & Ahmad, J. (2010). Incorporating stakeholder approach in corporate social responsibility (CSR): a case study at multinational corporations (MNCs) in Penang. *Social Responsibility Journal, 6*(4), 593-610.

Cho, Moonhee., Furey, Lauren D. & Mohr, Tiffany. (2017). Communicating corporate social responsibility on social media: strategies, stakeholders, and public engagement on corporate facebook. *Business and Professional Communication Quarterly, 80*, 52-69.

Colleoni, E. (2013). CSR communication strategies for organizational legitimacy in social media. *Corporate Communications: An International Journal, 18*, 228-248.

Cortado, F.-J. & Chalmeta, R. (2016). Use of social networks as a CSR communication tool. *Cogent Business & Management, 3.*

Culnan, M., McHugh, P. J. & Zubillaga, J. I. (2010). How large US companies can use twitter and other social media to gain business value. *MIS Quarterly Executive, 9*, 243-259.

Cuong, N. T. & Ly, D. T. (2017). Measuring and assessing the quality of information on the annual reports: the case of seafood's companies listed on the Vietnam stock market. *International Research Journal of Finance and Economics,* 26-40.

Dagiliene, L. & Mykolaitiene, V. (2015). Disclosure of social responsibility in annual performance reports of universities. *Social and Behavioral Sciences, 213*, 586-592.

Dias, A., Rodrigues, L. L. & Craig, R. (2016). Global financial crisis and corporate social responsibility disclosure. *Social Responsibility Journal.*

Djajadikerta, H. G. & Trireksani, T. (2012). Corporate social and environmental disclosure by Indonesia listed companies on their corporate web sites. *Journal of Applied Accounting, 1*, 21-36.

El Ghoul, S., Guedhami, O., Kwok, C. C. & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital?. *Journal of Banking and Finance*, 2388-2406.

Elkington, J. (2004). *Enter the Triple Bottom Line.* Retrieved from http://www.johnelkington.com.

Geerlinks, J. (2013). Corporate social responsibility and social media: how do retailers interact with consumers. Erasmus University.

Goel, P. (2010). Triple bottom line reporting: an analytical approach for corporate sustainability. *Journal of Finance & Management, 1*, 27-42.

GRI. (2013). *G4 Sustainability Guidelines.* Retrieved from https://www.globalreporting.org.

Gunawan, J. (2007). Corporate social disclosures by Indonsian listed companies: a pilot study. *Social Responsibility Journal, 3*, 26-34.

Gunawan, J. (2010). Perception of important information in corporate social disclosures: evidence from Indonesia. *Social Responsibility Journal, 6*, 62-71.

Guthrie, J., Petty, R. & Yongnavich, K. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital, 5*, 282-293.

Ho, P. & Taylor, G. (2013). Corporate governance and different types of voluntary disclosure: evidence from Malaysian listed firms. *Pacific Accounting Review,* 4-29.

Jayathilakan, K., Sultana, K., Radhakrishna, K. & Bawa, A. S. (2011). Utilization of byproducts and waste materials from meat, poultry and fish processing industries: a review. *Food Science Technology, 49*, 278-293.

Jung, M. J., Naughton, J. P., Tahoun, A. & Wang, C. (2017). Do firm strategically disseminate? evidence from corporate use of social media. *The Accounting Review.*

Kemp, L. & Vinke, J. (2012). CSR reporting: a review of the Pakistani aviation industry. *South Asian Journal of Global Business Research,* 276-292.

Khin, L. & Ihantola, E.-M. (2015). Approaches to validation and evaluation in qualitative studies of management accounting. *Qualitative Research in Accounting and Management*, 230-255.

Klerk, M. D., Villiers, C. d. & Staden, C. v. (2015). The influence of corporate social responsibility disclosure on share prices: evidence from the United Kingdom. *Pacific Accounting Review*, 208-228.

Krivacic, D. (2017). Sustainability reporting quality: the analysis of companies in Croatia. *Journal of Accounting and Management, 7*, 1-14.

Kuvykaite, R. & Piligrimiene, Z. (2013). Communication in social media for company's image formation. *Economics and Management, 305-317.*

Lizarzaburu, E. R. (2014). Corporate social responsibility and stakeholder strategies: an impact in risk management. *Journal of Research in Marketing, 2*(1).

Lone, E. J., Ali, A. & Khan, I. (2016). Corporate governance and corporate social responsibility disclosure: evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society.*

Lu, H. & Su, B. (2015). *Green disclosures? social media and prosocial behavior*. n.p.: Center for the Economic Analysis of Risk (CEAR).

Mattila, M. (2009). Corporate social responsibility and image in organizations: for the insiders or the outsiders?. *Social Responsibility Journal*, 540-549.

Meixner, O., Pollhammer, E. & Haas, R. (2015). *The communication of CSR activities via social media: a qualitative approach to identify opportunities and challenges for small and medium-sized enterprises in the agri-food sector*. n.p.

Mirfazli, E. (2008). Corporate social responsibility (CSR) information disclosure by annual reports of public companies listed at Indonesia Stock Exchange (IDX). *International Journal of Islamic and Middle Eastern Finance and Management, 1*, 275-284.

Nguyen, L. S., Tran, M. D., Nguyen, T. X. & Le, Q. H. (2017). Factors affecting disclosure levels of environmental accounting information: the case of Vietnam. Accounting and Finance Research, 255-264.

Nikolova, V. & Arsic, S. (2017). The stakeholder approach in corporate social responsibility. *Engineering Management, 3*(1), 24-35.

Nor, N. M., Bhari, N. A., Adnan, N. A., Kamal, S. M. & Ali, I. M. (2016). The effects of environmental disclosure on financial performance in Malaysia. *7th International Economics & Business Management Conference,* (pp. 117-126). Malaysia.

Ozdora-Aksak, E. & Atakan-Duman, S. (2015). The online presence of Turkish banks: communicating the softer side of corporate identity. *Public Relations Review*, 119-128.

PwC. (2016). *Indonesian infrastructure: stable foundations for growth*. PwC's Annual Indonesian Infrastructure Report. n.p.

Qu, W., Leung, P. & Cooper, B. (2013). A study of voluntary disclosure of listed Chinese firms: a stakeholder perspective. *Managerial Auditing Journal, 28*(3), 261-294.

Sharma, A. & Jain, A. (2017). Corporate social responsibility in cement industry: a study with special reference to selected units in rajasthan. *Journal of Modern Management & Entrepreneurship, 7*, 240-244.

Siska, W. (2018). Wika Bantu CSR untuk SMPN 29. Retrieved from http://sumeks.co.id/wika-bantu-csr-untuk-smpn-29/

Stajanča, M. & Eštoková, A. (2012). Environmental impacts of cement production. *Lviv Polytechnic National University Institutional Repository*, (p. 296-302).

Tilt, C. A. (2008). Environmental disclosure outside the annual report. *International Journal Management and Decision Making,* 288-309.

Tong, X. F. (2017). A comparative review on company spesific determinants for sustainability reporting in United Kingdom (UK) and Malaysia. *SHS Web of Conferences*, 36, 12.

Verhage, S. & Ward, J. (2014). Corporate social responsibility communication on social media: how do companies communicate their CSR strategies. n.p.

Wanderley, L., Lucian, R., Farache, F. & Filho, J. (2008). CSR information disclosure on the web: a context-based approach analyzing the influence of country of origin and industry sector. *Journal of Business Ethics,* 369-378.

Zainal, Z. (2007). Case study as a research method. Jurnal Kemanusiaan.

Zhao, Z.-Y., Zhao, X.-J., Zuo, J. & Zillante, G. (2016). Corporate social responsibility for construction contractors: a chona study. *Journal of Engineering, 14*, 614-640.

Zhong, M. & Gao, L. (2017). Does corporate social responsibility disclosure improve firm investment efficiency? evidence from China. *Review of Accounting and Finance*.

THE EFFECTS OF CONFLICT MANAGEMENT STYLE AND COMMUNICATION COMPETENCE ON COMMUNICATION SATISFACTION IN THAILAND' WORKPLACE.

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ABSTRACT

This research examines the effects of conflict management style and communication competence on communication satisfaction in Thailand's workplace. The survey research using self-administered questionnaire was conducted with 304 samples. Structural equation modeling (SEM) was used to test the hypotheses. The results demonstrated that both self and supervisor's communication competence were variables that mediated effects of conflict management style and communication satisfaction. Both non-confrontation and control style were two conflict management styles that led to dissatisfaction in communication between subordinate and supervisor. Solution-oriented style was likely to be an appropriate style used in Thai organizations when dealing with conflicts. The results of this study extend the current understanding of communication competence as a mediator between conflict management styles and communication satisfaction in Thailand's workplace.

Keywords: conflict management style, communication competence, communication satisfaction, Thai organizations, Thailand

1. INTRODUCTION

Organizational communication researchers have focused on conflict predispositions and communication competence in organizational contexts. Previous research (e.g., Cannary & Lakey, 2006) indicated that both self-perceived competence and competence of the counterpart played an important role in conflict situations, even though, those studies have examined the relationship between communication competence and conflict style. Some studies (e.g., Wheeless & Reichel, 1990) examined the relationship between supervisors' communication style and their choices of conflict style. Nevertheless, those research examined conflict styles and competence in Western contexts. As one of the fast-growing countries in Southeast Asia, Thailand is a site where organizational workforce is becoming more sophisticated and needs full attention to conduct research in the field of organizational communication. Sriussadaporn-Charoengam and Jablin (1999) focused their study on communication competence in Thai organizations. Iamsudha and Hale (2003) concerned with the study of communication competence and self-reported conflict tactics in Thai family context and Dilbeck, McCroskey, Richmond, and McCroskey (2009) focused their study of self-perceived communication competence among college students in Thai culture.

Significance of the Study

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The present study focuses on the relationship between subordinate and supervisor in organizational life. It seeks to extend previous research by examining conflict management style, communication competence, and communication satisfaction in a non-Western organizational setting. Most of the studies point to an interest in employees from the perspective of the self and supervisor's communicative influence on conflict management style but there has been far less attention to the those impacts towards employees' satisfaction where this study can help fill the gap.

Based on previous work, it is unclear whether communication competence has a direct or a mediated effect on perceived communication satisfaction. In terms of conceptual and empirical framework, previous work has not examined the influence of exogenous variable (i.e., conflict management styles) on mediating variables (such as communication competence) and their effects on important endogenous variable (such as communication satisfaction), despite theoretical and empirical work that suggests these inter-relationships among these variables exist. No studies to date have examined the simultaneous influence of these variables. Given the previous research dealing with the inter-relationships among these variables, it appears that there is sufficient empirical evidence to examine relationships among them simultaneously.

The Purpose of the Study

The purpose of this present study is three-fold. First, it reexamines conflict management styles, communication competence and communication satisfaction in a different organizational context other than Western culture. Second, it is to examine the relationship between communication competence both in the perspective of self-perceived communication competence of subordinates and subordinates' perception towards supervisor's communication competence in relation to communication satisfaction. Third, it is to examine the mediating effects of conflict management style and communication competence on communication satisfaction.

2. LITERATURE REVIEW

Conflict and conflict management styles

Conflict management styles refer to the types of behaviors, in which a person or a party's orientation employs to handle conflicts (Folger & Poole, 1984). For more than four decades, scholars (e.g., Blake & Mouton, 1964) have proposed different models of conflict management styles to analyse the way in which individuals use for managing their conflicts.

To be more parsimony, Putnum and Wilson (1982) developed a model of conflict management styles that taped into the five conflict management styles introduced by Blake and Mouton (1964) and Rahim (1983) but yielded the three conflict management behaviors. Three broad categories of Putnum and Wilson's model are (1) a solution-oriented style or a cooperative style which focuses on cooperation and concern for the relationship; (2) a control style, which focuses on aggressive and uncooperative behaviors; and (3) a non-confrontation style which focuses on avoidance behaviors for handling conflict.

Communication competence

Communication competence has been widely studied in the field of communication. According to Weimann (1977), communication competence is an ability possessed by a person who behaves and communicates in ways that help oneself and interaction partners achieve their communicative goals. Backlund (1978) contended that competence is connected to an ability to recognize socially appropriate behaviors in a given situation. Pearce and Cronen (1980) delineated that higher levels of competence enable a person to develop a wider repertoire of behaviours to choose and to participate in communication transactions flexibly.

Communication satisfaction

According to Hecht (1978), communication satisfaction reflects the degree of emotional reaction in terms of met or failed expectation that an interactant perceives toward his/her communicative interaction. Communication satisfaction involves a state of a mind that derives from a felt experience which an individual has toward communicative interactions with others (Anderson, Martin, & Riddle, 2001) and can be fulfilled during communicative interactions when an interactant acknowledges the feelings of satisfaction (Chen, 2002).

Relationship between conflict management styles and communication competence

The relationship between conflict management styles and communication competence had been examined in various contexts and circumstances. For example, McKinney, Kelly, and Duran (1997) investigated conflict orientations in association with communication competence and found self-oriented conflict style was negatively related to all the dimensions of communication competence, whereas other-oriented and issue-oriented conflict styles were positively associated with communication competence. In addition, concern for the issue was more strongly related to communication competence than an other-oriented style.

Gross, Guerrero, and Alberts (2004) examined conflict strategies and communication competence in task-oriented dyads and found that perceptions of the non-confrontational style emerged as the strongest predictor of incompetence in task-oriented situations. Wright, Banas, Bessarabova, and Bernard (2010) studied the relationship between communication competence and conflict styles among healthcare workers. The results of their study showed that integrating and compromising conflict styles were associated with communication competence.

Even though there is no empirical study between conflict management styles and communication competence in Thai organizational context, it seems reasonable to assume that other-oriented and issue-oriented conflict management style would be positively associated with communication competence whereas self-oriented conflict management style would be negatively associated with communication competence. Additionally, these affects should be applied into both self-perception of communication competence and perception of an interactant toward partner's communication competence as well. Thus, the following hypotheses are proposed:

H1: Non-confrontation style is negatively associated with supervisor's communication competence.

H2: Solution-oriented style is positively associated with supervisor's communication competence.

H3: Control style is negatively associated with supervisor's communication competence.

H4: Non-confrontation style is negatively associated with subordinate's communication competence.

H5: Solution-oriented style is positively associated with subordinate's communication competence.

H6: Control style is negatively associated with subordinate's communication competence.

Relationship between conflict management styles and communication satisfaction

In Spitzberg, Canary, and Cupach's (1994) study, they investigated three conflict strategies (i.e., integrative, distributive, and avoidant) and found that integrative strategy was perceived as more competent both in terms of appropriateness and effectiveness, and associated with communication satisfactory, whereas distributive strategy was related to perceptions of inappropriateness, ineffectiveness, and lower satisfaction.

There were a few studies of relationship between conflict management styles and satisfaction in non-Western context. Zhang (2015) found that integrating, compromising, and obliging styles were correlated with higher levels of relational satisfaction than competing and avoiding styles. In general, Chinese people were found to be more satisfied with the problem-solving and accommodating styles than the competing and avoiding styles. Thus, the following hypotheses are proposed:

H7: Non-confrontation style is negatively associated with subordinate's communication satisfaction.

H8: Solution-oriented style is positively associated with subordinate's communication satisfaction.

H9: Control style is negatively associated with subordinate's communication satisfaction.

Relationship between communication competence and communication satisfaction

Wright et al. (2010) argued that communication competence influenced a number of important organizational outcomes, including increased social support satisfaction, lower perceive stress, higher job satisfaction, and lower job burnout. Schuttle, Schuettpelz, and Malouff (2001) found that people who reported higher level of communication competence were more satisfied with their relationship quality. Krep (1988) demonstrated by proposing Rational Health Communication Competence Model (RHCCM) that increased communication competence led to satisfaction and cooperation, while decreased communication competence led to dissatisfaction and lack of cooperation.

It seems reasonable to assume that supervisor-subordinate communication competence would be a predictor of subordinate's communication satisfaction. Thus, the following hypotheses are proposed:

H10: Subordinate's communication competence is positively associated with subordinate's communication satisfaction.

H11: Supervisor's communication competence is positively associated with subordinate's communication satisfaction.

Communication competence as a mediator between conflict management styles and communication satisfaction

The role of communication competence as a mediator between perceptions of conflict management styles and communication satisfaction can be best explained by Papa and Canary's (1995) competence model. The competence-based model posits that perceived communication competence mediates the effects of conflict behaviors on relational consequences, such as satisfaction (Canary, Cupach, & Serpe, 2001; Papa & Canary, 1995).

With some evidences to demonstrate the role of communication competence as a mediator between perceptions of conflict management styles and communication satisfaction, the following hypotheses are proposed:

H12: Perceived subordinate's communication competence and perceived supervisor's communication competence mediates the effect of non-confrontation style on subordinate's communication satisfaction.

H13: Perceived subordinate's communication competence and perceived supervisor's communication competence mediates the effect of solution-oriented style on subordinate's communication satisfaction.

H14: Perceived subordinate's communication competence and perceived supervisor's communication competence mediates the effect of control style on subordinate's communication satisfaction.

3. METHODOLOGY

This study employed a quantitative approach by using the self-administered questionnaire to collect data from employees working in various organizations at Bangkok metropolitan area in Thailand.

Procedures

The questionnaire was developed in English and translated and back-translated into Thai by different bi-lingual scholars to ensure linguistic equivalence. The sampling was conducted by using multiple random sampling to collect data from the organizations listed in the Federation of Thai Industries directory 2013, an official directory of all Thai companies. First, organizations were randomly selected from the list. Second, samples were drawn from selected organizations.

Sample and participants

Fifteen organizations were randomly selected to participate in this survey. Seven of them refused to participate in the study. The remaining of eight organizations was contacted by the researcher. A total of 308 questionnaires were received back from the total of 480 questionnaires, or 64% of response rate. Before conducting major data analysis, the data were checked to assess obvious outliers. A total of 304 samples were used for analyses in this study.

Of the sample, there were 227 (74.7%) females and 77 (25.3%) males. The average age of the respondents was 37.78 years old ($SD = 10.70$). The average year of the respondents working with the organization was 11.4 years ($SD = 10.92$). The average years of the respondents working with the immediate

supervisor was 3.4 years (SD = 3.81). The average age of the respondents' immediate supervisor was 49.58 years (SD = 7.86).

Measures

As none of the scales in this present study have previously been used in Thailand, confirmatory factor analyses (CFAs) were conducted on each of them to assess the construct validity of the measures. The fit indices included chi-square to degrees-of-freedom ratio (x^2/df), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root mean squared error of approximation (RMSEA).

Conflict management style scale

Conflict management style was measured with 30-item Organizational Communication Conflict Instrument (OCCI) developed by Putnam and Wilson (1982). Putnam and Wilson interpreted the three factors as non-confrontation style (12 items), solution-oriented style (11 items), and control style (7 items). In this study, high scores indicate high frequently of engaging in the behavior.

After removing items with large deviations, a confirmatory factor analysis (CFA) with three factors yielded an adequate fit: x^2 (160) = 314.9, x^2/df ratio = 1.968, CFI = .926, TLI = .912, and RMSEA = .057. The reliability (Cronbach's α value) for this scale in the current study was adequate with non-confrontation style (α = .795), solution-oriented style (α = .838), and control style (α = .808).

Perceived supervisor's communication competence scale

Communication competence was measured with 12-item Communicator Competence Questionnaire developed by Monge, Bachman, Dillard, and Eisenberg (1982). In the series of questions, respondents describe how they feel about their immediate supervisor's communication. The scale was a unidimensional construct. After removing items with large deviations, which indicated data inconsistency with a unidimensional factor, a confirmatory factor analysis (CFA) with a unidimensional factor yielded an adequate fit: x^2 (25) = 57.299, x^2/df ratio = 2.292, CFI = .982, TLI = .973, and RMSEA = .065. The reliability (Cronbach's α value) for this scale in the current study was adequate at .922.

Self-perceived communication competence scale

Self-perceived communication competence of the respondents was measured with 12-item Communicator Competence Questionnaire developed by Monge et al. (1982). In the series of questions, respondents describe how they feel about their own communication. The scale was a unidimensional construct. After removing items with large deviations, which indicated data inconsistency with a unidimensional factor, a confirmatory factor analysis (CFA) with a unidimensional factor yielded an adequate fit: x^2 (13) = 28.856, x^2/df ratio = 2.22, CFI = .969, TLI = .950, and RMSEA = .063. The reliability (Cronbach's α value) for this scale in the current study was adequate at .735.

Communication satisfaction scale

Communication satisfaction was measured with 19-item Interpersonal Communication Satisfaction Inventory (ICSI) developed by Hecht (1978). In the series of questions concerning communicating at work, respondents were asked to think of communication satisfaction with their immediate supervisor. The scale was a unidimensional construct. After removing items with large deviations, which indicated data inconsistency with a unidimensional factor, a confirmatory factor analysis (CFA) with a unidimensional factor yielded an adequate fit: x^2 (38) = 57.797, x^2/df ratio = 1.521, CFI = .986, TLI = .980, and RMSEA = .041. The reliability (Cronbach's α value) for this scale in the current study was adequate at .875.

4. RESULTS

Structural equation modeling (SEM) with maximum likelihood estimation using AMOS version 18 was used as the primary statistical method to test the proposed structural model. In this study, bootstrapping was used to obtain the indirect effects of conflict management styles on communication satisfaction.

Analysis of structural model

The hypothesized structural model displayed in Figure 1 demonstrates poor fit to the data: x^2 (1606) = 2762.168, x^2/df ratio = 1.72, CFI = .860, TLI = .851, and RMSEA = .049 (90% CI: .046, .052).

After adjusted error terms of indicators and disturbances of the variables with the deletions of nonsignificant path, the hypothesized structural model was simplified. According to Kline (2005), models can be trimmed according to empirical considerations such as statistical significance. The simplified structural model (as shown in Figure 1) was recalculated and compared to the hypothesized structural model. Results showed that the final structural model demonstrated moderate fit to the data: x^2 (1007) = 1570.873, x^2/df ratio = 1.56, CFI = .911, TLI = .905, and RMSEA = .043 (90% CI: .039, .047).
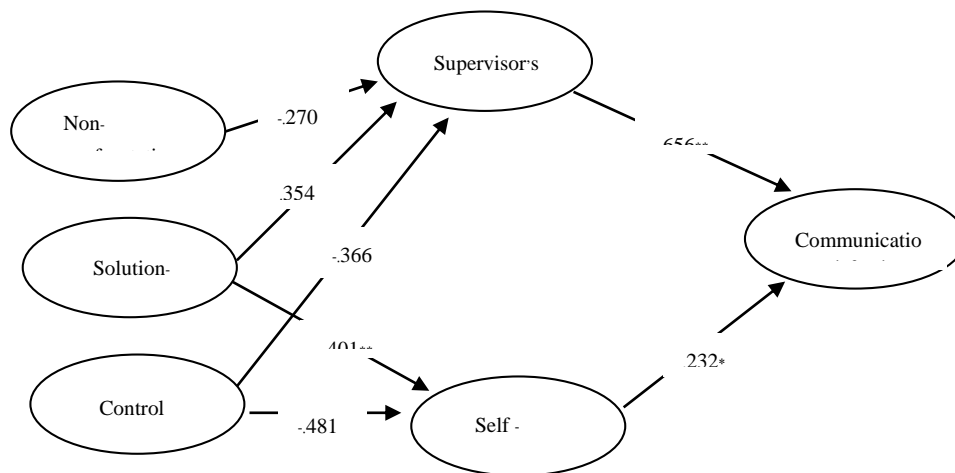

Figure 1. Results of the retained (simplified) structural model. Coefficients are standardized regression weights. ** $p < .01$.

Test of hypotheses

The current study proposes fourteen hypotheses, wherein ten hypotheses were fully supported by the data, and four hypotheses were rejected. Results of each hypothesis testing are presented as follows.

Direct effects.

Hypothesis 1 was supported. Non-confrontation style was negatively associated with supervisor's communication competence (β = -.270, $p < .01$).

Hypothesis 2 was supported. Solution-oriented style was positively associated with supervisor's communication competence (β = -.354, $p < .01$).

Hypothesis 3 was supported. Control style was negatively associated with supervisor's communication competence (β = -.366, $p < .01$).

Hypothesis 4 was not supported. Non-confrontation style was not associated related with subordinate's communication competence (β = -.062, $p > .05$).

Hypothesis 5 was supported. Solution-oriented style was positively associated with subordinate's communication competence (β = .401, $p < .01$).

Hypothesis 6 was supported. Control style was negatively associated with subordinate's communication competence (β = -.481, $p < .01$).

Hypothesis 7 was not supported. Non-confrontation style was not negatively associated with subordinate's communication satisfaction (β = .087, $p > .05$).

Hypothesis 8 was not supported. Solution-oriented style was not positively associated with subordinate's communication satisfaction (β = .142, $p > .05$).

Hypothesis 9 was not supported. Control style was not negatively associated with subordinate's communication satisfaction (β = -.167, $p > .05$).

Hypothesis 10 was supported. Subordinate's communication competence was positively associated with subordinate's communication satisfaction (β = .232, $p < .01$).

Hypothesis 11 was supported. Supervisor's communication competence was positively associated with subordinate's communication satisfaction (β = .656, $p < .01$).

Indirect (mediation) effects.

To test Hypothesis 12 to 14, a formal test of indirect effects using a bootstrap procedure (N = 2,000 samples) was implemented to obtain bias-corrected 95% confidence intervals for making statistical inference about the total and specific indirect effects.

The results showed that the indirect effect from non-confrontation style to subordinate's communication satisfaction through perceived subordinate's communication competence and perceived supervisor's communication competence was significant, β = -.177, $p < .01$ (95% CI: -.302, -.068). Therefore, H12 was confirmed.

The results showed that the indirect effect from solution-oriented style to subordinate's communication satisfaction through perceived subordinate's communication competence and perceived supervisor's communication competence was significant, β = -.352, p < .01 (95% CI: .149, .522). Therefore, H13 was confirmed.

The results showed that the indirect effect from control style to subordinate's communication satisfaction through perceived subordinate's communication competence and perceived supervisor's communication competence was significant, β = .656, p < .01 (95% CI: -.541, -.179). Therefore, H14 was confirmed.

5. DISCUSSION AND CONCLUSION

This present study highlights the effects of conflict management style and communication competence on communication satisfaction. The results of this study yielded significant and interesting findings that shed lights on the effects of conflict management style and communication competence on communication satisfaction in Thailand's workplace.

Effects of conflict management styles on perceived supervisor's communication Competence

Results from the test of Hypothesis 1-3 showed that conflict management styles were associated with perceived supervisor's communication competence. The finding of this study supports Gross et al.'s (2004) notion that the perception of the non-confrontational style exhibits negative association with task partner's communication competence. In addition, solution-oriented style was positively linked to perceived supervisor's communication competence. That is, subordinates are likely to use solution-oriented style with the supervisor who possesses high communication competent skill. This finding is in line with previous research (e.g., Madlock, 2008; Spitzberg et al., 1994).

This empirical data adds supports to Wright et al.'s (2010) notion that such dominating strategy as control style tends to be perceived as inappropriate. The finding confirms McKinney et al.'s (1997) work that a self-oriented conflict style as control style was negatively related to all the dimensions of communication competence. That is, the control style of conflict management is likely to be viewed as a strategy used by and for incompetent persons.

Effects of conflict management styles on perceived self-communication competence

Result from the test of Hypothesis 4 showed that non-confrontation style was not associated with perceived self-communication competence. The finding of this study is inconsistent with previous studies (e.g., Gross et al., 2004) which found that perception of the non-confrontation style exhibited strong and consistent negative association with competence on interpersonal conflict. One possible explanation might be related to culture that non-confrontation style seem to be natural practices in Thai culture. As Komin (1991) suggests, Thai society is collectivistic by nature where Thai people seem to avoid conflict and

established social harmony as cultural norm. Therefore, it is plausible that non-confrontation style is perceived as a manner to bring harmony to the group and is somewhat unrelated with individual's competence to deal with conflict.

Result from the test of Hypothesis 5 fits with the work of Spitzberg et al. (1994) who reported that integrative strategy which was similar to solution-oriented style was positively linked to competence. It is likely that this kind of style requires skilful competent communicators to be flexible and able to adapt their communication to meet the demands of different situations in search of finding mutual agreements in the conflict situation.

Result from the test of Hypothesis 6 showed that control style was negatively associated with perceived self-communication competence. This finding is quite logical and straightforward. It supports McKinney et al.'s (1997) claim that a self-oriented conflict style similar to control style was negatively related to all dimensions of communication competence. A competent person seems to be less likely to employ control style of conflict management to get out of his/her conflict.

Effects of conflict management styles on subordinate's communication satisfaction

Results from the tests of Hypothesis 7-9 indicate that conflict management styles were not associated with perceived subordinate's communication satisfaction. The results are somewhat interesting and contradict with previous research (e.g., Spitzberg et al., 1994) which discovered that conflict management styles were associated with communication satisfactory. The results of this study suggest that conflict management style and communication satisfaction were likely to be fully mediated by communication competence. That is, conflict management style had only indirect effect on communication satisfaction. Especially in Eastern culture such as Thailand's workplace, as Sriussadaporn-Charoenngam and Jablin (1999) contend, individuals must learn to know when, where, and with whom to express in respectful manner in the organization as well as know the chain of command communication and learn how to communicate with senior organizational members in proper manners. Without such communication competence, individuals are unable to achieve communication satisfaction.

Effects of communication competence on subordinate's communication satisfaction

Results from the test of Hypothesis 10-11 showed that communication competence both perceived supervisor's communication competence and self-communication competence were positively associated with subordinate's communication satisfaction. The data indicated that perceived supervisor's communication competence had a stronger effect (β = .656) on communication satisfaction than self-perceived communication competence (β = .232). These empirical data help confirm Madlock's (2008) conclusion in his study that supervisor's communication competence was the strongest predictor of employee's job and communication satisfaction. It suggests that even though subordinate's communication competence directly affects his/her own communication satisfaction with his/her supervisor, the communication skills of supervisors play a vital role in easing conflict tensions and can produce communication satisfaction.

Effects of communication competence as a mediator between conflict management style and subordinate's communication satisfaction

Results from the test of Hypothesis 12-14 provided empirical evidence using structural equation modelling to support Canary and Spitzberg's (1989) notion that communication competence is a social skill associated with satisfaction across conflicts. This present study fits with the work of McKinney et al. (1997) who specified that communication competence may be considered as an ability that may influence behavior choices in conflict situation and conflict outcome.

Theoretical and practical implications

This study highlights the importance of both self and supervisor's communication competence as variables that effect communication satisfaction between subordinate and supervisor. The key to communication satisfaction lies on communication competence of both subordinates and supervisors to manage their daily conflicts. Communication competence is considered as a vital component to supervisors' and managers' successful management. At individual level, both subordinates and supervisors must understand that conflict management style they use affect the outcome of their communication. At the organizational level, subordinates and supervisors alike need to be trained to become competent in their communication especially during conflict situations.

Future directions

The present study only surveyed the subordinates' perception. To provide a more comprehensive understanding, future study can investigate dyadic data to examine both the perceptions of subordinates and supervisors to compare the types of conflict management styles to communication discrepancies that may affect levels of communication satisfaction. Future research can incorporate more variables in the model and investigate potential moderators, such as self-disclosure, and leadership style, to explain the additional elements of the model. Additional research could be conducted to test this model by using cross-cultural sample both in Western culture and Eastern culture to cross-validate the results obtained from this study.

Limitations of the study

Several limitations of the present study should be noted. First, female participants are dominant in this study. As a result, the generalizability of this study must be interpreted with caution. Second, while this study investigated subordinates' perceptions of both their own and their supervisor's communication competence, it does not include the self-perceptions of their supervisor. As a result, this limitation leads to possible future study.

REFERENCES

Anderson, C., Martin, M., & Riddle, B. (2001). Small group relational satisfaction scale: Development, reliability and validity. *Communication Studies, 52(3),* 220-233.

Backlund, P. (1978). *Defining communicative competence*. In C. Larson, P.

Backlund, M. Redmond, & A. Barbour (Eds.). *Assessing Functional Communication*. SCA/ERIC/RCS.

Blake, R. R., & Mouton, J. S. (1964). *The managerial grid: The key to leadership excellence*. Houston, TX: Gulf.

Canary, D. J., Cupach, W. R., & Serpe, R. T. (2001). A competence-based approach to examining interpersonal conflict. *Communication Research, 28,* 79-104.

Canary, D. J., & Lakey, S. G. (2006). Managing conflict in a competent manner: A mindful look at events that matter. In J. Oetzel and S. Ting-Toomey (Eds.), *The Sage* h*andbook of communication and conflict* (pp. 185-210). Thousand Oaks, CA: Sage.

Canary, D. J. , & Spitzberg, B. H. (1989). A model of perceived competence of conflict strategies. *Human Communication Research, 15,* 630-649.

Chen, L. (2002). Perceptions of intercultural interaction and communication satisfaction: A study on initial encounters. *Communication Reports, 15(2),* 133-143.

Dilbeck, K. E., McCroskey, J. C., Richmond, V. P., & McCroskey, L. L. (2009). Self-perceived communication competence in the Thai culture. *Journal of Intercultural Communication Research, 38,* 1-7.

Folger, J. P., & Poole, M. S. (1984). *Working through conflict*. Glenview, IL: Scott Foresman.

Gross, M. A., Guerrero, L. K., & Alberts, J. K. (2004). Perceptions of conflict

strategies and communication competence in task-oriented dyads. *Journal of Applied Communication Research, 32,* 249-270.

Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S., Nishida, T., Kim, K. S., Heyman, S. (1996). The influence of cultural individualismcollectivism, self construals, and individual values on communication styles across cultures, *Human Communication Research, 22*, 510-543

Hecht, M. L. (1978). Measures of communication satisfaction. *Human Communication Research, 4,* 350-368.

Iamsudha, P., & Hale, C. (2003). The implications of Thai cultural values for self-reported conflict tactics, family satisfaction, and communication competence of young adults. Paper presented at the annual meeting of the International Communication Association, Marriott Hotel, San Diego, CA, USA, 27 May 2003.

Kline, R. (2005). *Principles and practices of structural equation modeling* (2n ed.). New York: Guilford Press.

Komin, S. (1991). *Psychology of the Thai people: Values and behavioral patterns*. Bangkok: National Institute of Development Administration.

Kreps, G. L. (1988). Relational communication in health care. *Southern Speech Communication Journal, 53,* 344-359.

Madlock, P. (2008). The link between leadership style, communication competence, and employee satisfaction. *Journal of Business Communication, 45(1),* 61-78.

Marquis, B. K., & Huston, C.J. (1996), *Leadership roles and managers function in nursing* (2nd ed.), Philadelphia, PA: Lippincott.

McKinney, B. C., Kelly, L., & Duran, R. L. (1997). The Relationship between conflict message style and dimensions of communication competence. *Communication Reports, 10*, 63-73.

Meek, B. S., Hendrick, S. S., & Hendrick, C. (1998). Communication, love and relationship satisfaction. *Journal of Social and Personal Relationships, 15(6),* 755-773.

Monge, P. R., Bachman, S. G., Dillard, J. P., & Eisenberg, E. M. (1982). Communicator competence in the workplace: Model testing and scale development. In M. Burgoon (Ed.), *Communication Yearbook 5* (pp. 505-527). New Brunswick, NJ: Transaction.

Papa, M. J., & Canary, D. J., (1995) Conflict in organizations: A competence-based approach. In: A. M. Nicotera (Eds.), *Conflict and organizations: Communicative processes* (pp. 153-179). Albany, NY: State University of New York Press.

Pearce, W. B., & Cronen, V. (1980). *Communication, action, and meaning: The creation of social realities*. New York: Praeger.

Putnam, L. L., & Wilson, C. (1982). Communicative strategies in organizational conflict: Reliability and validity of a measurement scale. In M. Burgoon (Ed.), Communication Yearbook (Yearbook 6, pp. 629-652). Newbury Park, CA: Sage.

Rahim, M. A. (1983). A measure of styles of handling interpersonal conflict. *Academy of Management Journal, 26*, 368-376.

Schutte, N. S., Schuettpelz, E., & Malouff, J. M. (2001). Emotional intelligence and task performance. *Imagination, Cognition and Personality, 20(4),* 347-354.

Spitzberg, B. H., Canary, D. J., & Cupach, W. R. (1994). A competence-based approach to conflict. In D. D. Cahn (Ed.), *Conflict in personal relationships* (pp. 183- 202). Hillsdale, NJ: Lawrence Erlbaum.

Sriussadaporn-Charoenngam, N., & Jablin, F. (1999). An exploratory study of communication competence in Thai organizations. *Journal of Business Communication, 4 (36),* 382-418.

Wheeless, L. R., & Reichel, L. S. (1990). A reinforcement model of the relationships of supervisors' general communication styles and conflict management styles to task attraction. *Communication Quarterly, 38*, 372–387.

Wiemann, J. M. (1977). Explication and test of a model of communication competence. *Human Communication Research, 3,* 195-213.

Wright, K. B., Banas, J. A., Bessarabova, E., & Bernard, D. R. (2010). A communication competence approach to examining healthcare social support, stress, and job burnout. *Health Communication, 25(4),* 375-382.

Zhang, Q. (2015). A U.S.-China investigation of the effects of perceived partner conflict styles on outcome satisfaction: The mediating role of perceived partner conflict competence. *Communication Quarterly, 63(1),* 1-22.