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Top Paper Awards

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By Thanet Wattanakul and Keangkwan Leepibun
2. THE ROLE OF PARENTAL AND PEER ATTACHMENT IN SOCIAL MEDIA ADDICTION AND DEPRESSION OF THAI TEENAGERS: THE CASE OF HIGH SCHOOL STUDENTS IN UTTARADIT
By Farah Madkhan and Peerayuth Charoensukmongkol
3. SOCIAL CAPITAL, KNOWLEDGE SHARING AND FIRM PERFORMANCE IN HO CHI MINH CITY, VIETNAM
By Ha Minh Tri and Nguyen Tan Minh
4. THE RELATIONSHIP BETWEEN PERSONAL CHARACTERISTICS AND SELF-DEVELOPMENT IN THE WORKPLACE: THE MODERATING ROLE OF ORGANIZATIONAL SUPPORT
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5. INTERNATIONAL MARITIME ENVIRONMENTAL LAW AND THE MECHANISM ON MARINE PLASTIC DEBRIS IN ASEAN REGION
By Kiarttiphorn Umpai

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ANALYSIS OF THE PROCESSED PINEAPPLE EXPORT COMPETITIVENESS OF THAILAND

by

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ABSTRACT

This research aims to analyze processed pineapple export competitiveness of Thailand as well as compare with competitors. Revealed comparative advantage index (RCA) was used to be instrument. The major import countries of canned pineapples consist of the United States, Germany, Spain, Netherlands and Russia. The major import countries of pineapple juice including the United States, Spain, Netherlands, Italy and Germany. Revealed comparative advantage of each competitor country during 2008 were more than 1. Constant market share (CMS) analysis covered from 2008 to 2017 found that the global export growth rate increased slightly by 0.096 percent. The growth rate of the total export of canned pineapples in the world market increased gradually 0.130 percent. It can be addressed that market distribution effect, competitiveness or share effect and interaction effect are essential effects contribute to ability of Thailand to export processed pineapple to the major markets in both increasing and decreasing directions.

KEY WORDS: Export Competitiveness, Pineapples, Processed Pineapples, RCA, CMS

INTRODUCTION

Trade liberalization can be regarded as leading factor to the more intense and competitive world market. As a result of trade liberalization, each country has more trade partners and competitors. Entrepreneurs must be able to increase competitiveness and continuous market shares. Thai government has implemented various supporting policies to increase export competitiveness by accelerating market share for important export products to the world market, especially agriculture and processed agriculture products that have competitive advantages.

Pineapple is one of the most important economic crops of Thailand. Thailand has many favorable factors for pineapple cultivation. Farmers have both knowledge and expertise. Moreover, many factories are massive production to purchase fresh pineapple and produce processed pineapples. There are many kinds of processed pineapples. Important processed pineapple are canned pineapples and pineapple juice (Pineapple Strategy Report, 2017).

The processed pineapple export generates huge revenue to the country. The export also connects agricultural production and industrial sectors to create value added. Ministry of Industry recognizes the importance. Consequently, research and development (R&D) is the necessary tool and mechanism to enhance value added for pineapples and accelerate productivity (Pineapple Strategy Report, 2017). More than 80 percent of the pineapples produces domestically export to import countries (Department of Internal Trade, 2018). As a consequence, the sensitivity of export sector affects the pineapple plantation and cultivation.

Thailand is a large exporter of canned pineapples and pineapple juice. Thailand has an average market share of canned pineapple for 44.23% in the world market. Philippines has an average market share for 20.70%. Indonesia has an average market share of 13.53%. These are examples of important competitors. Thailand lost market share massively to Philippines and Indonesia in 2015 and 2016. Thailand has an average market share of 28.16% in the world market. Netherlands has an average market share of 21.03 %. Philippines has an average market share of 14.41 %. This changing situation can be considered as obvious increasing competition environment in the export processed pineapple industry.

The pineapple industry has encountered many problems although related government organization implemented various enhancement policies such as expanding production in inappropriate areas without pineapple processing factories. Oversupply and very low prices in the recent years led to not only uncertainty in quantity but also quality of pineapples. Other crucial factor is the high dependence of pineapple exports on foreign countries (Pattama Komenjumrus, 2013). In addition, production costs and labor costs are higher than competing countries including higher taxation for trade than domestic competitors (Kasikorn Thai Research Center, 2016). The price of canned pineapple and pineapple juice of Thailand is lower than Indonesia and other countries. Contrary, it is higher than the Philippines because of higher production costs in Thailand. For this reason, it can be explained that many large importing countries have higher bargaining power. Philippines and Indonesia have lower production costs than Thailand. Philippines does not pay import tax to the European Union (EU). Indonesia pays import tax to the EU lower than Thailand. Disadvantageous in cost and price that is higher than the competing countries. However, Thailand has higher market share than other countries. Market shares of Thailand can be

possible and tends to decrease because of more competitive market higher production costs, market demand changing and lower quality.

From the above, it is very interesting to analyze the processed pineapple exports competitiveness of Thailand. Policy suggestions and recommendations can be proposed to enhance processed pineapple export competitiveness.

OBJECTIVE

This research aims to study analyze competition in Processed pineapple products exports of Thailand compare with competitors.

RESEARCH METHODOLOGY

The study of processed pineapples competitiveness of Thailand compare with competitors to major import countries. The products coverage were canned pineapple products (HS Code: HS200820) and pineapple juice (HS Code: HS200949). The data analysis methods undertaken by the revealed comparative advantage (RCA) and the constant market share model (CMS). The period of study was since 2008 to 2017. Both the competitors and major import partners are shown in Table 1 in the appendix.

Revealed Comparative Advantage (RCA)

Revealed comparative advantage is based on and extended from the comparative advantage theory combined with the Ricardian theory and the Hecker-Ohlin theory. One of the most popular methods for measuring the comparative advantage is the revealed comparative advantage (RCA), also known as the Balassa Index (Balassa, 1965). The RCA index equation can be written as follows.

$$RCA = \frac{\left(\frac{X_{ik}}{X_i}\right)}{\left(\frac{X_{wk}}{X_w}\right)}$$

Where RCA is the comparative advantage of the country I k to countries W. X_{ik} is the export value goods of the country I k to countries W. X_i is the value of all exports of the country I k to countries w. X_{wk} is the value of K goods imported from countries W. X_w is the total import value of the country W. I is the exporting country. K is a product. W is the market

Meaning RCA Index value. RCA greater than 1 ($RCA > 1$), it means that country I has comparative advantage in exporting product K. RCA less than 1 ($RCA < 1$), it means that country I has comparative disadvantage in exporting product K. RCA equals 1 ($RCA = 1$), it meaning that country I has no advantage and does not have a disadvantage in exporting product K.

Constant Market Share Model (CMS Model)

Constant Market Share Model (CMS Model) to analyze the reasons for the change growth of exports (Laemer and Stem, 1970). There are five reasons can be affirm that changes of export growth. These reasons are world trade Expansion, commodity compositional effect, market distribution effect, competitiveness or share effect and interaction effect. Constant market share model can be shown as follows.

$$dq_{ik} = s^0 dQ_i \left[\sum_k s_{ik}^0 dQ_{ik} - s_i^0 dQ_i \right] + \left[\sum_j \sum_k s_{ijk}^0 dQ_{ijk} - \sum_k s_{ik}^0 dQ_{ik} \right] + \sum_j \sum_k Q_{ijk}^0 dS_{ijk} - \sum_j \sum_k Q_{ijk} dS_{ijk}$$

From the above equation, it can be explained that there are many factors affect the changes of export. $s^0 dQ_i$ is General World Trade Expansion. The Exports will be higher when the needs of the world increase. $\left[\sum_k s_{ik}^0 dQ_{ik} - s_i^0 dQ_i \right]$ is the commodity compositional effect shows the export expansion of countries I.

$\sum_j \sum_k s_{ijk}^0 dQ_{ijk} - \sum_k s_{ik}^0 dQ_{ik}$ is market distribution effect.

$\sum_j \sum_k Q_{ijk}^0 dS_{ijk}$ is the competitiveness or share effect that shows difference between the actual export expansion and the potential export expansion. $\sum_j \sum_k Q_{ijk} dS_{ijk}$ is interaction effect that is the result of adjusting exports in the right or in the wrong direction.

RESULT

There are two parts was described in this section consist of the revealed comparative advantage (RCA) and constant market share model (CMS).

Revealed Comparative Advantage (RCA)

The comparative advantage index analysis results consist of two types of products which are canned pineapple and pineapple juice.

Canned Pineapple

TABLE 1. THE COUNTRY THAT HAS COMPARATIVE ADVANTAGE IN EXPORTING CANNED PINEAPPLES

Markets	Export Advantage Countries
U.S.	Philippines, Indonesia, Thailand
German	Kenya, Indonesia, Thailand
Spain	Indonesia, Philippines, Kenya, Thailand
Netherlands	Indonesia, Kenya, Thailand
Russia	Vietnam, Kenya, Thailand

Source: From the calculations and analysis

1. Thailand, Philippines and Indonesia have export capabilities and have a comparative advantage in exporting canned pineapples in the US market. On the other hand, China has disadvantage in exports because of many factors such as low exports and insufficient production for the massive domestic consumption.

2. In the German market. Thailand, Kenya and Indonesia have export capabilities and have a comparative advantage in exporting canned pineapples in the German market. Between 2009 and 2016, the Netherlands have a comparative advantage in exporting canned pineapples in German market. Except for the year 2008 and 2017, the Netherlands has a disadvantage in exporting canned pineapples in the German market.

3. In the Spain market. Indonesia, Philippines, Kenya and Thailand have export capabilities and have a comparative advantage in exporting canned pineapples in the Spain market.

4. In the Netherlands market. Indonesia, Kenya and Thailand have export capabilities and have a comparative advantage in exporting canned pineapples in the Netherlands market. Germany has a disadvantage in exporting canned pineapples in the Netherlands market.

5. In the Russian market. Vietnam, Kenya and Thai have export capabilities and have a comparative advantage in exporting canned pineapples in the Russian market. Poland has a disadvantage in exporting canned pineapples to the Russian market.

Pineapple Juice

TABLE 2. THE COUNTRY THAT HAS COMPARATIVE ADVANTAGE IN EXPORTING PINEAPPLE JUICE

Markets	Export Advantage Countries
U.S.	Philippines, Costa Rica, Indonesia, Thailand
The Netherlands	Costa Rica, Indonesia, Thailand
Spain	Costa Rica, Netherlands, Indonesia, Thailand
Italy	Netherlands, Costa Rica, Thailand
German	Netherlands, Thailand

Source: From the calculations and analysis

1. Costa Rica, Indonesia and Thailand have export capabilities and comparative advantages in exporting pineapples juice in the US market.

2. Costa Rica Indonesia and Thailand have export capabilities as well as comparative advantage in exporting pineapples juice in the Netherlands market. Philippines had export capabilities and comparative advantage in exporting pineapples juice in the Netherlands market during the year 2008 to 2014 and between 2016 and 2017. Philippines has a disadvantage in exporting pineapples juice in the Netherlands market in 2015.

3. In the Spain market. Indonesia, Costa Rica, Netherlands, Indonesia and Thailand have export capabilities and have a comparative advantage in exporting pineapples juice in the Spain market.

4. In the Italian market. Netherlands, Costa Rica and Thai have export capabilities and have a comparative advantage in exporting pineapples juice in the Italian market. Brazil has the ability to export and has comparative advantages in exporting pineapple juice in the Italian market only for 2014 and 2015.

5. In the German market. Thailand and the Netherlands have export capabilities and have a comparative advantage in exporting pineapples juice in the German market.

Constant Market Share Model (CMS Model)

The results of constant Market Share Model consist of 2 products which are canned pineapple and pineapple juice.

Canned pineapple

TABLE 3. CHANGES IN THE EXPORT VALUE OF CANNED PINEAPPLE DURING THE COMPARATIVE PERIOD (FROM 2008 TO 2012 AND FROM 2013 TO 2017)

Factors	Export Value			
	Thailand	Philippines	Indonesia	China
Commodity Compositional Effect	109,092.19	67,143.52	35,195.09	14,143.36
Market Distribution Effect	- 23,049.21	- 14,186.21	- 7,436.09	- 2,988.24
Pure Competitiveness	245,493.21	98,477.50	61,069.85	- 48,160.81
Interaction Effect	5,443.77	- 1,083.89	228.27	- 6,035.32

Source: From the calculations

The analysis period covered from 2008 to 2012 and from 2013 to 2017. The global export growth rate increased by 0.096 percent and the global export growth rate of canned pineapples increased to 0.130 percent. In the United States, the growth rate of exports the total output of canned pineapples increased by 0.102 percent.

For the commodity compositional effect, Thailand's export value of canned pineapples to the US market increased 109,092.19 USD. The Philippines' export value of canned pineapples to the US market increased 67,143.52 USD. Indonesia's export value of canned pineapples to the US market increased 35,195.09 USD. China's export value of canned pineapples to the US market increased 14,143.36 USD.

For the market distribution effect, Thailand's export value of canned pineapples to the US market decreased 23,049.21 USD. Philippines' export value of canned pineapples to the US market decreased 14,186.21 USD. Indonesia's export value of canned pineapples to the US market decreased 7,436.09 USD. China's export value of canned pineapples to the US market decreased 2,988.24 USD.

For the competitiveness effect, Thailand's export value of canned pineapples to the US market increased 245,493.21 USD. Philippines' export value of canned pineapples to the

US market increased 98,477.50 USD. Indonesia's export value of canned pineapples to the US market increased 61,069.85 USD. China's export value of canned pineapples to the US market increased 48,160.81 USD.

Interaction Effect, Thailand exported canned pineapples to the US market increase 5,443.77 USD. The Philippines exported canned pineapples to the US market decrease 1,083.89 USD. Indonesia exported canned pineapples to the US market increase 228.27 USD. China's export value of canned pineapples to the US market decreased 6,035.32 USD.

Pineapple juice

TABLE 4. CHANGES IN THE VALUE OF PINEAPPLE JUICE EXPORTS DURING THE COMPARATIVE PERIOD BETWEEN 2008 AND 2012 AND 2013 TO 2017

Factors	Export value			
	Thailand	Philippines	Indonesia	China
Commodity Compositional Effect	- 1,908.26	- 3,803.70	- 216.27	- 541.12
Market Distribution Effect	- 35,964.43	- 71,687.26	- 4,075.96	-10,198.40
Pure Competitiveness	- 35,100.94	- 210,605.08	21,730.06	- 4,812.21
Interaction Effect	- 16,215.38	43,582.32	- 15,712.67	- 7,373.00

Source: From calculations

The analysis period coverage is from 2008 to 2012 and from 2013 to 2017. The global export growth rate increased by 0.096 percent. The global export growth rate of pineapple juice decreased to 0.014 percent. The growth rate of exports the total output of pineapple juice increased by 0.28 percent for the United States.

For the commodity compositional effect, Thailand's export value of pineapple juice to the US market decreased 1,908.26 USD. Philippines' export value of pineapple juice to the US market decreased 3,803.70 USD. Costa Rica's export value of pineapple juice to the US market decreased 216.27 USD. China's export value of pineapple juice to the US market decreased 541.12 USD.

For the market distribution effect, Thailand's export value of pineapple juice to the US market decreased 35,964.43 USD. Philippines' export value of pineapple juice to the US market decreased 71,687.26 USD. Costa Rica's export value of pineapple juice to the US market decreased 4,075.96 USD. China's export value of pineapple juice to the US market decreased 4,812.21 USD.

For the competitiveness effect, Thailand's was able to export pineapple juice to the US market decrease 35,100.94 USD. The Philippines exported pineapple juice to the US market decrease 210,605.08 USD. Costa Rica exported pineapple juice to the US market increase 21,730.06 USD. And China exported pineapple juice to the US market decrease 4,812.21 USD.

Foe the interaction effect, Thailand was able to export pineapple juice to the US market decrease 16,215.38 USD. The Philippines exported pineapple juice to the US market increase 43,582.32 USD. Costa Rica exported pineapple juice to the US market decrease

15,712.67 USD. China's export value of pineapple juice to the US market decreased 7,373 USD.

CONCLUSION AND DISCUSSION

From the empirical results, it can be concluded that Thailand has the export competitiveness to important markets. This conclusion attributes to many supporting factors. Thailand has the appropriate topography and climate in pineapple planting resulting in quality pineapples (Pattama Komenjumrus, 2013). The result of constant market share analysis found that the growth rate of total global exports increased. The growth rate of the total export of canned pineapples in the world increased. Nevertheless, the growth rate of the total export of pineapple juice in the world decreased due to market distribution, real competition and export direction adjustment. Thailand can export both products to the important importers markets in both cases which are more or less exports. Therefore, the export competitiveness of both products depends on external factors such as the influence of world market and competitors.

POLICY RECOMMENDATIONS

1. The government should explore additional import market with high potential, business matching and exhibition booths in foreign countries.
2. The government should strictly inspect, monitor and improve product quality continually, check the packaging, label, product invoice matching between the exporters and importers.
3. Bank of Thailand has to implement effective monetary policies in order to maintain the stability of baht and prevent exchange rate risk fluctuation.
4. Government organizations have to implement efficient policies to control pineapple prices to be stable. Production shortage and oversupply including providing additional distribution channels and markets for farmers and controlling product prices are other crucial policies to be implemented.

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APPENDIX

TABLE 5. MARKETS AND COMPETITORS USED IN THE STUDY

PRODUCTS	MARKETS	COMPETITORS
Canned pineapple	U.S.	Philippines, Indonesia, China
	German	Kenya, Indonesia, Netherlands
	Spain	Indonesia, Philippines, Kenya
	Netherlands	Indonesia, German, Kenya
	Russia	Vietnam, Poland, Kenya
Pineapple juice	U.S.	Philippines, Costa Rica, Indonesia
	The Netherlands	Philippines, Costa Rica, Indonesia
	Spain	Costa Rica, Netherlands
	Italy	Netherlands, Costa Rica, Brazil
	German	Netherlands, Costa Rica, Vietnam

THE ROLE OF PARENTAL AND PEER ATTACHMENT IN SOCIAL MEDIA ADDICTION AND DEPRESSION OF THAI TEENAGERS: THE CASE OF HIGH SCHOOL STUDENTS IN UTTARADIT

by

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ABSTRACT

This research examines the influence of social media addiction on depression in teenagers who are high school students in Thailand. The study also investigates the role of parental attachment and peer attachment on social media social media addiction. Questionnaire survey data were collected from 1000 Thai high school student in two public high schools located in the Uttaradit province. Partial least squares structural equation modeling was used for data analysis. First, the analysis found significant support about the positive effect of social media addiction on depression. This means that the teenagers who are addicted to social media are more prone to experience depression. Secondly, the analysis found that parental attachment and peer attachment negatively affect social media addiction. This mean that the teenagers who have good relationship with parent and peer are less prone to be addicted to social media.

KEY WORDS: Depression, Family relationship, Friend relationship, Social media

INTRODUCTION

Thailand is among the countries that have a lot of people suffering from depression. Thailand has been ranked 32nd by the WHO as having a serious suicide issue and leads the Association of Southeast Asian Nations (ASEAN) in the number of suicides and people with depression (Khidhir, 2019). The Mental Health Department of Thailand reported that an estimated 1 million Thai teenagers are experiencing depression and 2 million Thai teenagers are at risk of experiencing depression which is a high number and can lead to a very serious social problem in the future (Rojanaphruk, 2017). In research, there is also evidence showing the connection between social media usage and depression. Many studies have shown that people suffer from depression, and social media has become the major cause of it due to the excessive use of it, and, the difficulties a person with a lack of self-regulation will have in controlling the use of social media (Andreassen, 2015; Hong et al., 2014; Lin et al., 2016; Pantic et al., 2012). There are a number of researchers that also confirmed the idea that social media addiction is positively associated with stress, depression, and anxiety (Bányai et al., 2017; Charoensukmongkol et al., 2017; Koc & Gulyagci, 2013; van Rooij et al., 2017).

While there are many papers that have been conducted in the area of social media addiction and depression, there are some gaps that still exist in literature. In particular, prior research tended to be limited on the role of parent relationships and friend relationships in the social media use behaviors of teenagers and the tendency for teenagers to be addicted to social media. In fact, scholars suggested that parents could be the important persons who protects teenagers from over-engagement in social media; they are also an influencer who enhances the teenager's ability to cope with life's problems (Mikulincer & Shaver, 2007). Similarly, prior research also suggested that peers tend to be a social group that has a strong influence on behaviors of teenagers. For example, a study by Moschis and Moore (1979) found that teenagers prefer to seek information from peers, and this is a major reason why teenagers engage in social media. Scholars also found that the stronger the relationship a teenager has with his/her peers, the more positive relationship and behaviors are the influences on peer communication (Wang et al., 2012). Moschis and Moore (1979) also argued the idea that peers affect teens' social media use due to the desire to gain acceptance in a peer group. Despite these crucial roles of parents and peers, only a small amount of research showed empirical evidence about the effect of parent and peer relationships on social media use behavior and social media addiction of teenagers. Secondly, even though research about the role of social media usage in depression has been conducted in many countries, research that was conducted related specifically to teenagers in Thailand is still very limited. These are the main gaps that need more empirical evidence to support.

Given the research gaps mentioned earlier, the main objectives of this research are:

- 1.To examine the influence of social media addiction on depression in teenagers who are high school students in Thailand.
- 2.To investigate the role of parental attachment and peer attachment on social media social media addiction.

This research contributes academically to the studies of social media addiction and depression in teenagers. This research will provide empirical evidence to complete the research gaps mentioned earlier. This study also will provide useful knowledge and ideas for the

researcher who is interested in studying social media addiction as well as peer and parental attachment, which have big effects on a teenager's life. This study will also provide contributions to the community and society in Thailand. Given that problems with social media addiction and depression can tremendously deteriorate the well-being and quality of life of teenagers, it is important to pinpoint what should be targeted to prevent the problems.

LITERATURE REVIEW

Social Media Addiction

According to LaRose et al. (2010), social media addiction is defined as a failure to regulate usage, which leads to negative personal outcomes. The utilization of the various types of social media can be addictive for social media users. Andrews et al. (2011) pointed out that social media addiction is a situation where an individual spends excessive time on social media, and it has negative effects on aspects of the individual's daily life, like school, work and relationships with others. Smutny et al. (2013) also claimed that social media addiction can be described as when an individual wants to spend too much time on social media. A study of Smutny et al. (2013) also showed that an individual who is checking status and updates or stalking on other people's profile frequently seems to be considered a social media addict.

There are several factors resulting from social media use that originate many negative outcomes (Charoensukmongkol, 2016; Sriwilai & Charoensukmongkol, 2016). Several research studies showed that social media use can be associated with harm and an inability to self-regulate (Nongpong & Charoensukmongkol, 2016; Vaghefi & Lapointe, 2014). A study by Osharive (2015) observed that students who devote more attention and time to social media than their studies tended to have a low possibility to pass the examinations. Maya (2015) also found that social media use contributes to lower academic achievement, low self-perceptions, and less interest in college-oriented careers. In addition, excessive exposure to social media might lead to depression, especially among children and adolescents (O'keeffe & Clarke - Pearson, 2011).

Depression

According to the American Association of Suicidology, depression is regarded as the common mental illness of this century, which is also known as the psychiatric cold. National Institute of Mental Health showed that depression creates emotional problems such as anxiety, anger, feeling sad, and lack of attention or happiness in activities that an individual once enjoyed, and despair and weakness are the main causes. Depression can have both short-term and long-term effects on an individual's health and behavior, and it can affect a person's work performance and social life (Klerman & Weissman, 1992). First, depression causes health and emotional problems such as discomfort, soreness, extreme anxiety, and mood swings, or even having difficulty performing activities of everyday life. Depression also causes economic problem, which includes health and social care funding, loss of productivity and work time rate, the burden on the caregiver, and loss of compensation. Simon et al. (1995) reported that depression was mostly connected with a high cost at every point of medical treatment and healthcare and also with the use of mental health expert services. In addition, the negative outcome of depression is associated

with quality of life. As can be seen from Olfson et al. (1996) study, a person with depression mostly has a poor relationship with others, when compared to a non-depressed person.

Parental Attachment

Parental attachment refers to the relationship between a parent and a child (Schnyders, 2012). Moretti and Paled (2004) explored the idea of the importance of parental attachment, that the parent is an influential person in controlling their teenager's development, where lower engagement in dangerous behaviors, fewer mental difficulties, and more developed social skills are involved in the secure attachment, which is very important to enable a parent to cope with a teenager. Bowlby (1988) explored the idea that parents with secure attachment towards the child support a good relationship in the family and high self-esteem for the child. Bowlby (1988) also claimed that insecure attachment of parents can make a child become isolated. Furthermore, Bradshaw et al. (2012) argued that a good relationship between a family and teenager is related to emotional well-being during childhood. On the other hand, Raja et al. (1992) outlined that a teenager who has an insecure attachment to his/her parent tends to be in trouble, like suffering from depression and lower self-esteem (Cyranowski et al., 2000).

Peer Attachment

Peer attachment refers to the quality of relationship that an individual has toward his or her friend (Hinde, 1997). The social support perspective suggests that friends play a role as a supportive agent for a person who is in a bad situation in life (Cohen, 2004). Berndt (2002) stated that a person who has a friend they can seek out for help and support can better deal with a stressful situation than a person who has no friends. As presented in the study by Armsden and Greenberg (1987), peer attachment is crucial for teenagers' emotional health. Friend influence also exerts strong social pressure upon teenagers' activities, such as using social media for communication (Charoensukmongkol, 2018; Valkenburg et al., 2005). Moreover, Sullivan (1953) believed that friends have a powerful impact on adolescence adaptation. Stocker (1994) said that children who derive a higher level of warmth and sympathy in their friendship show a lower level of depression. Furthermore, Parker and Asher (1993) observed that friendship quality is associated negatively with loneliness and positively with self-regard in middle childhood.

Hypotheses Development

Effect of social media addiction on depression

This research proposes that social media addiction can cause depression and anxiety among teenagers. This argument is supported by previous research that found that time spent on social media is connected with depression (Pantic et al., 2012). For example, a research by Lin et al. (2016) analyzed the relationship between the amount of time a person spent on social media and depression. Their research collected survey data from 1,787 respondents who lived in the U.S.A. Their results indicated that the more time an individual spends on social media, the more likely it is that the individual will suffer from depression. Primack et al. (2017) stated there is a strong correlation between the number of plat-

forms a person uses and depression, which clarified that the more social media sites a person uses, the more likely it is that the person is depressed. The research of Zaffar et al. (2015) revealed there was a strong correlation between Facebook addiction and depression. Moreover, a number of studies also pointed out that social media addiction could lead to depression, anxiety, and sleep deprivation (Bányai et al., 2017; Koc & Gulyagci, 2013; Shensa et al., 2017; van Rooij et al., 2017). Based on the support and evidence mentioned above, this study proposes the following hypothesis:

Hypothesis 1: There is a positive relationship between social media addiction and depression in Thai teenagers.

Effect of Parental Attachment on Social Media Addiction

This research proposes that parental attachment can have a negative impact on the social media addiction of Thai teenagers. Generally, adolescents seek closeness and warmth from parents (Buhrmester & Furman, 1987). Gentzler et al. (2011) claimed that an intimate and supportive parental relationship occurs when teenagers have face-to-face conversation with parents. Nonetheless, when the need for closeness with a parent is not fulfilled, adolescents may immerse themselves in an activity in social media (Cortoni & Marshall, 2001). From the perspective of the attachment theory, close parent-teenage attachment can potentially lower the possibility of being addicted to social media (Ko et al., 2007). This hypothesis is supported by several studies that showed that a person who has a good relationship with a parent seems to spend less time on social media (Schimmenti et al., 2014; Zoppos, 2009). Also, scholars suggested that parents who avoid having a good relationship with their children tend to make children become immersed in social media (Baek et al., 2014). Given the literature's support and evidence regarding the role of parent attachment, this hypothesis is proposed:

Hypothesis 2: There is a negative relationship between parental attachment social media addiction

Effect of Peers Attachment on Social Media Addiction

Similar to the effect of parental attachment on social media addiction, this research proposes that peer attachment can also have an impact on the social media addiction of teenagers. In particular, it could be possible that peer attachment might lower the chance of social media addiction. From this perspective, research showed that poor relationships with friends also could potentially lead to social media addiction because a teenager may use social media to overcome the feeling of being alone (Reiner, Tibubos, Hardt, Muller, Wolfing, & Beutel, 2017). From this perspective, it could be possible that teenagers with high-quality peer attachment in real-life seem to be less prone to social media addiction (Milani et al., 2009). Therefore, the last hypothesis is proposed:

Hypothesis 3: There is a negative relationship between peer attachment and social media addiction.

METHODOLOGY

Sample and Data Collection Procedure

The research context of this study focuses on the teenager in Thailand. The nonprobability is used to choose the respondents for this study. Scholars suggested that convenience sampling can be used when the main characteristics under investigation of the target population are homogeneous (Burns, 2000). Therefore, using convenience sampling could be appropriate for this research, given that the issue about social media behavior and addiction, as well as the issue about family and friend relationships, tends to be quite homogeneous among teenagers in general.

The sampling frame of this study is the teenage high school student in two public high schools located in the Uttaradit province. These two schools are chosen due to the permission that the researcher obtained from the school directors to collect data at their schools. The first school is the biggest high school located in the Uttaradit province, with approximately 2,000 students. The second school is a medium-sized school, with approximately 300 students. The majority of students in these two schools are female. A self-administered questionnaire survey was operated. For the data collection procedures, firstly, the researcher contacted the school director in both schools and sent a cover letter to get permission from the school director to administer the questionnaire survey at the schools on working days. The cover letter indicated the objectives of this study and the guarantee of the confidentiality of data collection. Once the researcher gained permission from the school director, the researcher visited each school for data collection. The questionnaire survey was administered with the help of the academic staff, who distributed the questionnaire survey to students in person in the classroom. The students were asked to complete the survey at home and bring the survey back to the academic staff. In the first school, a total of 1,000 questionnaires were distributed and 750 of them were returned back to the researcher, which accounted for a 75 percent response rate. In the second school, a total of 300 questionnaires were distributed and 250 were returned, which accounted for an 83 percent response rate. To sum up, a total of 1,300 questionnaires were distributed to both schools and 1,000 questionnaires were returned. The final response rate is 77 percent. Descriptive statistics of the respondents are reported in Table 1.

Table 1: Descriptive statistics of the respondents

Gender	Male: 192 (19.2%) Female 808 (80.8%)
Age (Years)	Mean: 14.75 SD: 1.68
GPA	Mean: 2.96 SD: 1.22
High school level	Grade 7: 212 (21.2%) Grade 8: 203 (20.3%) Grade 9: 175 (17.5%) Grade 10: 159 (15.9%) Grade 11: 102 (10.2%) Grade 12: 149 (14.9%)
Intensity of Social media use	Less than 1 hour (24 2.4%) 1 hour: 63 (6.3%) 2 hours: 102 (10.2%) 3 hours: 166 (16.6%) 4 hours: 144 (14.4%) 5 hours: 165 (16.5%) 6 hours: 102 (10.2%) 7 hours: 55 (5.5%) 8 hours: 56 (5.6%) 9 hours: 21 (2.1%) 10 hours: 24 (2.4%) More than 10 hours: 78 (7.8%)

Measurement

Social media addiction was measured by self-rating items created by Andreassen et al. (2012). The scale was made up of 8 items. The researcher used a five-point Likert scale, ranking from 1 (strongly agree) to 5 (strongly disagree).

The measurement scales of *depression* were developed by The World Health Organization's Collaborating Center on Mental Health. Participants were asked to rate their depression symptoms and feeling isolated using 22 items. The researcher used a five-point Likert scale, ranking from 1 (never) to 5 (always).

Parental attachment was measured by the scale constructed by Vignoli and Mallet (2004). These 14 items were ranked used a five-point Likert scale, ranking from 1 (strongly agree) to 5 (strongly disagree).

The measurement of *peer attachment* was established by Armsden and Greenberg (1987). There are 17 items that were measured by employing a five-point Likert scale, ranking from 1 (strongly disagree) to 5 (strongly agree).

Control Variables

This research also considers some personal characteristics that might also affect the social media addiction and depression of teenagers. Control variables in this research include age, gender, and academic performance of the respondents. Age is measured by actual age of the respondent in years. This variable is measured on a ratio scale. Gender is measured by a dummy variable: male is coded as 1 and female is coded as 0. Academic performance is measured by grade point average (GPA) of the respondents. This variable is measured on a ratio scale.

Estimation Method

Partial Least Squares Structural Equation Modeling (PLS-SEM) is used for analyzing the proposed model in this research. PLS is a regression method that is used to describe the common structure underlying the two variables (Abdi, 2003). PLS-SEM is used for this study because it provides many benefits to the researcher. For instance, the researcher can analyze a lot of different hypotheses at the same time, for a single or multiple measurements. Furthermore, it does not require a large sample size as compared to other SEM techniques (Jr et al., 2011).

RESULTS

Model Assessment

Convergent validity was evaluated by conducting the factor loading analysis. As claimed by Hair et al. (2011), .5 is the minimum rate for convergent validity analysis. The researcher removed all questions that had low factor loading value. After these low-loading questions were removed, the researcher gets satisfactory results of factor loadings. Next, the researcher tests the discriminant validity by comparing the square root of AVE of each construct and the correlation of a particular variable to other variables (Fornell & Larcker, 1981). The results of discriminant validity of this study are presented in Table 2 confirm that the square root of AVE of each variable is higher than other correlations, which are satisfactory results. Cronbach's alpha coefficient and composite reliability were performed for the reliability test. The value of Cronbach's alpha coefficient needs to be above .7, or at least above .6, to verify the reliability of the items (Fornell & Larcker, 1981). Similarly, the value of composite reliability should be at 0.7 or higher. As shown in Table 2, the reliability indicators of Cronbach's alpha and composite reliability met the requirement.

TABLE 2. Correlation among variables and square root of AVE

Variables	Cronbach's alpha coefficient	Composite reliability coefficient	SA	DP	PAR	PEER	GEN	AGE	GPA
SA	.868	.901	(.777)	.481**	.13**	.089*	-.053	-.083**	.102**
DP	.863	.889		(.652)	.252*	.105*	-.04	-.047	.111**
PAR	.899	.778			(.501)	.13**	-.051	.079*	.087**
PEER	.904	.607				(.392)	-.172**	.053	.046
GEN	n/a	n/a					(1)	-.342**	.16*
AGE	n/a	n/a						(1)	.058
GPA	n/a	n/a							(1)

Notes: * p-value < .05, ** p-value < .01;

The square root of AVE is displayed in the parentheses.

SA = Social Media Addiction, DEP= Depression, PAR = Parental Attachment, PEER = Peer Attachment, GEN=gender,

AGE=age, GPA=grade point average

A full VIF test was conducted to estimate the multicollinearity problem. The value of full VIF should be lower than 3.3 to assure that multicollinearity is not a serious issue in the PLS estimation (Kock & Lynn, 2012). The VIF analysis shows that all full VIF values are lower than 3.3; the finding indicates there is no serious multicollinearity.

Structural Model

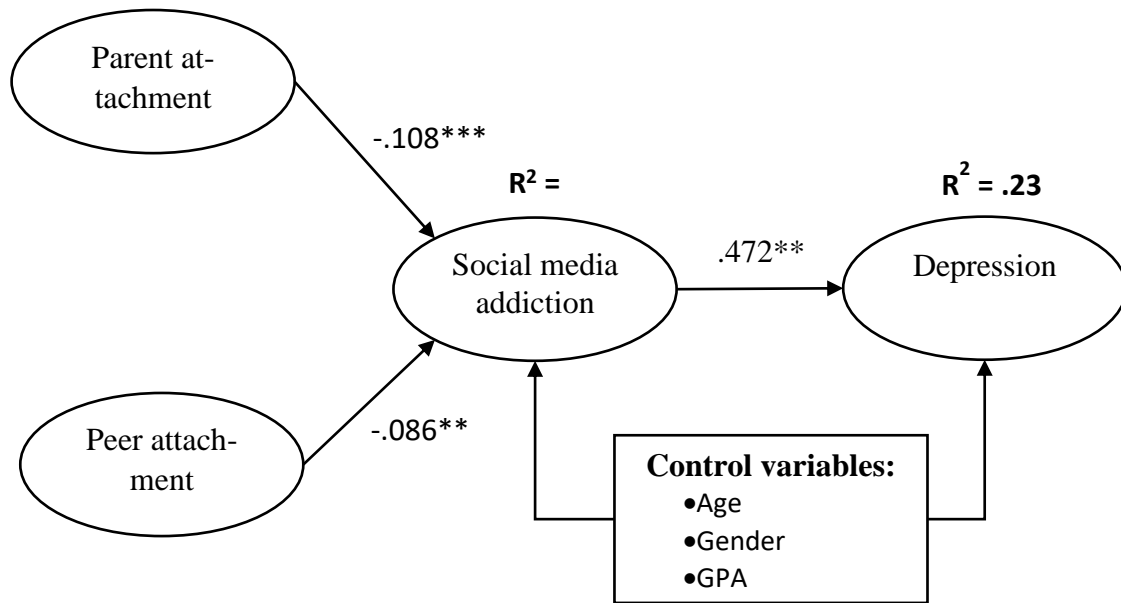
The results from hypothesis testing are summarized in Figure 1.

Hypothesis 1 states that social media addiction is positively related to depression in Thai teenagers. The result showed that these two variables are positively related, which indicates that social media addiction is related to the level of depression that the respondents reported. The result was also statistically significant ($\beta=.472$; $p<.001$). This means that the respondents who scored higher on social media addiction tended to exhibit a higher level of depression. Therefore, hypothesis 1 is supported.

Hypothesis 2 states that parental attachment is negatively related to social media addiction. The result indicated a negative relationship between these two variables ($\beta=-.108$; $p<.001$), which suggested that the respondents with a higher level of parental attachment were less prone to social media addiction. The result was also statistically significant. Therefore, hypothesis 2 is supported.

Hypothesis 3 states that peer attachment is negatively related to social media addiction. The result revealed a negative relationship between these two variables, which indicated that the respondents with a higher level of peer attachment were less likely to show social media addiction. The result was also statistically significant ($\beta = -.086$; $p = .002$). Therefore, hypothesis 3 is supported.

Figure 1: Results from Hypotheses Testing



Notes: *** $p < .001$, ** $p < .01$
Standardized coefficients are reported.

As for the control variables, social media addiction was found to have a negative and significant association with age ($\beta = -.107$; $p < .001$), gender ($\beta = -.127$, $p < .001$), and GPA ($\beta = -.103$, $p < .001$). Depression was found to have a negative association with age ($\beta = -.015$; $p = .308$), gender ($\beta = -.031$; $p = .144$), and GPA ($\beta = -.067$; $p = .011$); but only the effect of GPA is significant.

DISCUSSION AND CONCLUSION

Discussion of the Findings

This research found that teenagers who are addicted to social media tend to show a higher propensity towards having depression symptoms. This finding is consistent with previous research that also supported the linkage between social media addiction and depression (Lin et al., 2016; Meena et al., 2012; Pantic et al., 2012; Wegmann et al., 2015). In addition, this research found that teenagers who have a good attachment with their parents have a lower possibility of being addicted to social media. In particular, the result is consistent with the study of Mikulincer and Shaver (2007), which showed that a good relationship with parents is considered a main factor in improving teenagers' lives, helping

them deal effectively with stress, and making teenagers reduce their use of social media. It also provides additional evidence to the study of Zoppos (2009), which found that a person with a healthy parental attachment is more likely to spend less time using social media and to take more time to develop a good relationship with parents. Similarly, this research found that teenagers who have a strong attachment with peers tend to have lower social media addiction. This finding is consistent with previous research that also supported the linkage between peer attachment and the degree of social media usage. In particular, the result is consistent with prior research which showed that poor relationships with friends could potentially lead to social media addiction because a teenager may use social media to overcome the feeling of being alone (Reiner, Tibubos, Hardt, Muller, Wolfing, & Beutel, 2017). In particular, this research support the argument of Milani et al. (2009) suggesting that teenagers with high-quality peer attachment in real-life seem to be less prone to social media addiction.

Research Contributions

Overall, the results from this research provide extra contributions to fill the research gap in two aspects. Firstly, although there are a lot of studies about the relationship between social media addiction and depression, studies on the effect of peers and parents on the use of social media and depression is still rare. This study filled the gap by targeting the effect of parental and peer attachment to social media addiction. This study showed that parents and peers have important influence on social media addiction of teenagers. Overall, these results add extra evidence to prior research in this area to gain more understanding about the role of parents and peers, which tend to be stronger predictors of social media usage in teenagers. Secondly, research about the role of social media usage as it relates to depression has been conducted in many countries, but research that was conducted using the case of teenagers in Thailand is still very limited. This study filled the gap by targeting the use of social media and depression using the sample of teenagers in Thailand.'

Recommendations

The results from this research provide insight for society related to the influence of family and friends that might lead to social media addiction and depression problems in teenagers. In particular, a parent is among the key people who can play an important role in helping teenagers avoid using too much social media. In this regard, this research suggests that parents should develop a good relationship with teenagers so that they will not use social media as a tool to escape from loneliness. Teenagers who have a secure relationship with their parents are less likely to be excessively immersed in social media because a healthy relationship with parents can reduce their stress and encourage them to discuss and share all of their problems with their parents, rather than relying too much on social media. Similarly, the relationship with peers also have influential impact on the use of social media for teenagers. Because of the strong impact of peers on reducing excessive social-media-use behaviors of teenagers, it is important for schools to help teenagers to build relationship with friends in real-world settings. For example, schools may need to arrange activities or recreation for teenagers to participate in with friends. This is important because it will give more opportunities for teenagers to interact more often with friends in real-world settings, thereby reducing the need of teenagers to rely heavily on social media for social interaction.

Limitations

There are some limitations that need to be considered. First, the data were collected only from two schools in Thailand, which may limit the generalizability of the findings. Be-

cause convenience sampling was used for sample selection, the results could be susceptible to sampling error. Moreover, because the majority of the respondents are female, the results may possibly contain some gender bias in the data.

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SOCIAL CAPITAL, KNOWLEDGE SHARING AND FIRM PERFORMANCE IN HO CHI MINH CITY, VIETNAM

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ABSTRACT

This research aims to expand the existing understanding of firm performance by proposing and testing a theoretical model that investigates the relationship between social capital, knowledge sharing and firm performance. This investigation employed a questionnaire-based survey method to collect data using convenience sampling. This study collected 336 valid responses from respondents who are middle and top managers of small and medium enterprises (SMEs) across Ho Chi Minh City, Vietnam. A structural equation modelling procedure was used to verify the hypotheses. According to the findings, except for the relationship between relational capital and tacit knowledge sharing, all remaining dimensions of social capital facilitate both tacit and explicit knowledge sharing. In a similar vein, both tacit and explicit knowledge sharing practices influence firm performance, except for explicit knowledge sharing and financial performance. The study proposes a guide as to how firms should achieve better performance by promoting social capital and knowledge sharing.

KEY WORDS: Knowledge sharing, Firm performance, Social capital, Vietnam

INTRODUCTION

Social capital (SC) is a vital element to influence change in a firm looking to increase effectiveness. Research in SC has been popular in a wide array of social science disciplines. SC has become crucial catalyst for firms to acquire knowledge which then improves organizational performance (Yli-Renko, Autio, & Sapienza, 2001). Firms with rich SC can gain competitive advantage. Despite the popularity of the concept, little is known how SC facilitates firm performance outcomes in a systematic manner (Kim, Lee, Paek, & Lee, 2013; Maurer, Bartsch, & Ebers, 2011; Van Wijk, Jansen, & Lyles, 2008). Numerous studies have examined the relationship between SC and KS (Gooderham, Minbaeva, & Pedersen, 2011; Inkpen & Tsang, 2005; Wei, Zheng, & Zhang, 2011). Other studies have examined the influence of KS on organizational performance (de Zubieta, Lindsay, Lindsay, & Jones, 2019; Grossman, 2007; Nakamura & Nakamura, 2004; Palacios-Marqués, Peris-Ortiz, & Merigó, 2013). Therefore, the following question may arise: what dimensions of SC may affect tacit and explicit knowledge sharing (KS) which would result in firm performance? To date, however, few attempts have been made to investigate the relationships of SC, KS and firm performance. Therefore, the aim of this paper is to examine the relationships between SC, KS and firm performance in a systematic way.

Following this introduction, the second section includes a theoretical background and hypotheses development. The third section details the methodology of collecting data and developing measurement scales. The fourth section analyzes data and presents research results. Discussion, implications, and limitations are reported in the fifth section.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

SC and KS

SC consists of different dimensions or attributes, including structural, relational and cognitive ones (Nahapiet & Ghoshal, 1998). The structural attribute comprises network and social relations whose connections determine who and how to be reached (Granovetter, 1992). The cognitive attribute encompasses the values, goals and shared visions of the organization's members. The relational attribute represents the level of trust between individuals formed through interactions: trust, norms, responsibilities, and recognition increase actors' awareness of their mutual objectives.

In knowledge management research, SC embraces close relationship among members of organization adapt their actions and beliefs via social interaction (Kim et al., 2013; van den Hooff & Huysman, 2009). The role of social ties, social trust and mutual interest of structural, relational and cognitive dimensions of SC has long been established in literature (Hau, Kim, Lee, & Kim, 2013). SC plays an important role in facilitating the process of KS, and creation (Ganguly, Talukdar, & Chatterjee, 2019). SC helps correctly interpret other people's knowledge by giving people relevant knowledge and understanding, a common sense and environment of mutual trust, and respect (Akhavan & Mahdi Hosseini, 2016; van den Hooff & Huysman, 2009). This is a powerful resource for organizations, as it promotes individual interactions which are necessary for social actions collectively (Leana III & Van Buren, 1999). Various authors have conducted research about the relationship between SC and KS or knowledge transfer (Chang & Chuang, 2011; Chow & Chan, 2008; Holste & Fields, 2010; van den Hooff & Huysman, 2009; Yang & Farn,

2009). Furthermore, Chang and Chuang (2011) contended that the three dimensions of SC make significant contribution to the quality and quantity of KS behavior in organization environment. These three dimension of SC were also justified to be influential to KS (Kim et al., 2013).

Structural SC and KS

The structural SC includes relationships, density, configuration and network relevance. The concept of the structural SC is based on the notion of "strength of weak relations" proposed by Granovetter (1983). The notion of the "power of weak ties" holds that weak ties make KS efficient since they allow approach to new information by connecting unrelated individuals and groups in an organization.

Theory of social network states that relationships in the network allow access to facilities and resources rooted in social relationships (Coleman, 1988; Nahapiet & Ghoshal, 1998; Putnam, 1995). Similarly, knowledge is to be considered among the most invaluable resource rooted in social relationship (Inkpen & Tsang, 2005). The process of creating and sharing knowledge in an organization is related to the characteristics of social network structure (Borgatti & Cross, 2003). Reagans and McEvily (2003) found that close relationships and coherent network structures of the structural SC dimension add to effective sharing of knowledge among network actors. In the absence of social interactions, the exchange or transfer of tacit knowledge element is difficult (Kogut & Zander, 1996; Szulanski, 1996). Healthy relationships promote tacit KS better than encrypted one (Hansen, 1999; Reagans & McEvily, 2003). An intense social network with close interaction and high frequency of interaction leads to increased tacit knowledge transfer (Krackhardt, 1992; Sorenson, Rivkin, & Fleming, 2006). In a similar vein, Zaqout and Abbas (2012) found that social network had a positive relationship with both tacit and explicit KS. Therefore, the following hypotheses are formulated:

H1: Structural SC affects sharing of explicit knowledge positively.

H2: Structural SC affects sharing of tacit knowledge positively.

Relational SC and KS

Nahapiet and Ghoshal (1998) explained relational SC as a "binder of relationships" in the binding strings of actors whose main features are reliability and trust. In the context of social network, Coleman (1988) contended that the influence of SC associated with the close relationships significantly contributes to individual and collective actions. In addition, the key element of Adler & Kwon's (2000) definition of SC indicates *goodwill*, and it roots in the relationship content and structure. The main characteristic of goodwill is called belief by Adler & Kwon (2000). By empirical research, Tsai & Ghoshal (1998) observed that trust has a great influence on resource exchange and association. At the same time, credibility is also closely associated with the two cognitive and structural dimensions. Moreover, the relational dimension was theorized as a reliance on resources (Hughes, Morgan, Ireland, & Hughes, 2014). They argued that resource-dependent perspectives allow central actors to choose behavior to establish relationships and this demonstrates that trust is an opportunity to create value. Hughes et al. (2014) also showed that belief is a key component in these relationships, and it prevents opportunistic behavior. They argue that increasing the reliance on resources with repetitive interactions will augment sharing of knowledge between the entities. Inkpen and Tsang (2005) verified that beliefs serve as a

basis for the cohesion of relations between parties, prevent opportunistic behaviors and contribute to free knowledge exchange.

In terms of creating and sharing tacit knowledge, trustworthy relationships play an important role (Collins & Hitt, 2006; Holste & Field, 2010; Nonaka & Von Krogh, 2009). The relational SC expressed by credibility and trust is indispensable to the density of social network so that it becomes an effective premise of knowledge acquisition and assimilation (Ganguly et al., 2019). KS is implicitly influenced by interpersonal trust (Epstein, 2000; Foos et al., 2006). Dhanaraj et al. (2004) also find that the cohesion of relations between parties strongly affects the sharing of tacit knowledge. From the current theories, the author proposes two hypotheses H3 and H4 as follows:

H3: Relational SC affects explicit KS positively.

H4: Relational SC affects tacit KS positively.

Cognitive SC and KS

A common perception reference framework is needed in order to identify and exchange or share knowledge with network actors (Nonaka, 1994). Common language, objectives, and understanding impact the collection and evaluation of knowledge (Kogut & Zander, 1996). The common goals and vision serve as a means of linkage for internal network sharing and new knowledge integration (Inkpen & Tsang, 2005). They also argued that the process of sharing and integrating knowledge influenced by a common culture of beliefs, norms and common values has an impact. Wasko & Faraj (2005) suggested that cognitive SC promotes KS, particularly complicated knowledge. Moreover, it was observed that tacit knowledge that individuals exchange via the social exchange structure need to have common knowledge and experience (Nonaka, 1994). Ganguly et al. (2019) also pointed out that the regime of knowledge transfer relates to shared experiences and thought processes. The process of socialization transforming tacit knowledge requires the background, experience and common understanding of the members regarding common cognitive schemas and common goals (Nonaka & Toyama, 2003). Based on these arguments, the authors propose two hypotheses H5 and H6 as follows:

H5: Cognitive SC affects sharing of explicit knowledge positively.

H6: Cognitive SC affects sharing of tacit knowledge positively.

KS and firm performance

Knowledge is useful assets and resources for firms which directly affects firm performance (Terry Kim, Lee, Paek, & Lee, 2013). Wang and Wang (2012) conceptualizes firm performance in firm operational and financial performance. Dividing firm performance into two main categories (operational and financial) can be useful in identifying determinants which may affect operational or financial performance, and therefore provide better insights into firm performance. Several studies have investigated the relationship between knowledge sharing and firm operational and financial performance (Ha & Nguyen, 2020; Wang & Wang, 2012).

In light of knowledge-based view (KBV), knowledge which consists of tacit and explicit is the principal source for firms to gain sustained competitive advantage (Felin & Hesterly, 2007; Teece, 2007). While organizations can retain knowledge for value creation, knowledge exchange or sharing enhances innovation, and eventually gains increased performance

(Gao, He, & Wang, 2009). The sharing, for example, can be documents and reports, training programs, development agenda which timely respond to customer needs, and ultimately contributes to firm performance (Wang & Wang, 2012).

When firms invest in explicit KS for knowledge use, reuse or renewal, organizational learning processes take place. Explicit KS facilitates new knowledge flows and drives future actions (Wang, Wang, & Liang, 2014). This enhances the diffusion of information across members of organizations, promotes the development of shared concepts and allows for the synthezation and reconfiguration of existing capabilities. Thus, explicit KS in organizations has important impacts on commitments, values, and culture of employees. These are essential for achieving high-level performance. It was further emphasized that the interaction of flow of information and codified knowledge in explicit KS processes would significantly add values to efficiency and effectiveness in organizations (Van den Hooff & De Ridder, 2004).

Unlike explicit knowledge, tacit knowledge is subconscious and more complicated to be communicated or coded (Polanyi, 1962). Nonaka and Takeuchi (1995) identified that tacit knowledge exists at a high personal level that people take these for granted. That is the reason why people have difficulties in comprehensively express tacit knowledge in form of words and numbers. Tacit knowledge can be captured in people's actions, which include various forms such as evaluations, attitudes, opinions, experiences and skills (Koskinen, Pihlanto, & Vanharanta, 2003).

In a similar vein, tacit KS is of great interest to scholars and researchers. Several authors confirmed that tacit KS significantly improves organizational performance (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Mohsen Allameh, Khazaei Pool, Jaber, & Mazloomi Soveini, 2014; Reyhav & Weisberg, 2009). Sharing of tacit knowledge is considered the basis for organizational learning which offer great advances to organizations, including positive impacts on firm performance (van Woerkom & Sanders, 2010). Sharing of tacit knowledge was found to have positive influence on firm performance (Harlow, 2008; Kim & Gong, 2009; Wang & Wang, 2012; Wang et al., 2014). Therefore, the following hypotheses are formulated.

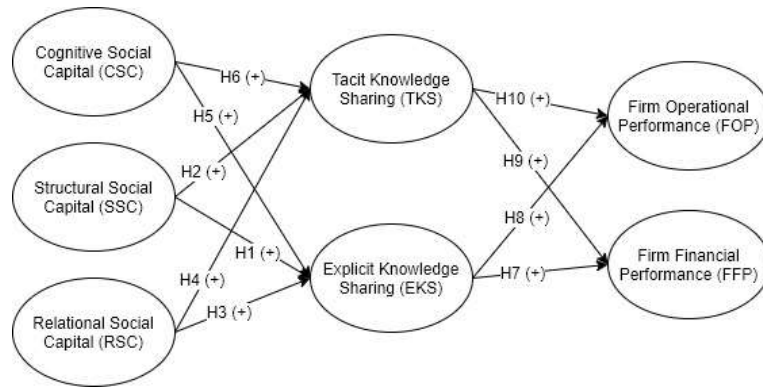
H7: Explicit KS influences firm financial performance positively

H8: Explicit KS influences firm operational performance positively

H9: Tacit KS influences firm financial performance positively

H10: Tacit KS influences firm operational performance positively

Figure 1: Hypothesized model



METHODOLOGY

Data collection and sample

The present research adopted the questionnaire-based survey to verify the hypotheses with items adapted from previous studies. The target respondents were middle and top managers of SMEs in Ho Chi Minh City, the largest and busiest city in Vietnam. Prior to data collection, the questionnaire was pretested with a small, representative group of respondents ($n = 10$) using face-to-face interview. The objective of this pretest was to assess whether any items were too difficult to answer due to sentence length, wording, or special terminology (Colton & Covert, 2007), thus ensuring the construct validity of the questionnaire (Shadish, Cook, & Campbell, 2002). The authors sent out 400 questionnaires between November and December of 2019 to obtain primary data using convenient sampling method. The survey returned 336 valid responses, yielding a response rate of 84%. This high response rate reduces the possibility of response bias (Trochim, Donnelly, & Arora, 2015). All respondents are between 30 and 59 years old. Female accounts for 28.6% of the respondents, and 71.4% of respondents are male.

Measurements of the constructs

This research used a Likert-typed scale (five – point) to score the questionnaire items, in which 1 indicates “strongly disagree,” and 5 indicates “strongly agree.” The seven-construct measurement scale (Table 1) with 34 variables were adapted from the literature.

TABLE 1. Constructs and their measurement items.

Construct	Code	Item	Standardized regression weights	SMC	Alpha	AVE	CR
Cognitive SC (CSC) (Items adapted from Chow & Chang, 2008)	CSC1	My fellows and I are always in agreement about what matters at work.	0.851***	0.724	0.889	0.733	0.891
	CSC2	My fellows and I are keen to follow the common objectives and missions of the whole organization.	0.821***	0.674			
	CSC3	My fellows and I have the same vision and goals.	0.894***	0.799			
Relational SC (RSC) (Items adapted from Chow & Chang, 2008; Nahapiet & Ghosal, 1998)	RSC1	I feel like I am connected to my fellow members.	0.866***	0.750	0.891	0.673	0.891
	RSC2	I know my fellows try and help me to overcome difficulties all the time.	0.872***	0.760			
	RSC3	I will trust my fellows when I need help.	0.794***	0.631			
	RSC4	I can rely on my fellows when in need.	0.742***	0.550			
Structural SC (SSC) (Items adapted from Chow & Chang, 2008; Nahapiet & Ghosal, 1998)	SSC1	I have a really positive working relationship with my fellows in general.	0.778***	0.605	0.854	0.596	0.855
	SSC2	I am aware what skill/knowledge/competence could be useful to which fellow member.	0.801***	0.642			
	SSC3	My fellow members know what skill/knowledge/competence I have available.	0.698***	0.488			
	SSC4	I am aware who has skill/competence/knowledge within my organization that is useful to me.	0.805***	0.648			
Explicit KS (EKS) (Items adapted from Wang & Wang; Reyshav & Weisberg, 2010)	EKS1	My network members usually share documents and reports to each other.	0.721***	0.520	0.897	0.595	0.898
	EKS2	My network members usually share documents and reports that they prepare by themselves to each other.	0.781***	0.610			
	EKS3	My network members frequently collect documents and reports from each other for their work.	0.730***	0.532			
	EKS4	My network members are frequently motivated by the transfer of knowledge.	0.786***	0.618			
	EKS5	My network members are usually offered various development and training activities/programs.	0.794***	0.630			
	EKS6	My network members are supported by information technology systems made for exchange/sharing of knowledge.	0.812***	0.660			

TABLE 1. (Continued)

Construct	Code	Item	Standardized regression weights	SMC	Alpha	AVE	CR
Tacit KS (TKS) (Items adapted from Wang & Wang; Reychav & Weisberg, 2010)	TKS1	My department members often share or transfer knowledge using their experience.	0.750***	0.563	0.908	0.586	0.908
	TKS2	My department members often gather knowledge from others using their experience.	0.746***	0.556			
	TKS3	My department members often share or transfer knowledge of know-how to others.	0.760***	0.578			
	TKS4	Members in my department often gather knowledge of know-how with others.	0.791***	0.625			
	TKS5	Members in my department often share or transfer knowledge on the basis of their expertise.	0.750***	0.562			
	TKS6	Members in my department often gather knowledge from others on the basis of their expertise.	0.675***	0.632			
	TKS7	Members in my department will be happy to share lessons learned as necessary.	0.767***	0.588			
Firm operational performance (FOP) (Items adapted from Wang & Wang, 2012)	FOP1	Compared to primary rivals of my organization, customer satisfaction about my organization is stronger.	0.777***	0.603	0.874	0.573	0.842
	FOP2	Compared to primary rivals, development of quality of our organization is stronger.	0.790***	0.624			
	FOP3	Compared to primary rivals, our cost management is healthier.	0.791***	0.626			
	FOP4	Compared to primary rivals, our responsiveness is faster.	0.662***	0.438			
	FOP5	Compared to primary rivals, our productivity is higher. (d)					
	FOP6	Compared to primary rivals, our asset management is more effective. (d)					
Firm financial performance (FFP) (Items adapted from Wang & Wang, 2012)	FFP1	Compared to primary rivals, our return on investment is on average higher.	0.825***	0.681	0.877	0.648	0.880
	FFP2	Compared to primary rivals, our profit is on average higher.	0.776***	0.603			
	FFP3	Compared to primary rivals, our profit growth is on average more solid.	0.813***	0.662			
	FFP4	Compared to primary rivals, our return on sales is on average higher.	0.804***	0.646			

Note: *** indicates significant at $p < 0.01$; (d) denotes items ignored during the validity and reliability test.

Data analysis

Anderson and Gerbing (1988) offered a common approach comprising two steps for SEM analysis using IBM AMOS 24. First, it was to construct a measurement model in order to run a confirmatory factor analysis (CFA) procedure. During this procedure, relevant tests were conducted to assess the reliability and validity (convergent and discriminant) of the measurement model. Second, it was to assess a structural model by running a path analysis to verify a series of proposed hypotheses.

RESULTS

Measurement model

Of the 336 valid questionnaires, none of the items contained missing data. The Cronbach's alpha ranges between 0.854 (structural SC) and 0.908 (tacit KS) for all the constructs, surpassing the proposed 0.70 threshold value suggesting the measures are internal consistency (Nunnally & Bernstein, 1994). All relevant fit measures of the measurement model, such as standardized regression weight and SMC of all indicators, the CR and AVE of all constructs are presented in Table 1. It can be said that all standardized regression weights are statistically significant at 0.01 level (Anderson and Gerbing, 1988). The critical ratios (CRs) range between 0.842 (firm operational performance) and 0.908 (tacit KS) which are well above the threshold values (Fornell & Lacker, 1981). Additionally, all average variance extracted (AVEs) range between 0.573 (firm operational performance) and 0.733 (cognitive SC) which surpass the proposed 0.50 threshold (Fornell & Lacker, 1981), suggesting the convergent criteria were met. None of the correlations between construct exceeded the square root of the AVE of each construct (Table 2), suggesting the discriminant validity criterion was achieved for the measurement model (Fornell & Lacker, 1981).

Model fit statistics showed that the model achieved an excellent fit by empirical data. Specifically, chi-square χ^2 was 519.928 (df = 262, p = 0.000), CMIN/df was 1.984, SRMR was 0.038, CFI was 0.964, and RMSEA was 0.038. Therefore, it can be concluded that the constructs in the hypothesized model are not only valid and reliable but also distinguished from each other (Hair, Black, Babin, & Anderson, 2014; Hu & Bentler, 1999).

TABLE 2. Results of discriminant validity.

	Square root of AVE	TKS	FOP	EKS	RSC	FFP	SSC	CSC
TKS	0.766	1						
FOP	0.757	0.624***	1					
EKS	0.771	0.489***	0.447***	1				
RSC	0.820	0.419***	0.305***	0.457***	1			
FFP	0.805	0.378***	0.268***	0.258***	0.337***	1		
SSC	0.772	0.651***	0.499***	0.537***	0.420***	0.192**	1	
CSC	0.856	0.636***	0.562***	0.580***	0.545***	0.401***	0.612***	1

***Correlation is significant at $p < 0.01$; ** Correlation is significant at $p < 0.05$.

Structural model

The next step after CFA is to proceed with the structural model. Maximum likelihood estimation is used to verify the proposed relationships as outlined in Figure 1. Model fit statistics revealed that χ^2 was 592.765, $p = 0.000$ with 451 degrees of freedom. The χ^2/df (1.314) lied between 1 and 3, implying parsimony of model. The RMSEA was 0.031, SRMR was 0.044, while CFI as 0.978. The findings suggested the model yields both incremental, and absolute goodness of fit as stated by Hair et al. (2014) and Hu & Bentler (1999). Except for hypotheses H4 and H7, all associations were statistically significant. Table 3 summarized the model results.

TABLE 3. Hypotheses validated results.

Hypothesis	Proposed effects	Standardized regression weights	Results
H ₁	Positive	0.267***	Confirmed
H ₂	Positive	0.403***	Confirmed
H ₃	Positive	0.164***	Confirmed
H ₄	Positive	0.036**	Not confirmed
H ₅	Positive	0.334***	Confirmed
H ₆	Positive	0.376***	Confirmed
H ₇	Positive	0.066 ^{ns}	Not confirmed
H ₈	Positive	0.192***	Confirmed
H ₉	Positive	0.333***	Confirmed
H ₁₀	Positive	0.543***	Confirmed

***significant at $p < 0.01$; nsnon-significant.

DISCUSSION AND IMPLICATIONS

Discussion

Surprisingly, far too scant attention has been paid to systematically consider how KS may form a link between firm performance and SC both theoretically and empirically. To fill this research gap, our study proposed a model delineating how different dimensions of SC enable KS, which then influence firm performance. The empirical findings largely support our proposed model by demonstrating that KS mediates between all three dimensions of SC and firm performance. Simultaneously, our results underline the importance of KS as both a primary benefit of SC, and a major driving force of firm performance.

Our results show that except for the relationship between relational capital and tacit KS, all remaining structural, relational and cognitive SC significantly affect both tacit and explicit KS. While SC may promote not only the tacit KS but also the explicit KS, empirical evidence exists for the theoretical argumentation in the literature of SC that the sharing of knowledge is one of the main mechanisms connecting SC to firm performance (Adler & Kwon, 2002; Davenport & Prusak, 1998).

Similar to previous research that has studied the mediating role of KS (Saha & Banerjee, 2015; Wu, 2008), our study provide supporting evidence as regards the various steps that are essential prior to SC affects firm performance (Van Wijk et al., 2008). This means that firm employees are encouraged to share their knowledge that they have entertained through their SC prior to any performance-related outcomes related to SC can be identified.

In contrast to previous studies that have postulated SC with respect to network ties, trust and shared vision on information sharing (Saha & Banerjee, 2015), or network ties, relationship quality and social interaction on acquisition of knowledge as in the work of Yli-Renko et al. (2001), our research has conceptualized SC with respect to cognitive, relational, and structural dimensions (Chow & Chan, 2008; Nahapiet & Ghoshal, 1998) on both sharing of tacit- and explicit knowledge. Our work adds as a contribution to the extant literature by conceptualizing the relationships between SC, KS and firm performance. In addition, it provides a more detailed conceptualization of KS as tacit and explicit one, and firm performance as financial and operational one. Thus, our research model can be utilized as a new theoretical one in future studies to evaluate SC, sharing of knowledge and firm performance.

Our empirical results validated most hypotheses except one: explicit sharing of knowledge on financial performance of firm. In general, our research demonstrates a plausible explanation in which SC conduces to sharing of knowledge and performance of firm. The mediating role of KS was also substantiated. That means SC contributes to firm operational performance through both explicit and tacit KS; and to firm financial performance through tacit KS.

Practical implications

Our analysis provides some interesting understanding for managers dealing with SC. First, promoting sharing of knowledge (both tacit and explicit) is found beneficial for firms. Managers are encouraged to develop appropriate organizational culture and structures as

well as a rewarding system to facilitate such sharing. Such development may be useful for employees to rationalize new knowledge and adopt best practices as well as new behaviors. Individuals and teams may be rewarded based on their improved performance resulting from sharing. Second, the mediating role of KS implies that firms should do more than simply facilitate relevant activities in relation to SC. It is essential that they are well aware of the influence of SC on KS and firm performance. Firm managers should build mechanisms that allow KS to be properly channeled to attain the intended levels of performance.

Theoretical implications

Our study offers useful insights to academics. The results will unravel and shed light on the understanding of the impact of different social capital dimensions on tacit and explicit knowledge sharing, and firm operational and financial performance. By conceptualizing the relationship between three SC dimensions, tacit and explicit KS, and firm operational and financial performance, our study provides a comprehensive theoretical model for studying SC, KS and firm performance in other sectors.

Limitations and further studies

The study has inherent shortcomings which need attention for future research. First, although our results are in line with previous results, the use of survey design did not enable us to confirm causally as regards the proposed relationships. Longitudinal designs might be used in future studies for inferring causality. Second, our study sampled SMEs in HCMC in general using convenience sampling. Future study might use random sampling method and focus on a specific industry to improve external validity (Shadish et al., 2002) and to confirm our understanding. Finally, our study uniquely contributes to a substantial body of research by investigating the linkages between SC, KS and firm performance. However, the contextual considerations, for example, corporate cultures, politics and knowledge management processes were not taken into account. Further work might benefit more by investigating the consequences of these contextual elements.

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THE RELATIONSHIP BETWEEN PERSONAL CHARACTERISTICS AND SELF-DEVELOPMENT IN THE WORKPLACE: THE MODERATING ROLE OF ORGANIZATIONAL SUPPORT

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ABSTRACT

This study examines the relationship between personal characteristics and self-development in the workplace and the moderating role of organizational support. Two study questions are discussed: (a) How do personal characteristics affect self-development? (b) How does organizational support affect the relationship between personal characteristics and self-development? Data were collected via questionnaire from 160 Bangkok-based cabin crew working for Norwegian Air Shuttle. Multiple linear regression was used to analyze and test the hypotheses. The result reveals that although the relationship between personal characteristics and self-development were strongly linked, organizational support as a moderator had no significant effect on the relationship. This result is noteworthy for organizations when setting guidelines, policies and plans for staff's self-development in the workplace. Implications for the effective implementation of organizational support are discussed as well as recommendations for future research.

KEY WORDS: Human resource development, Personal characteristics, Self-development, Organizational support

INTRODUCTION

Employees are an organization's most valuable resource. Human resource development (HRD) is at the heart of developing a person's potential. (Panyaroj, 2012) It is also the foundation for the advancement of an organization and leads to a strengthening of society and the nation. HRD is the process of enhancing an individual's ability to compete (Ankarathitipong, 2013), especially in the 21st century when the world's societies are rapidly changing. Thus, HRD focuses on a continual self-development. The self-development of personnel in an organization results in quality, the ability to compete with other organizations, and acceptance by other people and organizations around the world. Organizations should focus on an individual's personal characteristics which can affect self-development ability.

HRD develops process to enhance human expertise. It is aimed at improving the performance of individuals by having organizations, groups of individuals and individuals as a basic element of HRD (Swanson, 2008). HRD uses an Inside-Out Approach strategy which focuses on self-development from the inside, such as by attending to attitude, motivation and habits which lead to external self-development such as in knowledge, skills and behavior. It believes if employees can develop themselves from the inside, the development of knowledge, skills and behavior certainly becomes easier (Boon-arth, 2012). Furthermore, an organization should be aware of the importance of employee's self-development in the workplace by encouraging and supporting them to develop their own potential for various aspects of work. It is also important to encourage employees in the organization to realize the importance of self-development.

This study examined the relationship between personal characteristic factors and self-development in workplace and a moderator role of organizational support. The study begins by reviewing existing researches. This is followed by developing a conceptual framework which generated two study questions: (a) How do personal characteristics affect self-development? (b) How does organizational support affect the relationship between personal characteristics and self-development? Hypotheses are embedded in each study question.

LITERATURE REVIEW

This section will review related literature in three areas: (a) Personal characteristic factors: Attitude, Motivation and Habits, (b) Self-development in the workplace and (c) Perceived organizational support.

Personal Characteristic Factors: Attitude, Motivation and Habits (PCF)

According to Triandis (1971) there are three elements of attitude: (a) cognitive component - a person's belief or thoughts on one thing, (b) affective component - a positive or negative feeling, and (c) behavioral component - an integral part of the personality. These elements are associated with each other which means that a change in one element causes changes in another element. Attitude is expressed in two behaviors. One is manner of satisfaction. For example, *I would like to do it, I would like to get closer to that thing* which is called positive attitude. Another behavior is negative attitude, meaning people will exhibit an unpleasant

feeling. Another type of attitude is called neutral attitude, meaning no feeling or *I don't like, I don't hate* (Newcomb, 1954).

The Two-Factor theory of Herzberg (1959) mentions that motivation can be divided into two factors: (a) motivation factors, which are internal incentives that will help people work better; and (b) hygiene factors, which are not direct motivation factors but if missing will result in no motivation to work. Motivation is an internal condition which empowers human beings so that their actions are directed toward achieving their goals (Bernard & Steiner, 1964 cited in Sanhapakdee, 2007). The person who has been stimulated, exhibits behavior in activities that clearly reflects the intention of effort or internal power as well as increasing the ability of devotion to work to achieve the goals, to inspire maximum motivation (Sererat, 1998) and to receive rewards (Beach, 1965).

Important to this study is the seven plus one Characteristics concept of Covey (2004) which describes eight habits which are the result of a combination of knowledge, skills and willingness of a person. Knowledge of theoretical concepts provides a guideline for what to do, how to do it and why. Skill is the ability to get things done, and willingness is motivation to act (Covey, 1990 cited in Phipatanapanit, 2007). Together these become habits and are vital for everyday life as well as work life. Behavior shows how powerful or useless a person is. Habits can express emotional fundamentals and life balance (Suksawas, 2015). Previous research identified the relationship between individual personality and employee's quantity of self-development e.g., Orvis and Leffler (2011) revealed the link between personality and self-development among 136 employees in workplace. The result confirms the study of Brandfstadter and Lener (1999) which proposed that individual developed their intention of self-development. They form their mental representation of what they can be or become. Additionally, self-attitude, motivation and behaviors represents intrinsic components within individuals that drive self-development in workplace.

Self-Development in Workplace (SDW)

This study focuses on the self-development concept of Megginson and Pedler, 1992 (cited in Pholsai, 2007). Self-Development is the creation of one's own attitudes, cognition, ethics, understanding and expertise in order to bring happiness, progress and completeness. Prosperity gained can be used to benefit oneself, society and the nation in accordance with appropriate interests and potential (Charuchinda, 1996). Self-development is self-learning and can be improved by self-correction in both intellectual activities and quality of work by having a direction in work and life (Swansbug, 1995 cited in Pholsai, 2007). Self-development can also be improved by encouraging and supporting employees to develop their own opportunities to improve their abilities. Self-development must be done by each person individually with some help and support from other people (Wacharinrat, 1997).

Since the world has changed rapidly, people in organizations need to develop themselves along with organizational changes so that organizations can move forward. One way to contribute to the values of an organization is for employees to develop themselves. Self-development can increase strength by increasing the knowledge of the operators which enables the organization to progress (Megginson & Pedler, 1992 cited in Pholsai, 2007). Based on the existing literature review, hypothesis 1 is developed as follow.

Hypothesis 1: PCF is positively related to self-development in workplace.

Perceived Organizational Support (POS)

This study has given emphasis to the Perceived Organizational Support Theory (POS) of Eisenberger et al. (1986) which is a study of the perception of people involved in the organization's values that affects the performance of people in the organizations. Perceived Organizational Support is critical in developing a successful organization based on the organization's goals. Since Perceived Organizational Support affects attitudes of employees. Whenever a person perceives organizational support, it will affect attitude, motivation, thoughts and behavior of the person (Saritwanit, 2009). Organizations must be aware that perception of organizational support encourages employees to realize the value of their work. Moreover, organizations should provide support in various ways as well as opportunities for employees to develop through setting policies and plans that contribute to employees' well-being.

When an employee perceives positive support from an organization, the employee is willing to exhibit and maintain good behaviors. In contrast, if an employee perceives low or negative organizational support, the employee will not work to achieve the organization's goals and may leave or resign to seek a new organization. Therefore, hypothesis 2 is set.

Hypothesis 2: POS is a moderator of the relationship between personal characteristic factors and self-development in workplace.

METHODS

This section will review related literature in three areas: (a) Personal characteristic factors: Attitude, Motivation and Habits, (b) Self-development in the workplace and (c) Perceived organizational support.

Participants

Data were collected via a 50-item self-administered questionnaire completed by 160 Bangkok-based cabin crew working for Norwegian Air Shuttle. Each item was rated according to a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Details of participants are presented in Table 1.

TABLE 1. Details of participants.

	Data collection	
	N = 160	percent
Gender		
Male	46	28.7
Female	114	71.3
Age (years)		
30 – 35	77	48.1
36 – 40	49	30.6
41 – 45	26	16.3
> 45	8	5.0
Education		
Bachelor's degree	114	71.3
Higher than Bachelor's degree	46	28.7
Work experience (years)		
5 – 10	79	49.4
11 – 15	57	35.6
16 – 20	21	13.1
> 20	3	1.9
Work position		
Cabin Crew	80	50.0
Senior Cabin Crew	58	36.6
Supervisor	16	10.0
Ground Instructor	6	3.8

Measurement

Validity as determined by Index of Item – Objective Congruence was approved by three Thai professors. The reliability of results is 0.96 which meets the requirement of Cronbach's alpha as recommended by Kitpreedaborisut (2010).

Personal Characteristic Factors (PCF) were measured with a 30-item questionnaire including 10 items relating to attitude developed from Sriwichan (2011), Jantaramanee (2014) and Butthongdee (2014); 10 items relating to motivation developed from Sriwichan (2011), Jantaramanee (2014), Yamketh (2015) and Elias, Smith and Barney (2012); and 10 items relating to habits developed from Pholsai (2007), Yamketh (2015), Suksawas (2015) and West and Berman (2011). Sample statements are *I perform my assigned duties to the best of my ability to achieve the success of the organization*, *Support and compliments from supervisor gave me encouragement to perform work* and *I organized work in consideration of its priority*.

Self-development in the workplace (SDW) was measured with a 10-item questionnaire developed from Yamketh (2015) and Gheith and Aliaberi (2018). Sample statements are *I studied the work practices of people who have been successful and applied them myself*, *When I find a defect, I will update and fix it immediately*.

Perceived organizational support (POS) was measured with a 10-item questionnaire developed from Jantaramanee (2014), Eisenberger, Cummings, Armeli and Lynch (1997). Sample statements are *My organization cares about my opinions*, *My organization would forgive an honest mistake on my part*.

The reliability of results according to Cronbach's alpha for each of the three questionnaires is 0.96.

Translation of some items in this questionnaire from the original English language used a forward-only translation and then applied a back-translation method. Finally, the translation was checked and approved by an expert in both Thai and English (Sawasdiapanich & Tiansawad, 2011).

DATA ANALYSIS AND RESULTS

Correlation Analysis

Correlation was conducted to confirm the relationship and direction among variables. This approach indicates the accuracy of the components that used for research. The result showed a significant relationship among PCF, SDW and POS. Table 2 displays the Mean, Standard Deviation, Average Variance Extracted (AVE), Composite Reliability (CR) and Cronbach's Alpha value of constructs from data collection (N = 160). According to Hair (2016) this result showed all values passes the threshold (AVE > .5, CR > .7) Cronbach's Alpha higher than 0.80 are considered excellent (Kitpreedaborisut, 2010).

TABLE 2. Mean, Standard Deviation, Average Variance Extracted (AVE), Composite Reliability (CR) Cronbach's Alpha value of constructs and Inter-correlation among PCF, SDW and POS as a moderator.

Variables	Mean	SD	AVE	CR	Cronbach's alpha	1	2	3
1. PCF	4.31	.75	.57	.80	.96	-		
2. SDW	4.27	.73	.50	.83	.96	.71**	-	
3. POS	3.32	1.11	.51	.86	.96	.44**	.28**	-

Note: N = 160; **p < .01

Verification of Research Hypotheses

Table 3 displays the result from multiple linear regression analysis predicting SDW from PCF and POS as a moderator. The result shows that PCF was significantly related to SDW ($\beta = .71$; $p < .01$) and POS as a moderator was not significantly related to PCF and SDW ($\beta = -.04$; $p > .05$). This can explain 50% and 50% of the relationship between PCF and SDW, and POS as a moderator respectively ($R^2 = .50$; $p < .01$). Even though PCF was strongly related to SDW, POS as a moderator produced no influence on the relationship between PCF and SDW.

TABLE 3. Multiple Linear Regression analysis predicting SDW from PCF and POS as a moderator.

Variables	Model 1			Model 2		
	B	SE	β	B	SE	β
Constant	6.70*	2.90		6.67*	2.90	
PCF	.28**	.02	.71**	.29**	.03	.72**
POS				-.03	.04	-.04
R ²		.50			.50	
Adj. R ²		.49			.49	
F		156.18**			77.97**	

DISCUSSION

The results will be discussed based on theory and previous researches according to the research questions.

Research Question 1: How do personal characteristics affect self-development?

It can be stated that personal characteristics affect self-development positively at a high level. This result is consistent with existing works on attitude, motivation and habits related to self-development such as those of Elias, Smith and Barney (2012), Manzoor (2012) and West and Berman (2011). People who have a good attitude toward themselves and things around them can develop their own potential efficiently. It is important to strengthen the individual's positive motivation since it helps to demonstrate quality of life and work. Furthermore, habits also reveal people's efficiency and performance. In summary, personal characteristics; including attitude, motivation and habits; affect self-development in the workplace. Whenever employees have a good attitude toward work, as well as motivation and productive habits, they also develop themselves effectively.

Research Question 2: How does organizational support affect the relationship between personal characteristics and self-development?

The influence of organizational support as a moderator on the relationship between personal characteristics and self-development was measured. The result reveals that organizational support has no effect on the relationship between personal characteristics and self-development. This result is consistent with existing works; Hamwi, Rutherford, and Boles (2011) ($t = .99$, $p > .05$) and O'Driscoll, Poelmans, Spector, Kalliath, Allen, Cooper and Sanchez (2003) ($\beta = -.33$, $p > .05$). Organizations should create a culture for employees to access information and recognize that the organization supports employees as such support plays a significant role in self-development of employees in the workplace. Although supportive policies and plans may be insufficient to generate significant self-development, development of an organizational culture that is perceived to be supportive may be a necessary condition for the self-development of the employees in workplace.

PRACTICAL IMPLICATIONS

This research provides evidence to employees and organizations that personal characteristics and organizational support have a strong relationship with self-development of employees in the workplace. The finding that organizational support has no effect on the relationship between personal characteristics and self-development is important. As discussed earlier, organizations should be concerned about how employees perceive information as this can influence self-development. Regardless of how good the plans or policies of organizations are, if employees do not perceive positive actions of organizations, they may consider that organizations do not support them which may affect their work efficiency. Thus, it is the duty of organizations to plan and issue policies that support and encourage employees in developing themselves and also to communicate the intention of these policies and plans to all employees.

LIMITATIONS FOR FUTURE RESEARCH

This research, like all researches, has some limitations. The first limitation is that this study only examines results obtained from the Bangkok-based cabin crew working for Norwegian Air Shuttle. This limits the perception of organizational support to only a small fraction the total number of employees in the many bases of the airlines. In addition, other industries should be studied to evaluate a wider range of results and to be able to compare similarities and differences. Finally, more information from employees could help clarify how organizational support affects the relationship between personal characteristics and self-development in the workplace.

CONCLUSION

This study involved a survey of Bangkok-based cabin crew working for Norwegian Air Shuttle. The conceptual framework was developed based on existing theories relating to personal characteristic factors, self-development and organizational support. The results confirm that personal characteristics have a significant impact on self-development in the workplace. However, organizational support as a moderator has no influence on the relationship between personal characteristics and self-development. This study has shown that employees with positive personal characteristics drive positive self-development in the workplace and organizational support encourages positive self-development of the employees. The results obtained from this study encourage not only employees but also organizations to realize the importance of personal characteristics and organizational support. The results can be used as a guideline when setting policies and plans for the better improvement of employees' self-development in the workplace.

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RETHINKING LEGAL MEASURES AGAINST MARINE PLASTIC DEBRIS POLLUTION CRISIS IN THE ASEAN REGION

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ABSTRACT

This paper aims to study how international marine environmental law, mechanism, and strengthening regional cooperation among member states to combat marine plastic pollution in the ASEAN. According to the 34th ASEAN Summit in Bangkok, Thailand on 22 June 2019, ASEAN Member States agreed and concluded the Bangkok Declaration on Combatting Marine Debris in the ASEAN Region to protect marine environments from marine plastic pollution for ensuring the sustainable use of marine resources by implementing the United Nations 2030 Agenda for Sustainable Development Goal 14 and its target 14.1 which stipulates to prevent and significantly reduce debris marine pollution. While, the international marine environmental law stipulates state parties' obligation shall take all measures to prevent, reduce, and control marine plastic pollution from all incidents and activities under their jurisdiction. However, the legal status and the questions on the implementation of the Framework of Action of Bangkok Declaration of Marine Debris Pollution are not legally binding among member states. The ultimate goals of this study are: (1) promote regional and national policy and to develop a regional action plan on combating, preventing, and reduction of marine debris, (2) encourage the ASEAN Member States to implement international environmental laws and agreement related to waste control and management, (3) strengthen national capacities to develop and implement national action plans, and revise the ASEAN member states' domestic laws and regulations to prevent and protect marine natural resources from land-based pollution sources and activities to the ocean, especially, civil penalty measures must be seriously enforced, (4) increase tax consumption on plastic production and packaging.

KEY WORDS: Marine Plastic Debris, International Environmental Law, International Law of the Sea.

INTRODUCTION

Marine pollution is one of the world's most omnipresent risks to the protection of coastal regions, seas, and marine interests. This is a local, regional, global, and international problem. Marine pollution occurs when adverse effects arise from chemical, particulate matter, manufacturing, agricultural and residential waste, noise, or the spread of invasive species entering the ocean. There are a lot of types of marine pollution from anything man-made such as paper, clothing, rubber, cardboard, glass, oil seepage of the vessel, sewage, agricultural and aquaculture runoff, industrial waste, carbon dioxide, noise including garbage or plastic waste.

Marine debris can harm or destroy marine fauna survival; harm and degrade habitats; interfere with navigational safety; cause economic loss to the fishing industries; degrade coastal communities' quality of life, and endanger human health and safety. (Gurtin, 2019) Many animals living on or in the sea consume flotsam by accident, as it sometimes appears close to their natural prey. Bulky plastic debris may be permanently embedded in these animals' digestive tracts, preventing the passage of food and causing death by malnutrition or infection. Small floating plastic particles often mimic zooplankton, which can contribute to the ingestion of filter feeders and allow them to join the ocean food chain. (Weisman, 2007)) Having said that, plastic waste is one of the most serious environmental challenges for the oceans of the world and constitutes the majority of floating litter. (Taufan, 2017)

Marine debris or marine litter is waste created by humans that have been intentionally or inadvertently released into a sea or ocean. Floating ocean plastic debris appears to collect in the middle of coastlines, where it is known as beach litter or tide wrack, often landing in the sea. Deliberate disposal of plastic waste at sea is also known as dumping at sea. There will be more plastic in the world's oceans by 2050 than fish reported by World Economic Forum. The plastics industry has grown to 311 million tons in 2014 from 15 million tons in the 1960s and is expected to triple by 2050. The present, 80 percent of all ocean debris is plastic. While several legal documents at international, regional, and national levels ensure the prevention of waste pollution of the marine environment, the effectiveness of such initiatives is still not clear. (Vasilevskaia, 2018)

Several major international treaties deal with plastic pollution, including UNCLOS 1982, the International Convention on the Prevention of Pollution from Ships (MARPOL), and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) 1972. These international structures set out clear legal standards for ocean-related issues and set out a general duty on States to protect and conserve the marine environment. (Taufan, 2017)

However, there is currently no conference dedicated specifically to addressing the issue of marine plastic contamination, and no formal framework for monitoring and controlling its spread. Considering that marine pollution originates from both land-based and marine sources, this article will provide an overview of measures specifically regulating marine pollution and more general measures aimed at reducing the production, selling, and consumption of plastics that can contribute to reducing marine pollution. (Vasilevskaia, 2018)

For the marine pollution crisis, ASEAN has been under threat by marine plastic debris. Four of its member states are among the ocean's largest polluters: Indonesia, the Philip-

pires, Vietnam, and Thailand. At the same time, the seas of the planet strangle on mountains of waste, and the marine ecosystem of Indonesia is one of the worst casualties. Indonesia, as one of the ASEAN member states, has the dubious distinction of becoming the world's second-largest naval polluter. (Taufan, 2017)

This marine pollution crisis affects the ASEAN Member States in joint efforts to solve and fight the problem of marine plastic waste and recognize the urgent need to take action and have made notable progress in combating marine debris.

The ASEAN has worked to address the issue. The recent 34th ASEAN Summit, which took place in Thailand in June, released two important documents relating to marine environment security. The Bangkok Declaration on Combating Marine Debris in the ASEAN Region and the ASEAN Framework of Action on Marine Debris, as Framework of Action, are two key documents in the war against marine debris in South-East Asia. Together they are the response to numerous critiques of the efforts of ASEAN to tackle marine pollution. (Habib, 2019)

According to the ASEAN Framework of Action on Marine Debris stated that (Centre for International Law, National University of Singapore, 2019):

"Marine debris is a transboundary issue that requires integrated regional cooperation. In addition to robust national actions to address marine debris strategies for strong collaboration are particularly crucial for the ASEAN region. Without immediate action, marine debris pollution may negatively impact marine biodiversity, environment, health, society, and economy."

The ASEAN Framework of Action on Marine Debris was established to act on the recommendations of the November 2017 ASEAN Conference on Marine Debris Reduction in the ASEAN area of Phuket, taking into account the September 2017 East Asia Summit (EAS) Conference on Combating Marine Plastic Debris held in Bali. The Framework of Action on Marine Debris was welcomed at the ASEAN Special Ministerial Meeting on Marine Debris 5 March 2019 in Bangkok, Thailand by the Ministers and members responsible for natural resources, climate, and maritime affairs from all ASEAN Member States.

The Framework comprises four priority areas as follows: (i) Policy Support and Planning; (ii) Research, Innovation, and Capacity Building; (iii) Public Awareness, Education, and Outreach; and (iv) Private Sector Engagement. Each priority area consists of actions and suggested activities in the fight against marine debris for further cooperation in the ASEAN region and among ASEAN and its partners. (Centre for International Law, National University of Singapore, 2019) However, the major question is whether this Framework of Action can be applied through a binding legal instrument or whether it will simply end up as a "Framework" lacking any substantive control over the member states of the ASEAN. (Habib, 2019)

Therefore, this paper will analyze the appropriateness of this means of the mechanism and the cooperation among member states for resolving marine plastic debris in the ASEAN region. In this paper, international marine environmental law will be briefly discussed and explained. The paper identifies the implementation of the Framework of Action of Bangkok Declaration of Marine Debris Pollution as outcomes of the research finding together with state practices and domestic law of foreign countries concerning marine debris

fighting as a model for implementation as sui generis law for member states and also provides a general conclusion.

International Environmental Law and Marine Plastic Debris Crisis Management

International environmental law plays an important role in controlling and managing the world's marine plastic debris crisis. However, the international legal mechanism and organ will be discussing whether they will effective tools for solving these problems.

Legal Concept and Theory on International Marine Environmental Protection

The marine plastic debris crisis impacts human rights because it is one of the most serious environmental challenges for the oceans of the world and constitutes the majority of floating litter. The study found that, nowadays, it is non-legal provisions concerning marine plastic debris management. These legal regimes are developing and constituting as an *opino juris* and state practices to be soft law in the form of the international customary law. The concept of “Common Concern of Humankind” (CCH) explains the legal base for applying the protection of humans and animals from transboundary harm which impacts the marine public interest. (Winckeke, 2016) This concept designation “expresses the need for international cooperation through strong global institutions to face a shared problem and CCH has fostered creative international cooperation and compliance mechanisms.” (Bowling, Pierson, & Ratté, n.d., 3) The marine interest protection mechanisms must exercise by state sovereignty doctrine to consent for collaborations among states and stipulate ecocide law. However, if marine plastic pollution continues to shift global action priorities in the future, it will become a viable choice, while at the same time involving several states in the effort to control marine plastic pollution. It will also represent a major attempt to effectively claim the concept of state sovereignty on the right of the people to protect their interests. (Tickell, 2018)

Environmental International Organization and SDGs

In 2015, the United Nations General Assembly adopted the 2030 Sustainable Development Agenda, which seeks to “prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution” by 2025. (Vasilevskaia, 2018) The United Nations 2030 Agenda for Sustainable Development, in particular, to achieve Sustainable Development Goal 14: “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”, and its target 14.1 which seeks, by 2025, to “prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.” (The ASEAN Secretariat, 2019) Calling for action to avoid and dramatically minimize marine contamination of all kinds, including by working with local stakeholders to resolve their production, marketing, and use of plastics and microplastics.

Moreover, resolutions 3/7 of the United Nations Environment Assembly entitled “Marine litter and microplastics,” in particular paragraph 7(c) of the United Nations Environment Programme, aimed at facilitating the establishment and implementation of regional and national action plans to prevent and reduce litter and microplastics in the marine environment as requested by the Member States. (The ASEAN Secretariat, 2019)

International Marine Environmental Law

The existing global “Hard Law” instruments consist of 4 international treaties as following the United Nations Agreement on the Regulation of Ocean Dumping or London Convention; the International Convention for the Prevention of Pollution from Ships or MARPOL Convention; the United Nations Convention on the Law of the Sea and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal or Basel Convention. The ocean is a common global, so the producer usually doesn't experience negative externalities of marine debris. In the 1950s, the First Conference on the Law of the Sea acknowledged the importance of government interference with marine pollution protocol. International law provides legal measures for marine plastic debris pollution control and management, including:

Firstly, the United Nations Agreement on the Regulation of Ocean Dumping or London Convention, 1972 as amended by the London Protocol 1996. This Convention on the Prevention of Marine Contamination by Disposal of Wastes and Other Matters consisted of twenty-two articles discussing the interests of contracting parties. The three annexes identified several compounds, substances, and materials that cannot be deposited in the ocean. Especially, Annex I lists prohibited wastes such as heavy metals, persistent plastics, radioactive material, etc. (U.S. Environmental Protection Agency, 2020) At the same time, London Protocol 1996 specifies the total prohibition of wastes. However, some types of waste may be considered by a precautionary approach, the polluter pays principle, prevention, reduce, and eliminate wastes as mandatory waste assessment measures. (Kleverlaan, 2015)

Secondly, The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 or MARPOL 73/78, is one of the major international marine environmental conventions. A convention designed to mitigate sea pollution including dumping, oil, and exhaust emissions. The initial MARPOL convention did not allow ship dumping but was amended in 1978 to include marine vessel restrictions. (International Maritime Organization, 2020)

Thirdly, the United Nations Convention on the Law of the Sea, 1982, or UNCLOS III, Convention stressed the importance of protecting the whole ocean and not just specified coastal regions. UNCLOS imposed pollution controls, including an emphasis on land-based sources. UNCLOS has specified that the parties must stipulate national legislation in place to deal with such dumping and to collaborate at regional and international levels. (Pachonaripai, 2018) UNCLOS obliged state parties to implement the international law to domestic law on “preventing, reducing and controlling pollution of the marine environment by dumping”. Under this Convention, however, state parties "have the right to allow, regulate and control such dumping after due consideration of the matter with other States which may be adversely affected by it because of their geographical situation". The marine plastic debris pollution of the world is very difficult to control, as the source of this waste is often also hard to determine. Accordingly, the steps envisaged by the Convention to address this issue seem unsuccessful. (Vasilevskaia, 2018)

Lastly, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal or Basel Convention. This international treaty designed to minimize the movement of hazardous waste between nations, and specifically to prevent the transfer of hazardous waste from developed countries to developing counties. But it

doesn't discuss the hazardous waste issue. The Convention is also intended to minimize the amount and toxicity of waste generated, to ensure that its environmentally sound management is as close as possible to the source of generation, and to assist developing countries in managing the hazardous and other waste they generate environmentally soundly. This international convention specifies restrictions on the import and export of the above-mentioned wastes, there are strict provisions for the notification, consent, and monitoring of waste movement across national borders. It is noteworthy that the convention places a general ban between Parties and non-Parties on the export or import of wastes.

Other International Regional Agreement

International marine environmental law also promotes region agreement for cooperation to control and manage the marine environmental pollutions in a similar way to the London Protocol. (Kleverlaan, 2015) The study found that the existing regional Conventions such as Bamako Convention; OSPAR Convention; Cartagena Convention; Tehran Convention; Kuwait Protocol; Helsinki Convention; Barcelona Convention; Bucharest Convention; Abidjan Convention and EU legal regimes such as EU Directives; EU Waste Framework Directive; EU Water Framework Directive and EU Marine Strategy Framework Directive (Marine Directive). (Tickell, 2018) Therefore, the international legal regime promotes the regional agreement as such the ASEAN Cooperation the same above other regional agreements. It is noteworthy that they still no specify legal measures and principles on marine plastic debris that currently emerge in terms of the coordinate action at a global and regional level at this moment.

The Draft Resolution on Marine Litter and Microplastics

The United Nations is also preparing a “Draft Resolution on Marine Litter and Microplastics” at this moment. As a result, an Ad Hoc Working Group was set up to research the barriers to tackle marine litter and microplastics and define the range of solution options and their different economic, social, and environmental costs. At the last working group meeting in May 2018, it was stressed the importance of public and private initiatives in the fight against pollution. (Vasilevskaia, 2018) The draft resolution on “Marine Litter and Microplastics” is one of 13 such draft resolutions adopted in Nairobi, December 2017, at the United Nations Environment Assembly. It contains ten articles calling on, supporting, and advising states to take action on marine plastic pollution and other aspects of marine pollution of different kinds. Specifically, its Article 2 and paragraph 2. set a target date for concrete performance, as it calls upon all actors to step up their actions, “by 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution”. Although the draft resolution is entirely non-binding, it does indicate a willing mood for action on marine plastic pollution among states and could shortly predict negotiating a binding mechanism. (Tickell, 2018)

The ASEAN Collaborations as Regional Agreement: Bangkok Declaration of Marine Debris Pollution and the ASEAN Framework of Action on Marine Debris

The Bangkok Declaration of Marine Debris Pollution and the ASEAN Framework of Action on Marine Debris are the value of multi-stakeholder collaboration, information sharing, technology transfer, increased public awareness, and diffusion of innovation in the battle against the marine plastic debris crisis. (The ASEAN Secretariat, 2019) This agreement provides 3 important frameworks as follows:

Firstly, framework I sets policy support and planning by promoting regional policy on land and sea debris prevention and reduction by strengthening regional collaborations among member states; mainstreaming multi-sectoral policy efforts to address marine debris in the growth agenda and objectives of ASEAN and national governments, and encouraging ASEAN Member States to adopt applicable international waste management laws and agreements such as MARPOL Annex V, Basel Convention and Resolutions 3/7 of the UN Environment Assembly on Marine Litter and Microplastics and development a regional action plan in the ASEAN Region to tackle marine debris through the implementation of integrated land-to-sea policy approaches.

Secondly, framework III sets public awareness, education, and outreach by promoting public understanding of the status and impacts of marine debris and microplastics; accelerating advocacy strategy and program to encourage behavioral change in the battle against marine debris, and integrating marine debris into the Culture of Prevention Initiative of ASEAN and promoting knowledge-sharing networks, creative strategies and best practices for managing marine debris.

Thirdly, framework IV sets private sector engagement by promoting joint efforts with the private sector and business groups to introduce marine debris management initiatives and encouraging expenditure and participation by the private sector in combating marine debris.

Marine Pollution Fighting by Domestic Law

The Australian law is the prior Sea Dumping law that specifies legal measures for marine pollution protection and the United States law also specify Ocean Dumping law. At the same time, Indonesia is one of the ASEAN member states, which is one of the largest plastic polluters and Indonesian law also legislates for undertakings relevant to maritime activities.

Australian law: Australia's Beaches, Fishing Grounds and Sea Routes Security Act 1932

One of the first anti-dumping legislation was Australia's Beaches, Fishing Grounds, and Sea Routes Security Act 1932, which prohibited the discharge from "any vessel in Australian waters" of "garbage, waste, ashes or organic refuse" without prior written approval from the federal government. It also required authorization to scuttle. The act was passed in reaction to large quantities of garbage washing up on Sydney and Newcastle beaches from vessels beyond the jurisdiction of local governments and the Government of New South Wales. It was repealed and replaced by the Environmental Protection (Sea Dumping) Act 1981, which gave rise to the London Convention. (The Office of Parliamentary Counsel, 2020)

United States law: Ocean Dumping Act of 1972

In 1972, the U.S. Congress passed the Ocean Dumping Act, granting the Environmental Protection Agency authority to control and regulate the dumping of sewage sludge, toxic waste, nuclear waste, and biohazardous materials into the territorial waters of the nation. Sixteen years later, the Act was amended to include medical waste. The disposal of any

materials in U.S. waters is illegal. Moreover, marine debris is described in 33 U.S.C. 1951 et seq., as amended by Title VI of Public Law 112-213 and 2018 of Public Law 115-265 in 2012 that “any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or Great Lakes” (Gurtin, 2019)

Indonesian Law: The Sea Law of 2014 and the Environmental Law of 2009

The Indonesian Law No. 32 of 2009 on the Protection and Management of Environment, which defines general concepts about the security and management of the environment. The Environmental Law of 2009 also establishes a general prohibition against taking action which causes pollution and/or environmental damage. Article 13 specifies that management of the emissions and/or harm to the environment shall include prevention, mitigation, and restoration. The Law of 2009 also specifies that the government should use instruments such as strategic environmental studies, environmental impact assessments (EIAs), and the implementation of standard environmental risk criteria to avoid marine pollution or harm. However, it is not specific legal measures for controlling and management of marine plastic debris in the Indonesian maritime delimitation. (Taufan, 2017).

In 2004, the Indonesian government also passed crucial marine debris pollution legislation including Sea Law No. 32 of 2014, in which Sea Law 2014 is the umbrella legislation for undertakings relevant to maritime activities. The study found that Article 55 of the law sets for the creation of a framework for the prevention and management of marine pollution and degradation by the central and local governments. At the same time, Article 56 stipulates the Government responsible for the safety and restoration of the marine environment by preventing, minimizing, and controlling ocean pollution. (Taufan, 2017)

It is noteworthy that the Sea Law of 2014 and the Environmental Law of 2009 are an overarching legislative structure, which does not directly mention emissions from marine plastic debris.

RESEARCH METHODOLOGY

This research used documentary research by collecting and studying various information gleaned from various sources such as textbooks on international marine environmental law and relevant articles. This research adopted a qualitative approach. The information will be thoroughly analyzed especially the provisions of UNCLOS, MARPOL, London Convention, Basel Convention, Bangkok Declaration of Marine Debris Pollution, and the ASEAN Framework of Action on Marine Debris concerning the marine plastic debris pollution crisis. Besides, the Draft Resolution on Marine Litter and Microplastics made by the United Nations Environment Assembly will also be considered focusing on the process of marine plastic debris pollution controls and managements before drawing a general conclusion. Finally, suggestions will be made for cooperation for marine plastic debris pollution crisis management among the ASEAN Member States and the Thai Government in case if it decides to implement the international law to national law.

RESEARCH FINDINGS AND DISCUSSION

After contemplating the nature of the legal regime on marine plastic debris pollution under the Marine Environmental International law, the Draft Resolution on Marine Litter and Microplastics, and the ASEAN agreement, the principal outcomes of this research project can be summarized as follows:

Non Specific Provisions on Plastic Debris Pollution in the Marine Environmental International Legal Regimes and State Practices

The study found that there were no provisions in international law and no legal regimes in form of the customary international law relating to the protection of marine public interest on the problem of marine plastic debris pollution, which could be harmful to the marine environment. Like, the Environmental Law and Ocean Dumping Law of Australia, United States, and Indonesian law do not directly stipulate emissions from marine plastic debris.

It is noteworthy that these international conventions, such as part XII of UNCLOS, a crackdown on plastic pollution by requiring state parties to address land-based pollution sources as well as seabed and ship pollution, and by calling on States to work together to address marine environmental issues. MARPOL specifies international legal regimes to prevent ships from polluting. MARPOL Annex V contains the provisions on and disposal of vessel-borne garbage. It sets limits on what can be disposed of at sea and imposes a complete ban on plastics being disposed of at sea. The London Convention set for legal regimes and principles on the prevention of marine pollution by dumping waste and other matters at sea. Although this Convention's 1996 Protocol revised the list of what may be dumped at sea, plastics have always been a banned material.

The study found that the civil penalty concept must be constituted and specified by international and domestic law. The civil penalty enforcement to polluters must be strictly implied for compensation to central and local government that has paid for managing and coming back to a clean environment. Moreover, fiscal measures such as increase tax consumptions and reducing tax measures for entrepreneurs must be considered as one of the legal measures for supporting marine plastic debris pollution-fighting.

The Draft Resolution on Marine Litter and Microplastics Could Play a Significant Role in Plastic Debris Pollution Crisis Management

Marine Plastic Pollution is now against international law. The conclusion of this international law foray is simple and optimistic. A state that allows its plastic waste to contaminate the waters or territories of another state is already in clear violation of four distinct international conventions of global scope, legally binding as such London Convention and Protocol, UNCLOS III, MARPOL 73/78, and Basel Convention. However, these international conventions do not specify legal binding and principles on marine plastic debris pollution.

The Draft Resolution on Marine Litter and Microplastics contains ten articles that are supporting and advising states to take specific action on marine plastic pollution. Although this draft resolution is entirely non-binding, it does indicate a willing mood for action on marine plastic pollution among states. However, this Draft Resolution could shortly predict negotiating a binding mechanism. Moreover, The Draft Resolution on Marine Litter

and Microplastics is now considerable status as a soft law that is also important in defining the international community's will for decades and providing guidance on the interpretation of the London Convention and Protocol, UNCLOS III, MARPOL 73/78, and Basel Convention as such hard law.

Non-Legal Binding Could Be Considered by the Bangkok Declaration of Marine Debris Pollution and the ASEAN Framework of Action on Marine Debris

The achievement of the Bangkok Declaration of Marine Debris Pollution and the ASEAN Framework of Action on Marine Debris seems to be very difficult, given that waste management systems and the related laws are very different for each country because it is not a legally binding instrument. However, the major question is whether the Framework of Action can be applied through a binding legal instrument or whether it will simply end up as a framework but lacking any substantive control over the member states of the ASEAN. The validity and enforcement of an international treaty do not necessarily depend on whether or not a legal agreement is binding.

It is noteworthy that “the ASEAN way culture” is a specific regional culture that may affect the ASEAN collaboration designation. Because non-interference the domestic affairs and politics concept will obstruct the determination on readiness for cooperation on marine debris pollution crisis, in fact, it also depends on the different types of the implementation process of the international agreement to domestic law and, especially, the capability of each nation to manage and comply with Bangkok Declaration and the ASEAN Framework.

In the case of the ASEAN member states are reluctant to further establish a legally binding instrument, which may also affect the potential adoption of the Framework of Action. As a result, meaningful cooperation and engagement between the ASEAN member states continue to be an essential factor in implementing the framework for Action. Besides, the advantages are a timeline for implementing the international agreement will force and follow in the specific time, however, disadvantages may affect unreadiness member states as a state responsibility. Lastly, the ultimate goal on the marine debris polluter crisis management in ASEAN must concrete cooperation among member states because we do need an international legally binding agreement on plastic debris pollution and it must be followed by the concept of CCH, which needs for international cooperation and compliance mechanisms through strong global and regional institutions for fighting urgent crisis global problem like the U.N. Draft Resolution on Marine Litter and Microplastics.

To reach a common understanding among ASEAN member states, constant negotiations must be conducted with good faith. The question is how do we provide and establish a cooperation mechanism among the ASEAN member states. The Service works with Nations, governments, and non-governmental organizations to remove marine debris must be implemented.

CONCLUSION AND RECOMMENDATION

What are the chances of finding a legal solution to this critical issue? The ASEAN member states should negotiate and ratify and/or implement the principle of the Draft Resolution on Marine Litter and Microplastics to develop and constitute the legal binding on the

ASEAN Marine Debris Pollution Agreement. Because the marine plastic debris pollution crisis is beyond the capacity of any single country to solve the crisis and it is necessarily requiring international cooperation and response. The collaboration fighting marine debris pollution crisis among the ASEAN member states are as follows:

(1) Each member states have to concrete regional cooperation for combating, preventing, and reduction of marine debris as the urgent and essential national policy.

(2) To encourage the ASEAN Member States to implement international environmental laws and agreements related to waste control and management, especially, the reduction of single-usage plastic products or packaging, including the ban of usage the plastic product as zero plastic waste approaches.

(3) To revise or enact sui generis law of the ASEAN member states' domestic laws and regulations to prevent and protect marine natural resources from plastic debris crisis from land-based pollution sources and activities to the ocean, especially, civil penalty measures must be seriously enforced.

(4) To increase tax consumption on plastic production and packaging including reducing tax measures for the entrepreneur that complies and cooperates with the ASEAN, national policy, and sui generis law on plastic debris pollution-fighting.

Finally, the scale of marine debris and its effect on wildlife is important. The impact of marine debris can be seen at most coastal and island refuges around the country. It also affects many species, including plants and animals threatened and endangered which the Service is working to recover. Preventing and cleaning up marine debris can be tackled by implementing a comprehensive approach focused specifically on source prevention and education that is the local and global levels. To make these legal changes a success, international collaboration as such state, central and local governments, NGOs, and the private sector need to get involved in developing better plastic waste management systems. At the same time, Authorities must enforce laws regularly including bans on plastic bags, and exercise some criminal sanction.

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USING A DECISION TREE FOR STUDENTS' DECISION MAKING IN EDUCATION STREAMS

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ABSTRACT

Recently, Thailand has encountered a labor market distortion due to a mismatch between education outcomes and labor market requirements. To resolve the issue, and enhance job satisfaction for individuals, appropriate investment in education is needed to support judicious decision-making. This study aims to investigate the relevant factors and develop a predictive model for the students' decision trees in education streams. Decision Trees are used with data to yield important insights. Data was collected from 800 students in Trang province. The findings show there are nine relevant variables (i.e. the cumulative junior high school grade point averages in mathematics, science, and all-courses; gender; father's highest education level; mother's highest education level; father's occupation; mother's occupation; and the number of siblings who were currently studying at the Bachelor's degree level or below) which predict the students' decision-making. The performance of the proposed model in terms of accuracy and area under the receiver operating characteristic curve outperformed comparable models. Moreover, it illustrates the relationships between variables in the form of a tree diagram, which makes the model simple and understandable for users.

KEY WORDS: Decision tree, Data mining, Decision-making, Education, Predictive model

INTRODUCTION

Lately, Thailand has encountered a labor market distortion due to a mismatch between education outcomes and labor market requirements. Meanwhile, the expansion of motor vehicle and auto parts manufacturing in Thailand has led to a high demand for workers with vocational education (Senkrua, 2015). However, the ratio of students studying in the vocational stream compared to the general stream has not increased significantly, with the ratio remaining around 40:60, in spite of the government's efforts to increase the attractiveness of vocational secondary education (Clark, 2014; Sangboonnum, 2013). Many students still decide to study in general education for their upper secondary level and universities studies because of the negative attitude toward low-skill jobs and the growth, accessibility, and the affordability of tertiary education in Thai public education. Consequently, the number of university graduates entering the labor market has clearly increased to the point that the labor market is unable to provide jobs for them. Accordingly, it is impossible for many new graduates to find secure jobs paying high salaries. Consequently, many of them are relegated to jobs formerly filled by high school graduates (Senkrua, 2015; Apisitniran, 2019).

In the Thai education system, after completing compulsory education, students have to select between the vocational and general streams when continuing their education. The right decision in choosing one or other stream at upper secondary level is essential for success regarding the students' academic achievement, along with their future careers and income. Therefore, students need effective counseling and guidance before making the decision about which education stream to follow. Furthermore, advice regarding that decision needs to take into account the wide variety of factors which may influence students' decisions. To gain insights in the factors which influence students' decision making aids advisors in providing effective guidance to students, educationalists, and those in government agencies to formulate appropriate plans and policies.

Previous studies have investigated a number of factors that affect students' decision making about further education, including socio-economic status (SES), which is an important influence on students' further study (Fareo & Garkuwa, 2018; Misran et al., 2012; Sheehy-Skeffington & Rea, 2019). SES refers to the social status or the class or group in the social structure to which an individual belongs (Misran et al., 2012; Schüz, Sone-Wai, Hardinge, McEachan & Conner, 2017). According to Misran et al. (2012), SES can be determined by various indicators including parental education, parental occupation, and family income.

In addition to SES, gender, family size, and parental marital status have also been noted to be crucial factors influencing students' decisions. The study of Kinyota (2013) explored the factors influencing students' choice between the science and arts streams, with the findings showing that gender was an important influence on students' choice of the science stream. Similarly, Ayiah-Mensah, Mettle and Ayimah (2014) focused on the factors that influence polytechnic students' choice of technical and vocational courses and also found that gender was an important factor which influenced students' decisions, as Kikechi, Owano, Ayodo and Ejakait (2013), Suaphan (2015), and Igbiniedion (2011) did in their studies. Further, family size has been found to be an influential factor in students' decisions since families with many children often lack sufficient money to support their children's education (Downey, 1995; Hansen & McIntire, 1989). Meanwhile, Gunderson (2004) found that parents' marital status affected the future study path of their children and Hansen and McIntire (1989) similarly found differences in vocational aspirations

based on the number of parents living in a family unit. Finally, La (2009); Igbinedion (2011); Sofi (2016) revealed that grade point average and the previous academic achievement of students are other factors that affect students' decisions, in addition to the demographic factors already mentioned.

Several studies have used traditional statistical methods to build predictive models. Generally, such statistical techniques require assumptions to be met, for example, the assumption of normality. Although any assumption can be violated due to the robustness of a technique, the violation should be small. The application of statistical techniques with ignorance of the conformation of assumptions causes serious errors in hypothesis testing, and either underestimating or overestimating results (Hoekstra, Kiers & Johnson, 2012).

To enhance the quality of prediction and avoid the restrictions related to traditional statistical techniques, data mining techniques can be utilized. The decision tree (DT) methodology is a supervised-learning data-mining technique often employed to establish classification schemes based on multiple variables or develop prediction algorithms for response variables (Abu Zohair, 2019). This method classifies groups of instances into branch-like segments that construct an inverted tree with a root node, internal nodes, and leaf nodes. The algorithm is non-parametric and can efficiently deal with large, complicated datasets without imposing a complicated parametric structure. Moreover, DT has an advantage compared to traditional predictive models of interpretability preferred by non-statisticians because it presents the resulting model as a graphic structure (Miller, Fridline, Liu & Marino, 2014).

The purpose of this paper is two-fold; the first purpose is to choose the appropriate DT algorithm to identify the significant factors in students' decision making processes related to which education stream they decide to follow and to develop an appropriate classification model. The second purpose is to compare the performance of the DT model with benchmark models. The results of this study will provide information which will be useful in providing effective guidance to students and to educationalists and those in government agencies to help them formulate appropriate plans and policies.

RESEARCH METHODOLOGY

Population and Sample

To achieve the aims of this study, primary data collection was necessary to build a suitable classification model. The population for this study consisted of all 3,476 students who were studying in the tenth grade in the public upper secondary schools in Trang province, Thailand and 1,197 students who had decided to take first year courses leading to vocational certificate at vocational technical colleges.

To obtain the sample, multistage sampling was applied. First, the schools were selected using a stratified random sampling technique based on school size, then systematic random sampling where a fixed starting point has been identified, a constant interval selected to facilitate students selection was used to select the tenth grade students from the lists in each school. Meanwhile, since the number of vocational schools in Trang is lower than the number of upper secondary schools, the first year vocational certificate students were chosen from all of the vocational schools in the province using the systematic random sam-

pling technique. The final sample in this study was comprised of 800 students which obtained from the study of Makond (2020), 428 of who were studying in the general stream at the secondary schools and the remaining 372 students were studying in the vocational stream.

Data and preprocessing

Data was collected by distributing a questionnaire to students which was comprised of 12 items related to the predictor variables and an item for the response variable (i.e. students' decision making on the educational stream). Based on the literature review, the factors which have been claimed to influence students' decisions included gender (Kinyota, 2013; Ayiah-Mensah et al., 2014; Kikechi et al., 2013; Suaphan, 2015; Igbinedion, 2011), parental marital status (Gunderson, 2004; Hansen & McIntire, 1989), parental education, parental occupation and family income (Misran et al., 2012; Sheehy-Skeffington & Rea, 2019), the total number of siblings, and the number of siblings who were currently studying at the Bachelor's degree level or below (Downey, 1995; Hansen & McIntire, 1989), the cumulative grade point average for mathematics in junior high school, and their cumulative grade point average for science in junior high school, as well as their overall grade point average for all subjects (La, 2009; Igbinedion, 2011; Sofi, 2016). All the questionnaires distributed to the respondents were returned and the response rate was, thus, 100 percent.

Data preprocessing is an essential procedure in data mining in which the original data is converted into a functional format. Preprocessing involves three main steps: data cleaning, data transformation, and data reduction (Kotsiantis, Kanellopoulos & Pintelas, 2006). However, the application of the steps is only employed in order to deal with problems in the data. In this study, the data collected in relation to some of the variables was complete and usable whereas, for others, parental marital status, father's highest education level, and mother's highest education level in particular, the completeness of the data provided varied. Although, different levels of completeness for the data variables can be used, the having low levels of variation preferable in defining a variable since this leads to simplicity in determining the related outcomes. Therefore, data transformation was necessary to reduce the variation in the completeness of the data that was provided for those three variables. The states of the predictor and response variables after the completion of data preprocessing, are presented in Tables 1 and 2, respectively.

TABLE 1. Predictor variables

Variables	Descriptions	Values	Number
Gender	gender of students	"f" represents female	463
		"m" represents male	337
Math_gpa	cumulative grade point average for mathematics in junior high school	"below 2" represents cumulative grade point average for mathematics where grade point average is below 2	98
		"2-2.99" represents cumulative grade point average for mathematics where grade point average is in the range of 2-2.99	394
		"above 2.99" represents cumulative grade point average for mathematics where grade point average is above 2.99	308

TABLE 1. (Continued 1)

Variables	Descriptions	Values	Number
Sci_gpa	cumulative grade point average for science in junior high school	“below 2” represents cumulative grade point average for science where grade point average is below 2	69
		“2-2.99” represents cumulative grade point average for science where grade point average is in the range of 2-2.99	400
		“above 2.99” represents cumulative grade point average for science where grade point average is above 2.99	331
GPA	cumulative grade point average for all courses in junior high school	“below 2” represents cumulative grade point average for all courses where grade point average is below 2	30
		“2-2.99” represents cumulative grade point average for all courses where grade point average is in the range of 2-2.99	372
		“above 2.99” represents cumulative grade point average for all courses where grade point average is above 2.99	398
Status	parental marital status	“c” represents students from families with both parents	584
		“i” represents students from families which lack one or both parents	216
Edu_f	father’s highest education level	“less_BA” represents less than a Bachelor’s degree	677
		“BA” represents a Bachelor’s degree	84
		“higher_BA” represents higher than a Bachelor’s degree	39
Edu_m	mother’s highest education level	“less_BA” represents less than a Bachelor’s degree	658
		“BA” represents a Bachelor’s degree	122
		“higher_BA” represents higher than a Bachelor’s degree	20
Occ_f	father’s occupation	“occ1” represents business owner/merchant	140
		“occ2” represents government official/state enterprise employee	93
		“occ3” represents agriculture	296
		“occ4” represents employee	52
		“occ5” represents general laborer	219
Occ_m	mother’s occupation	“occ1” represents business owner/merchant	181
		“occ2” represents government official/state enterprise employee	81
		“occ3” represents agriculture	286
		“occ4” represents employee	42
		“occ5” represents general laborer	210

TABLE 1. (Continued 2)

Variables	Descriptions	Values	Number
Income	family's income	"s1" represents income is below ₺15,000	324
		"s2" represents income is in the range of ₺15,001 - ₺30,000	294
		"s3" represents income is in the range of ₺30,001 - ₺45,000	90
		"s4" represents income is above ₺45,000	92
rel	number of siblings	"l" represents the number of siblings is 1	94
		"m" represents the number of siblings is 2	393
		"h" represents the number of siblings is above 2	313
rel_edu	number of siblings who were currently studying in Bachelor's degree or below	"l" represents the number of siblings who were currently studying at Bachelor's degree level or below is 1	269
		"m" represents the number of siblings who were currently studying at Bachelor's degree level or below is 2	392
		"h" represents the number of siblings who were currently studying at Bachelor's degree level or below is above 2	139

TABLE 2. Response variable

Variables	Descriptions	Values	Number
education stream	the students' decision on education stream	"g" represents general stream	428
		"v" represents vocational stream	372

METHODS

In this study, two decision tree techniques were applied to create the models which the one has high performance will choose to classify the students' decision making on education streams. In addition to DTs, others data mining methods including Logistic Regression (LR), Navie Bayes (NB) were implemented in this study as the benchmark method of the purposed model. These data mining methods were described below.

Decision Tree methods

Decision Tree (DT) is a well-known supervised learning data mining method represented in a graph like tree structure and performed as a recursive splitting of the set of instances. It is mostly used as a classification technique (Alyahyan & Düşteğör, 2020). The DT generally composes of three parts: a root node, internal nodes, and leaf nodes. The root node

which has no incoming edges contains all the instances; while, all other nodes have absolutely one incoming edge. The node with outgoing edges is called an internal node; each internal node assigns the instances into two or more groups according to the predictor variable's value. Likewise, each leaf node is assigned to one class representing the most proper response variable's value. The leaf node may specify the probability of the response variable having a certain value. Instances are classified by directing them from the root of the tree down to a leaf, consistent with the outcome of the tests along the path (Rokach & Maimon, 2005).

DT is an embedded technique which performs feature selection as part of its learning process (Saeys, Inza & Larranaga, 2007). Generally, the optimal DT model is built using two steps, growing and pruning. In the growing step, the training data is utilized to build the tree using specific criteria in order to find a sequence of splits that separates the training data into smaller subsets that have pure class labels. Pruning the tree is a fundamental step in optimizing its computational efficiency, as well as the classification accuracy, of the model. The employing pruning minimizes the size of the tree (or the number of nodes) and, consequently, reduces its complexity as well as addressing over-fitting of the model. DT algorithms commonly used in education field are C4.5 and chi-squared automatic interaction detection (CHAID) algorithms (Pandey & Sharma, 2013; Saini & Jain, 2013; Maaliw & Ballera, 2017). These algorithms primarily differ in the methods of growing and pruning.

C4.5 algorithm used to generate a decision tree was developed by Ross Quinlan. It is an extension of Quinlan's earlier ID3 algorithm which takes information gain ratio as attribute choice criterion while the model with ID3 algorithm uses subtree's information gain. In order to avoid the over-fitting of the model, the pruning can be applied. In this study, post-pruning was the preferred approach since the full tree would be constructed first and the final sub-trees replaced by leaves based on error comparison of the tree before and after replacing the sub-trees. The C4.5 algorithm for building DT models was implemented in WEKA machine learning software as a classifier called J48.

CHAID is a decision tree technique created by Gordon V. Kass in 1980. It is applied to discover the relationship between variables by employing three steps including merging, splitting, and stopping. In merging step, non-significant categories of each predictor variable are merged. Each final category of the predictor variable will result in one child node if the predictor variable is used to split the node. The merging step also calculates the adjusted p-value that will be used in the splitting step. According to, the best split for each predictor which is found in the merging step, the predictor which is used as the best node is selected in the splitting step. The selection is accomplished by comparing the adjusted p-value associated obtained in the merging step with each predictor. The stopping step inspects if the tree growing process should be stopped according to the stopping rules including (i) the minimum number of cases in a child node; (ii) the minimum number of cases in a parent node; and (iii) the depth (i.e., number of levels) of any leaf from the root node. Stopping parameters must be determined based on the aim of the study and the characteristics of the dataset (Song & Lu, 2015).

The benchmark methods

In addition to DT, two classification data mining methods, LR and NB were chosen as the benchmark methods in this study because they are supervised learning methods. Moreover, they have been commonly applied with high performance levels in classification problems in different education domains. For example, LR and NB methods have been utilized to classify the students' performance (Makhtar, Nawang & Shamsuddin, 2017; Bucos & Drăgulescu, 2018; Zabriskie, Yang, DeVore & Stewart, 2019; Romero, Ventura, Espejo & Martínez, 2008), Casey and Azcona (2017) used LR and NB to identify students at risk of dropping out of the learning process. Kesumawati and Utari (2018) used NB method to predict the timely graduation of students. NB method was also employed in the study of Yukselturk, Ozekes and Türel (2014) to predict student drop out. The concepts of these methods are described in the following sections.

Naive Bayes

Naive Bayes (NB) is a classification algorithm in data mining method and is categorized as a supervised learning algorithm. This algorithm is based on the Bayes's theorem which employs a probabilistic learning method where prior knowledge and observed data can be merged (Swetapadma and Yadav, 2016). NB has the assumption that the condition variables are independent from each other. Moreover, the class has no parents and each variable has the class as its individual parent. The classification is carried out by applying Bayes' theorem to compute the posterior probability and then predicting the class with the highest posterior probability (bin Othman and Yau, 2007).

Logistic regression

Logistic regression (LR) is a classification technique from the field of statistics that is used in data mining. The method is used to investigate the associations between a set of predictor variables denoted by $X' = (x_1, x_2, \dots, x_p)$ and a dichotomous response variable that can take the values 1 and 0 (here, 1 denotes general stream and 0 denotes vocational stream) (Hosmer & Lemeshow, 2000). The conditional probability of the response Y given the predictor variables is $P(Y|X) = \pi(x)$. It is expressed as the following formula:

$$\pi(x) = \frac{e^{(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p)}}{1 + e^{(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p)}}, \text{ when } 0 \leq \pi(x) \leq 1 \quad (1)$$

The probability that the value is in the range $[0, 1]$ can be changed into a real number using odds. Odds are the ratio between the probability of an event occurring divided by the probability of the event not occurring and can be expressed as the following equation:

$$\text{odds} = \frac{\pi(x)}{1 - \pi(x)} \quad (2)$$

The natural logarithm of the odds, which is called the logit transformation, is defined as:

$$\ln\left(\frac{\pi(x)}{1-\pi(x)}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p \quad (3)$$

where $\beta_0, \beta_1, \beta_2, \dots, \beta_p$ represents a set of parameters obtained via the maximum likelihood method.

The model interpretation is based on an odds ratio (OR) measure of the association between two events (i.e. general and vocational stream). The OR represents the odds of general stream in the presence of vocational stream and the odds of general stream in the absence of vocational stream.

Model evaluation

To evaluate the performance of the models, the data set was divided into a training set and a testing set. The training set consisted of 80 percent of all the data and was used to train the models. The testing set, comprising the rest of the data, was used to test the performance of the models created. Generally, the performance of a classification model has layout as a confusion matrix as presented in Table 3,

TABLE 3. Confusion matrix.

		Predicted class	
Actual class		yes	no
	yes	TP	FN
	no	FP	TN

where TP represents true positives, TN represents true negatives, FP represents false positives, and FN represents false negatives. In this study, the class of interest (i.e. vocational stream) was expressed as v ; which was therefore represented as positive and the others as negative.

The performances of the models were measured using accuracy and area under the receiver operating characteristic curve (AUC). Accuracy is a common measure used for classification performance and it is typically conveyed as a percentage of the correctly classified instances. Based on Table 3, the formula's accuracy is presented as follows:

$$\text{Accuracy} = \frac{\text{TP} + \text{TN}}{\text{TP} + \text{TN} + \text{FP} + \text{FN}} \times 100\% \quad (4)$$

Meanwhile, the receiver operating characteristic curve is a graphic plot of the true positive rate (sensitivity) versus the false positive rate ($1 - \text{specificity}$) used to illustrate the ability of a classification model at all classification thresholds. The AUC measures the total area below the entire receiver operating characteristic curve from (0,0) to (1,1). The value of the area can be calculated using the trapezoidal rule and has a range of 0 to 1. The AUC is interpreted as follows: a value of 0 means a totally incorrect classification; a value of 0.5

indicates an inability to classify; and a value of 1 indicates an absolutely correct classification (Mandrekar, 2010).

EXPERIMENTAL FRAMEWORK

Due to the benefits of DTs, J48 and CHAID techniques were employed on the data set to create the DT_J48 and DT_CHAID models, respectively. After data preprocessing, the data set was converted to conform the characteristics of the algorithms. The J48 classifier was initially used to construct a large model which suffered from over-fitting. Therefore, pruning was essential to optimize the computational efficiency and classification accuracy of the model. In this study, post-pruning was employed by setting two parameters defined as the confidence factor, which was set at a value of 0.15, and the minimum number of instances per node (minNumObj), set at a value of 2. In addition, CHAID employed to build the classification model was executed on Statistical Package for the Social Sciences software by setting the minimum number of records in a leaf was set at 50, the minimum number of records in a node prior to splitting was set at 100, and the depth was set at 3. The proposed DT model was chosen based on the performance in term of accuracy and AUC.

DT is an embedded technique which performs feature selection as part of the pruning model. The selected variables were composed in the proposed DT model. To evaluate the model, the data set, including the selected variables, was divided into training and testing sets. Later, the training set was also used to build the LR_J48 and NB_J48 benchmark models while the testing set was used to evaluate the models. The performance of the models was measured by accuracy and AUC. The superior performance of the DT model was verified by comparing it to those of the benchmark models.

RESULTS

Comparison of the DT models' performance

J48 and CHAID algorithms were implemented on the testing data in order to create the DT_J48 and DT_CHAID model, respectively. To explore the proposed model, the results presented in Figures 1 and 2 showed that the DT_J48 model outperformed the DT_CHAID model, from the perspective of accuracy and AUC,

Figure 1: Accuracy performances of DT models

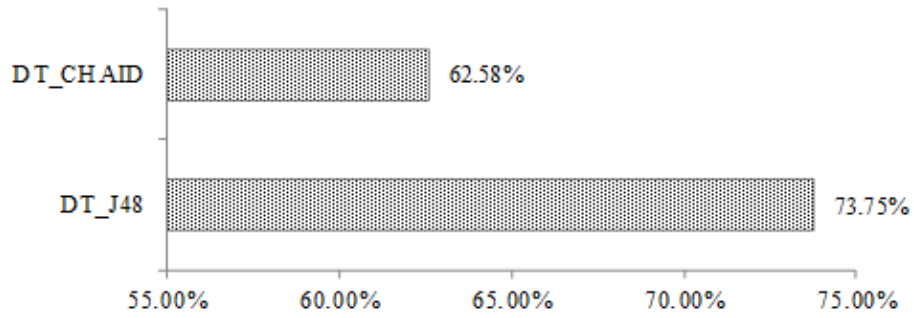
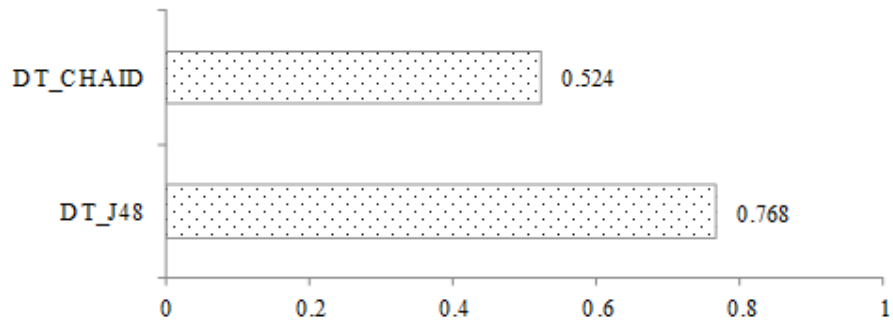
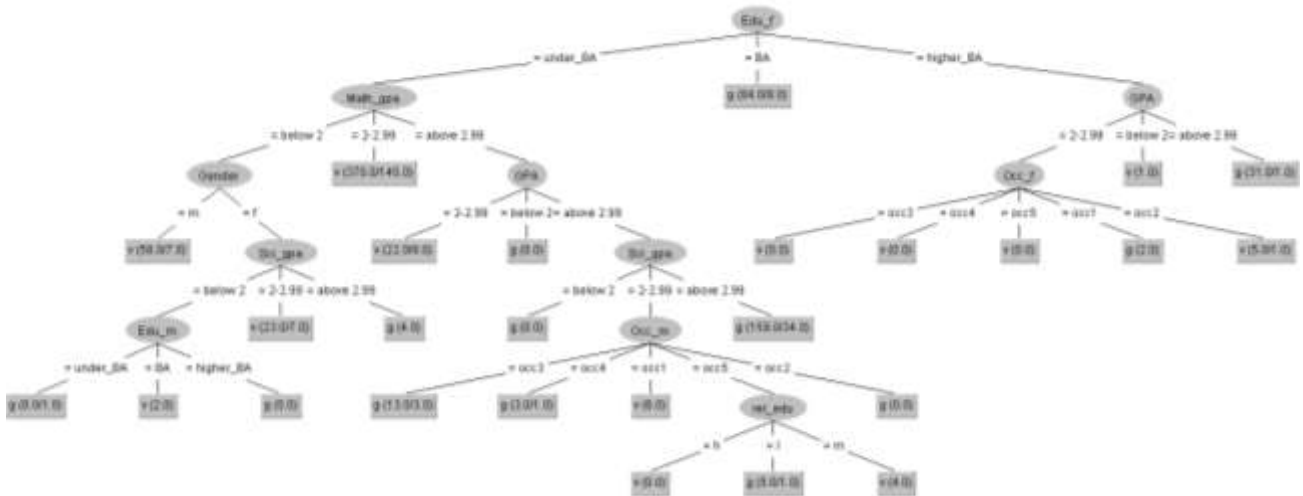


Figure 2: AUC performances of DT models



The proposed model called DT_J48 model displayed in Figure 3 was comprised of nine significant predictor variables: cumulative junior high school grade point averages in mathematics, science, and all-courses; gender; father's highest education level; mother's highest education level; father's occupation; mother's occupation; and number of siblings who were currently studying at Bachelor's degree level or below.

Figure 3: The DT_J48 model



Comparison of performance of the DT model with benchmark models

Figure 4 presents the comparative results of the DT_J48, NB_J48, LR_J48 models in terms of accuracy. The results indicated that the DT_J48 model was superior to the other models from the perspective of accuracy (73.75 %). Similarly, the comparative AUC results shown in Figure 5 clearly showed that the DT_J48 model had the highest AUC (0.768) compared to the other models.

Figure 4: Comparison of the accuracy of the three models

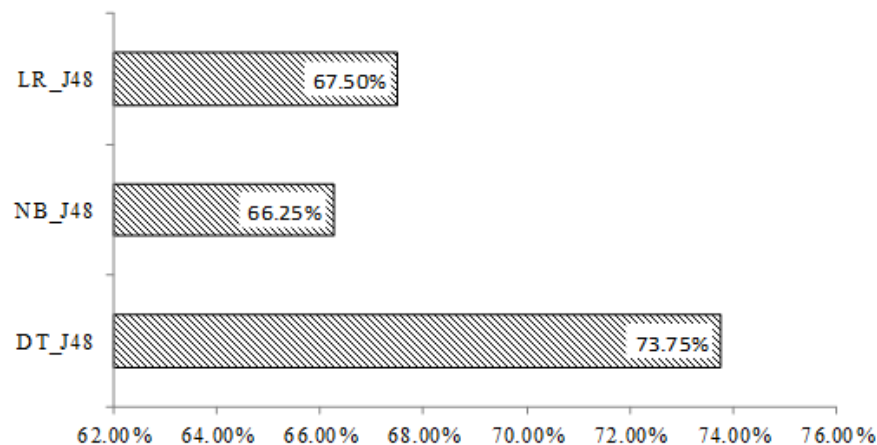
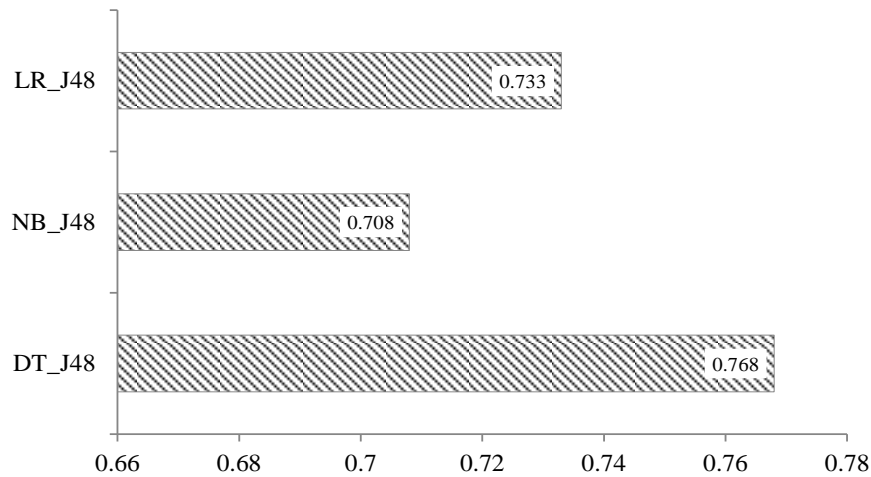


Figure 5: Comparison of AUC of the three models



DISCUSSION AND CONCLUSIONS

The purpose of this current study was to choose the appropriate DT algorithm to identify the significant factors in students' decision making processes related to which education stream they decide to follow and to develop an appropriate classification model. The J48 and CHAID decision tree algorithms were implemented on data obtained from 800 students in Trang province. The data set comprised 12 predictor variables and a response variable (i.e., decision on education streams). The results showed that J48 algorithm using a post-pruning process during the construction of the model called the DT_J48 model outperformed the DT_CHAID model. Furthermore, the DT_J48 model illustrates the relationships among predictors in the form of a graph-like tree structure to clarify the factors which influence the decision making process. The final nine predictor variables included in the DT_J48 model comprised cumulative junior high school grade point averages in mathematics, science, and all-courses; gender; father's highest education level; mother's highest education level; father's occupation; mother's occupation; and number of siblings who were currently studying at Bachelor's degree or below. Those predictors were utilized to classify the response variable, i.e., decisions made relating to education stream.

Moreover, findings indicated that factors influencing the students' decisions relating to education streams consistent with previous studies as follows: 1) cumulative junior high school grade point averages in mathematics, science, and all-courses, have been previously found to be influential factor in students' decisions relating to education stream. The findings in this study support those of Agodini, Uhl and Novak (2004) who found that students with low academic achievement have a particularly high chance of opting for vocational education 2) gender was also confirmed by the model to be a significant factor in students' decisions relating to education stream and this result was consistent with that of Agodini et al. (2004) which indicated that males had a greater chance than females of becoming vocational students 3) the study of Hahs-Vaughn (2004) found that parental education affected the academic careers of their children 4) the findings of Udoh and Sanni (2012) which indicated that parents' education and parents' occupation significantly influ-

ence the career choices of secondary school students, implicitly, the choice of between general and vocational education streams 5) family size was also a factor affecting students' decision making relating to education stream and this finding was consistent with the study of Hansen and McIntire (1989) which concluded that students from families with four or more children had more chance of completing only high school education compared to students from one- or two-child families who would be more likely to complete at least a Bachelor's degree.

In regard to the performance and usability of the DT_J48 model, it was superior to the NB_J48 or LR_J48 models in terms of accuracy and AUC. Furthermore, it illustrates the relationships between variables in the form of tree diagram, which makes the model simple and more easily understandable for users.

ACKNOWLEDGEMENT

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INTEGRATED SOLUTION SYSTEM FOR FLOOD DISASTER MANAGEMENT (USING IOT AND GIS)

by

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ABSTRACT

Floods are the most catastrophic and cataclysmic events of all-natural disasters. According to worldwide researches, most human lives are lost due to these flood disaster situations. Not only human lives but also it will negatively influence the stability of a country in many. Therefore, every country must have a proper mechanism to effectively manage disaster situations. The flood management process can be categorized into three stages. 1. Flood detection and identification stage. 2. Flood alerting processes and early warning stage. 3. Refugee relocating and rescue processes stage. In order to acquire the full utilization of this process, these three stages should be properly communicated and co-operated. The main problem of currently available disaster management systems is those are not properly co-operated and linked. Therefore, this research paper suggests a proper integrated software solution to address the above-mentioned problem. This system performs flood monitoring, flood detection, early warning sending, refugee relocating, and locating processes in an integrated manner with the help of the android, cloud, windows application, and IoT technologies.

KEY WORDS: Cloud, IoT, Disaster management, Android, Geoinformation processing.

INTRODUCTION

Floods are commonly occurring natural catastrophes that intervene in human livelihoods now and then. The causes leading to such devastating events are multiple, yet the aftermath is intense and destructive, from a perspective of both, livelihood as well as the country's overall economy. Therefore, it is mandatory to establish and maintain a proper flood disaster management mechanism. When comes to flood disaster management, there are three main visible stages to address. 1. Flood detection and identification stage. 2. Flood alerting processes and early warning stage. 3. Refugee relocating and rescue processes stage. The main goal in the first stage is to detect and predict the flood situations early. The effectiveness of all other stages and activities directly depends on the efficiency and accuracy of this stage. The second stage, flood alerting, and early warning stage is responsible for pass the flood warnings among civilians, disaster management departments, emergency response teams, and other required parties as soon as possible. The third stage is the most important and critical. All the relocating processes, refugee searching missions, manage refugees in safe locations, etc. are conducted under this stage. All the processes and actions that consisting of this stage will directly affect the safety of human life and safety. The existing mechanisms are not abdicated enough to address such situations properly. Therefore, above mentioned three stages should upgrade with a more advanced and novel mechanism, to face these increased flood disaster scenarios. And the main aspect is, the entire effectiveness of this flood disaster management directly relies on the better integration and communication among those three stages. The existing systems consist of poor integration and communication among these three stages since the lots of human interventions and manual inefficient activities are capped with the flood management mechanism. The Globe, currently, in living in a world dramatically ruled by technology, can opt for no better route for flood disaster management rather than making full utilization of information and communication technology. This is because communication is one of the most integral and crucial parts when tackling such intricate issues. Quite recently, the world has begun to incorporate the technology paradigms, such as the 'Internet of Things', mobile technologies, cloud technologies, and Geolocational systems and services in providing and integrating solutions to such calamities. These technological concepts, when used together, can renovate and ameliorate the existing technologies of communication to a machine-to-machine basis (M2M) [2]. This is primarily done by developing multiple pathways and prospects for even better and appropriate applications for disaster management authorities. This research paper aims to address the basic requirements for the ones in-charge of flood disaster management operations in a country through an integrated system. It further reiterates how to use IoT, Mobile, Cloud, and geographical information processing technologies as an integration solution for timely handling of the forthcoming disaster. . The research paper has been carefully sought to provide profound findings and analysis for the following aspects the analysis extends and validates the task-technology fit approach and discusses why and how IoT and GIS can give us the strategic value required. The research paper has been carefully sought to provide profound answers and analysis for the following questions:

1. Critical review of flood disaster management domain and existing flood management systems.
2. Index study of appropriate technologies, practices, and theories.
3. Designing, development, and implementation of the integrated flood disaster management system.

LITERATURE REVIEW

Which can in the solution, and identify the gap among the existing, and desire state of the flood disaster management processes. According to “Shubhendu S Shukla and others” disaster management is the discipline of dealing with and avoiding both natural and manmade disasters (Shubhendu S Shukla, 2013). According to the global senses, a world bank report states that there are approximately 3.8 million Km² and 790 million individuals are exposed to at least two natural hazards (Bronfman et al., 2019). In every disaster scenario, the disaster situation is divided into main three categories. 1. Preflood disaster stage, 2. During flood disaster stage. and 3. After the flood stage. This research is about flood disaster management and the following three stages related to flood disaster situations are addressed from this research. 1. Flood detecting and identification processes. 2. Flood alerting and early warning stages. 3. Relocating and rescue activities. The effectiveness of each stage will do a dramatic influence on other stages. According to the “WL Delft Hydraulics” in the pre-flood preparedness stage, the level of flood awareness is the most valuable thing to proceed with further doings (Lumbroso & Woods-Ballard, 2006). Evacuation/ Relocating is a response to the immediate or forecast threat of flooding that is expected to pose a risk to life, health, or well-being. It involves people moving from their houses or places of business to safe locations that are locating out of the flood plains (Lumbroso & Woods-Ballard, 2006). According to the “Sunarin chanta” a shelter site is a public place named by the government to gather the people who got affected by flood after the considerable tests or experiments that confirmed as safe from the flood (*Search and Rescue Response and Coordination (Natural Disasters) - UNHCR/Emergency Handbook*, n.d.). But whenever a disaster happened people used to move to the nearest public place (temple, church, or school) without considering the safety measures of those places. Sometimes those places also will get affected by flood situations. This happens because of the poor communication among the disaster management department and civilians and there is no proper guidance to the people whenever the disaster has happened. According to the “UNHCR (United Nations High Commissioner for Refugees)”, searching missions mainly focuses on where the victims are likely to be located and area of entrapment [4]. Currently these missions are conducted by the armed forces of Sri Lanka and assigned people from the government and the disaster management department. When considering the nature of these missions, normally large area was searched during thus mission to find if there is any person who trapped to the flood. Sometimes, there are people can be found but sometimes, there is not. Due to this reason it costs, lots of cost and time.

IoT Technologies In Disaster Scenarios.

The main components of disaster situation management are environmental monitoring and pre-identification of disaster. To gain the success of these processes, the major and critical component is to identify the parameter which directly related to the disasters (Purkovic et al., 2019). According to “Sharma and others” IoT is a sort of “universal global neural network” in the cloud which connects various things. These IoT intelligently connect devices and systems which are comprised of smart machines interacting and communicating with other machines (Sharma & Tiwari, 2016). Using these IoT, we can provide the ability to sense/ the external environment for the system (sensors, etc.). These systems can automatically interact with the external entities accordingly. Therefore, it is possible to make automated systems that can take inputs, process them & provide outputs. Through this field, we can gain a secured & ultimate remote management control. Mainly this IOT can be used for disaster preparedness rather than preventing disasters or stopping them. Predic-

tion processes, early warning systems &, etc. Ex: - observance of forest fires. Sensors on trees will take measurements that indicate any robust risk. (temperature, moisture, greenhouse emission, and CO2 levels) (Saha et al., 2017). According to “Akash Sinha and others” IoT is proven to be fundamentally capable enough to provide more significant, scalable, portable, and energy-efficient solutions to various problems in disaster management. Especially, for monitoring purposes and alerting purposes (Akash Sinha et al., 2019). According to “Stefan Poslad” an early warning system (EWS) is a core type of data-driven Internet of Things (IoT) system used for environment disaster risk and effect management (Poslad et al., 2015). According to “Akash Sinha and others,” one of the main key problems faced in disaster management is the communication gets hampered in the disaster region (Akash Sinha et al., 2019). Sensor and satellite data collected at the site must be communicated to the DMU so that necessary actions can be taken as quickly as possible.

Google Map Related Geo-Information Processing and Mobile Technologies in Disaster Scenarios.

The awareness of the routes, geographical details about the area, exact locations of safe zones will enhance the effectiveness of this project. This will increase the efficiency of relocating purposes, rescue operations, and in addition to that logistics, emergency services, etc. According to “Varsha S. Sonwane”, the use of geographical information is very helpful when a disaster situation. There is an application that uses Google map services for assisting relocating processes during a disaster situation. When the user is in a disaster zone, it will send a message notification along with a path to the member who can help. In this message, the user sends text messages and paths to reach for help. The path contains the distance from the helper to the user. The distance can be given with the help of Google Maps to show the distance by walk, by railway, or by bus (Sonwane, 2014). According to the “Janeetta Silvester and other” use of the google maps with mobiles give the maximum performances and utilization for disaster scenarios. Because google map is easy to utilize by any person, at any time. And with the use of mobile computing increases the accessibility and the portability of the system (Fajardo & Oppus, 2010). According to the “Teresa onarati, Igancio aedo” modern mobile devices embed several sensors such as GPS receivers, Wi-Fi, accelerometers, or cameras that can transform users into well-equipped human sensors ((PDF) *Improving Emergency Response*, n.d.). For these reasons, emergency organizations and small and medium enterprises have demonstrated a growing interest in developing smart applications for reporting any exceptional circumstances. Considering the spread of such technologies, data collected from these sensors are useful for figuring out what is happening in a specific context. One of the greater examples for human sensors’ participation is given by the earthquake and subsequent tsunami that happened in 2011 in Japan. The authors in this paper were discussed how people used Twitter or Skype to share positions, texts and photos and to stay in contact with their families ((PDF) *Improving Emergency Response*, n.d.). According to the “Jovilyn therese B.fajardo, carlos m.oppus”, different media channels allows people to communicate during crises through the years. And, that authors pointed out, the social technologies are already merged with disaster relief [11]. And, those are assisted in disaster management in four ways. 1. communication – quickly communicating with citizens for individual needs, 2 Self-help communities – cooperation through emergent groups. 3. integration of citizen-generated content – integration of information from various social software sources. 4. inter-organizational crisis management – cooperation among professional organization communities. According to the “M.L Tan and others” mobile social application which is not solely designed for the disaster management such as Facebook, Twitter can be used for gather-

ing information and details during the disaster. And some applications were designed only for disaster management purposes. The applications which determine the optimum route along with different geographical locations that the volunteers and rescuers need to take to serve the greatest number of people and provide maximum coverage of the area in the shortest possible time. A genetic algorithm was applied for optimization and different parameters were varied to determine the most optimum route. (Tan et al., 2017)

METHODOLOGY

This study has been carried out with the primary aim of testing and launching a mechanism that provides adequate communication and transmission of key information during flood detection, generation of alert and sending it, evacuation of areas, and handling refugees. For this purpose, a system has been developed that can provide multiple services to three kinds of stakeholders for dealing with flood disaster management using technology. Civilians, Emergency response teams, and flood management department.

Problem Identification.

After developing a profound review of existing literature regarding flood disaster management, several loopholes were identified. Such as lots of human interventions/ manual processes comply with the existing flood disaster management activities. These were related to flood detection, flood alerting and refugee relocation processes. Manual methods lead to ineffective communication and inadequate integration of the above mentioned main three activities to reach the desired outcomes.

Analysis

An analysis of the current situation of methods of flood disaster management reveals that the system in-use has the following issues:

- Manual water level monitoring mechanism.
- Poor communication among flood detection, flood alerting, and refuge relocating and locating processes.
- The isolated system in each level.
- Improper awareness of safe locations.

As a solution for the above-mentioned problems this research suggests and carried out an automated and integrated system for flood disaster detection, alert sending, refuge locating, and relocating assisting. This is carried out through the development of an integrated system based on the following aspects of technology: Android development, IoT (Internet of things), Windows application development. (ASP.net C# language), Cloud technology (Firebase), Google Map API, database (SQL server).

After the proper gap analysis following requirements were identified to be present in the proposed system to patch the pre-identified loopholes and fill-up the gap. Respective requirements are listed as follows under three main categories.

Functional Requirements.

- Flood Detection and identification. – View real-time water level, identify floods, store water level details.
- Flood alerting and broadcasting. – generating flood alerts, send alerts to admins, admins should confirm alerts, civilians, and emergency response teams should receive and view alerts.
- Refugee relocating and rescue operations. – View safe locations, navigate to a safe area, send SOS messages, view SOS requests, and view the refugee's locations, emergency response teams should navigate to the refugee's location.

Non-Functional Requirements.

a. User friendly. b. Accuracy. c. Reliability. d. Availability. e. Portability and accessibility
d. Security

Technical Requirements.

a. Platform which system will be running. b. Databases. (Local and Cloud databases). c. Geographical information processing. d. Programming languages and other development equipment. e. Hardware requirements – Android smartphones, Arduino the microcontroller board and ultrasonic sensors, windows computers.

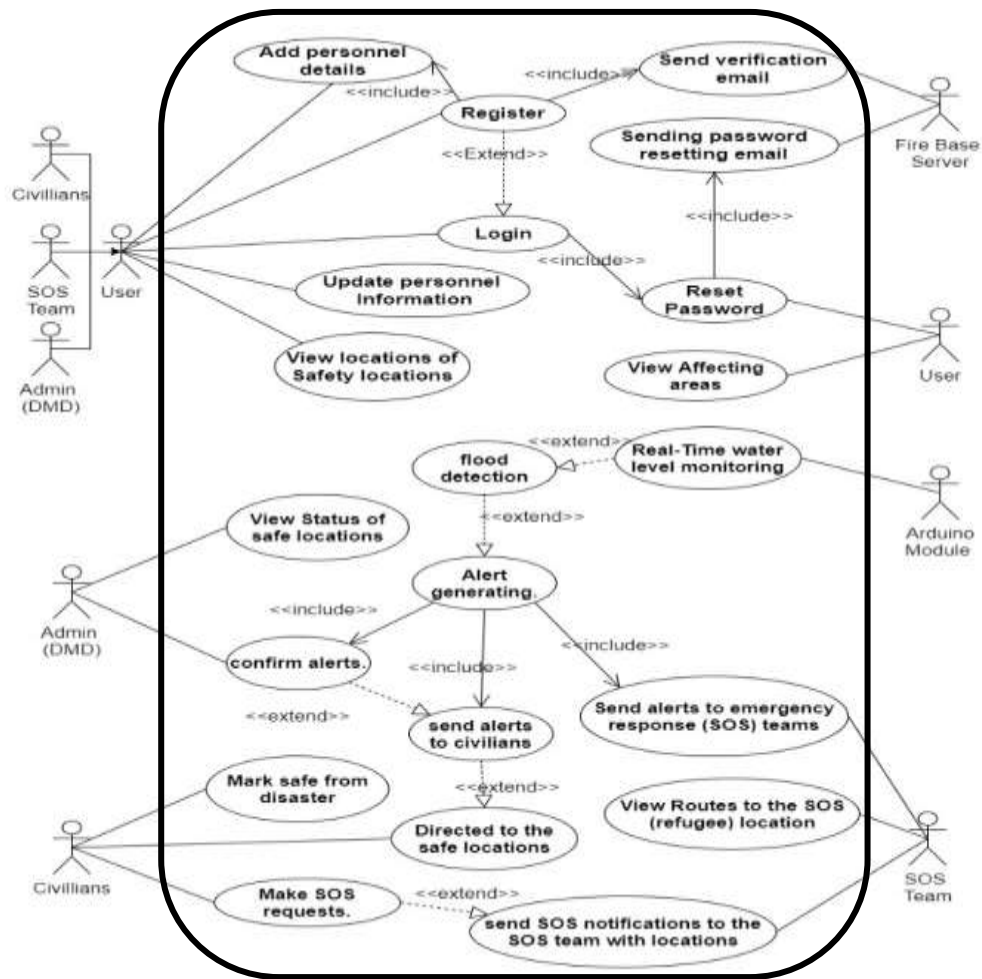
All key processes were developed, keeping in mind the three stages of flood disaster management. The software was used to develop a number of modules to substitute each process of the flood disaster management and a cloud database was used for the integrating purpose of those modules.

Design and Development of The Solution System.

The following section of this research paper gives a thorough insight into the developed application as a proposed solution to the above-identified problem and how the entire requirements are embedded in this project. The entire system is designed and developed, keeping in mind that integrity and the integration of the main activities which should perform under three main stages of flood disaster management.

In figure - 1 shows the UML use case of the flood management system.

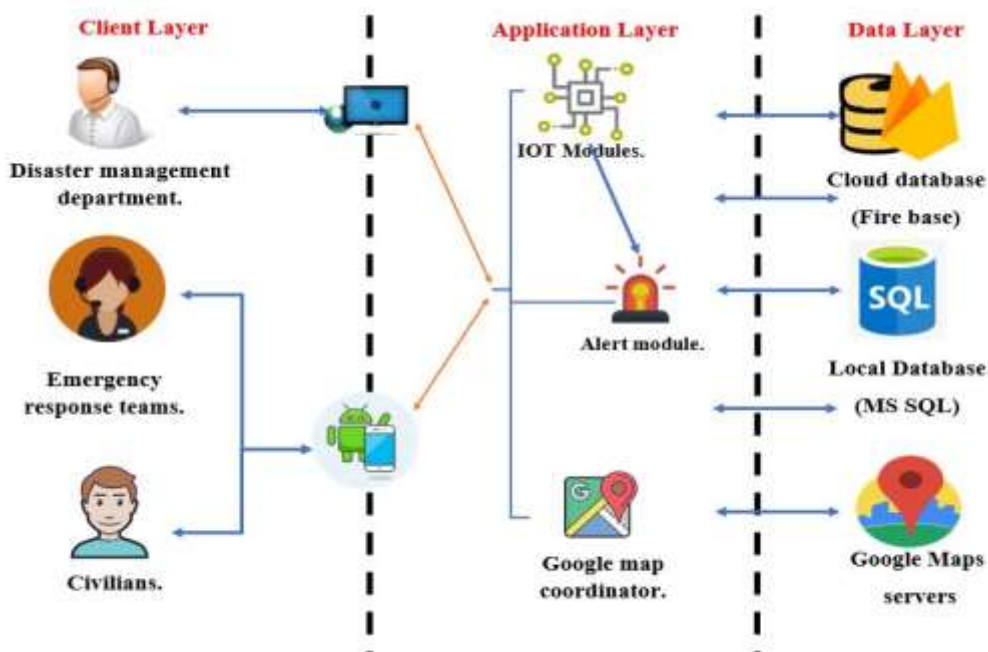
Figure 1: UML use case of the proposed system.



Overall Architecture of The System.

This portion of the research methodology gives a profound analysis of the system and the three-tier architecture that was integrated towards finding optimum solutions, categorized into the following three layers: client layer, application layer, and the data layer. Figure 2 exhibits the layered architecture of the proposed system.

Figure 2: Three layers of the proposed system.



a) Client Layer - The client layer for the system had been designed with the primary aim of administering human and system interactions. It was mainly utilized by three stakeholder groups, as mentioned above: civilians, the disaster management department, and the emergency response teams. It was rather intricate to implement user interaction using the 'client layer' on such a widespread scale. Therefore, the system was designed in two ways to enable users to consume the services of this system. through the Android application civilians and emergency response teams interact with the system and through a windows application disaster management department is interacted with the system.

b) Application Layer - The application layer handles the core logic of the entire application and it is comprised of the following:

- IoT component.
- Alert generating and sending components.
- Geo-map/ coordinate component.

c) Data Layer - This tier contains managing the connection with data sources and maintain the data related processes. (CRUD – create, read, update, and delete). This structured data layer, for this project, handled three integral data sources. The first one was the local SQL database, where all information regarding the users of the disaster management department such as alert details, coordinate location of safe zones, sensor readings, sensor locations were retrieved. This database was only accessible by the top personnel of the flood disaster management department and could not directly meet external parties. The second data source was the Cloud database. This particular source kept records of the emergency response teams and the local population and contained valuable details like sensor values, details of safe ones, coordinate location of various relevant locations, etc. The third source involved the use of Google Maps data servers by incorporating the Google Map API. It is not straightway run or administered by the system.

Module Architecture.

As mentioned above in this paper, this entire system consisting of three main modules. Those respective main modules were further dividing into the sub-module to achieve the separation of concerns. All the modules and sub-modules are discussed as follows.

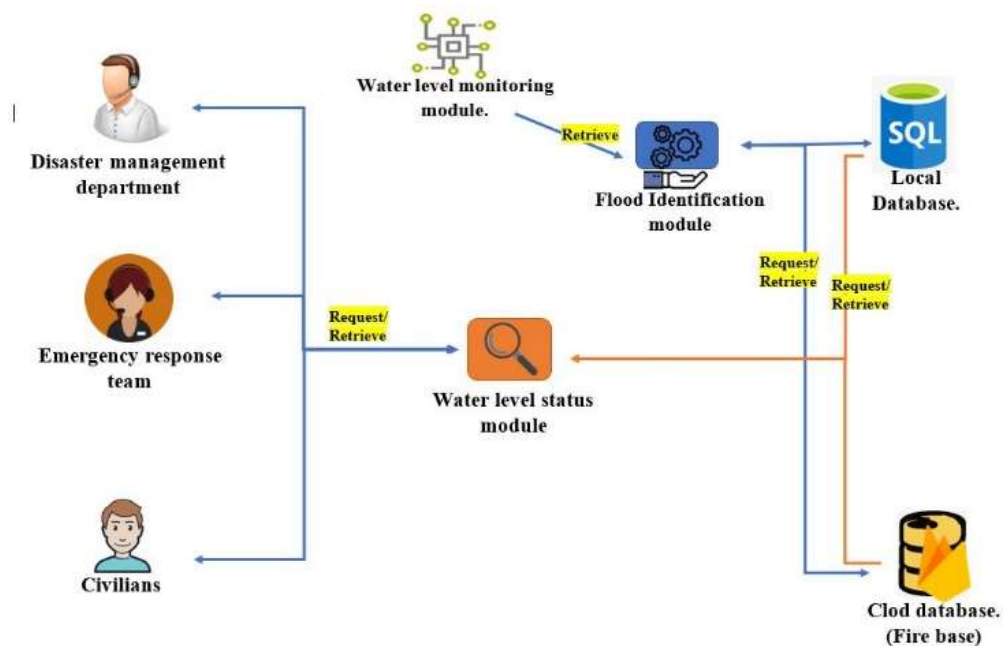
Flood detection and identification module.

Water level measuring sub-module. - measure the water level on a real-time basis and send them to the windows application.

Flood identification sub-module. – compare the received water level values with the knowledge base for identifying the flood situations.

Water level view module – enables to view the water levels for civilians, emergency response teams, and flood disaster management department. Figure 3 exhibits the logical design of the flood detection module.

Figure 3: Design of the flood detection and identification module.



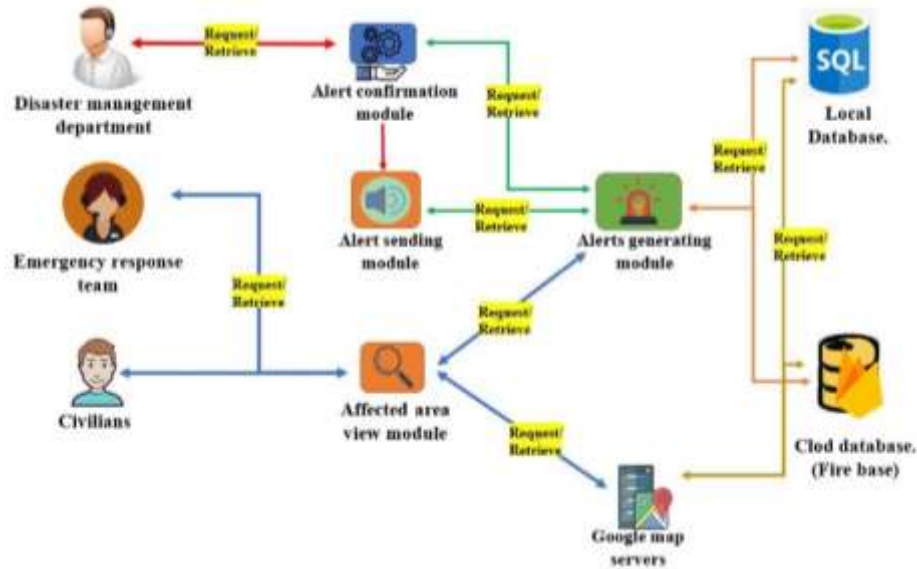
Alert Generating and Broadcasting Module.

Alerts generating sub-modules. – automatically generated an alert and send it to admins to confirm.

Alerts confirmation sub-module. – admins confirm the system generated alerts before the broadcasting.

Alert sending sub-module. – broadcast the alerts to the other stakeholders of the system. Figure 4 exhibit the logical design of the alert generating and broadcasting module.

Figure 4: Design of the alert generating and broadcasting module.

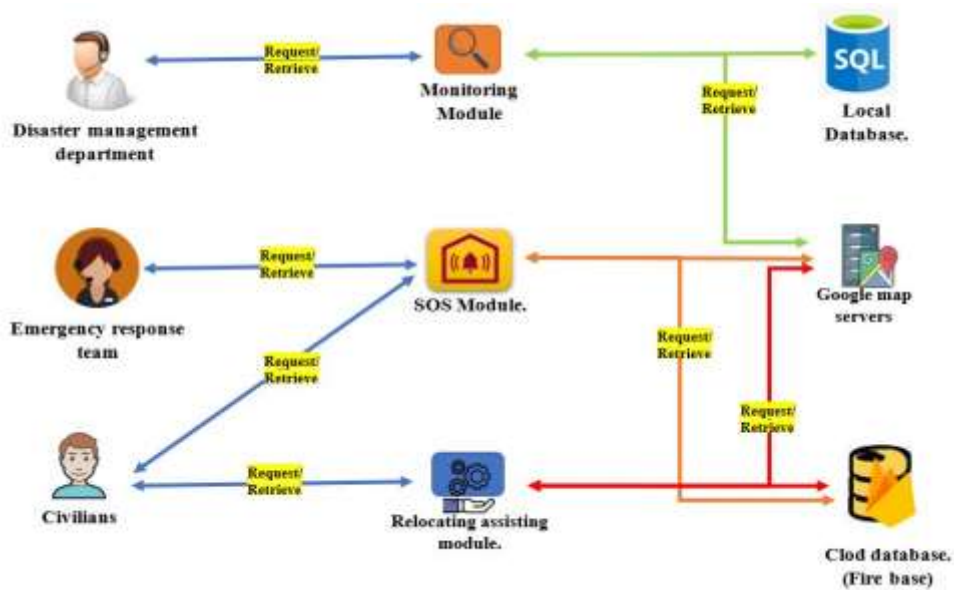


Refugee Relocating and Locating Module.

Relocating assisting module – navigates civilians, SOS teams to safe areas.

SOS module – enables civilians to initiate SOS messages and view SOS requests for SOS teams. Figure 5 exhibits the logical design of the refugee relocating and locating module.

Figure 5: Design of the refugee relocating and locating module.



SYSTEM EVALUATION

Evaluation Results of Functional Requirements.

TABLE 1. Evaluation results of Functional requirements.

Functional Requirements.	Developed component.	Sore.
The system should provide functionality for the end-users to log in to the system.	Login module.	79%
Android users should be able to validate the email address.	Login module.	83%
Android users should be able to reset their pass-words.	Login module.	79%
The system should detect the water level in a real-time manner.	IoT module to read water level, and admin panel function to analyze the captured value and identify a flood scenario.	83%
The system should generate flood alerts	Alert generating and broadcast components.	84%
Disaster management department administration should be able to confirm flood alerts.	Alert generating and broadcast components.	83%
Administrators should be able to initiate manual alert generating.	Alert generating and broadcast components.	83%
The system should be able to broadcast the alerts. And alerts should be able to receive by the civilians and emergency response teams.	Alert generating and broadcast components.	78%
Users should be able to view safe locations.	Refugee relocating and locating module.	87%
Users should be able to get the navigation to safe locations.	Refugee relocating and locating module.	83%
Civilians should be able to send SOS messages.	Refugee relocating and locating module.	83%
Emergency response teams should be able to receive SOS requests.	Refugee relocating and locating module.	85%
Users should be able to view the existing water level in Realtime.	Water level measuring and flood identification module	80%
Administrators should be able to add safe locations and sensor locations.	Water level measuring and flood identification module	84%
Android users should be able to view weather details.	Water level measuring and flood identification module	85%
Final Score :- (Total Percentage Score / Number of questions)		83%

Evaluation Results of Non-Functional Requirements.

TABLE 2. Evaluation results of Non-functional requirements.

Requirement	Satisfaction level and applicability.	Overall Score
Security.	Satisfied and Applicable	85%
Availability.	Satisfied and Applicable	86%
Reliability.	Satisfied and Applicable	80%
Accuracy.	Satisfied and Applicable	79%
Efficiency.	Satisfied and Applicable	85%
Communication among each stage.	Satisfied and Applicable	83%
Portability.	Satisfied and Applicable	83%
Final Score:- (Total Percentage Score/ Number of Questions)		83%

Evaluation of The Accuracy of Critical Components.

TABLE 3. Evaluation results of Accuracy of critical components.

Requirement.	Status	Accuracy Score
Login function.	Best	90%
Real-Time water level	Accurate	78%
GIS Locations.	Best	90%
Navigation to the safe location.	Better	85%
Weather details.	Accurate	75%
Alert Generation.	Better	85%
Alert Time Out Period functionality.	Better	88%
Alert Confirmation Process	Best	95%
Offline map feature.	Better	85%
Geo query processes. (Distance measuring and finding nearest destination)	Better	80%
Final Score:- (Total Percentage Score/ Number of Questions)		85% (Better)

Overall Results of The Evaluation.

TABLE 4. Overall Evaluation Results.

Evaluation Step	Status	Score
Functional Requirement Evaluation.	Satisfied and Applicable	83%
Accuracy Evaluation	Satisfied and Applicable	85%
Nonfunctional Requirement Evaluation	Satisfied and Applicable	83%
Total Score: - (Total Percentage Score / Number of Evaluations)		84%

Research Achievement and Limitations.

According to the interpreted results (which are showing in above table 1, 2, 3, and 4) from the evaluation function, the applicability of the system, this developed version can be delivered as a minimum viable product to the actual environment to perform its actions with parallel to the existing system.

Limitations –

Connectivity with the internet during a flood situation. – this limitation was addressed to a considerable extent within this project by adding offline features, a separate thread approach, and manual alert generating processing through the system.

Civilians need android smartphones – currently, the mobile application is developed only for android phones. But as a further enhancement researcher has mentioned the spread of this application to the IOS platforms.

Technological literacy – users (especially the civilians, should have to have technical literacy to some extent. This problem is also addressed by the researcher a considerable amount by adding more user-friendly interfaces, and automatic configurations options into the android applications.

Complete test activities. - since a real flood situation is needed to test this application to find out threshold values, breaking points, etc. Therefore, parallel implantation should be taken place until the full validation of the system. Other than that, all the system functionalities are tested and validated through several test activities.

CONCLUSION AND RECOMMENDATION

Based on a rigorous examination of existing literature on the subject matter, it is clearly seen how the incorporation of newer technologies in flood disaster management systems can simplify the processes and increase their efficiency and productiveness. In addition to this, IoT, cloud, mobile, and geo-information processing technologies can significantly alleviate losses of human lives. Floods are prevailing throughout the world and need prompt attention. Countries like Sri Lanka should, as soon as possible, adapt and evolve

by integrating newer solutions in their departments and systems of disaster management. The research paper identifies all benefits of incorporating the above-mentioned technology aspects into systems. On the other hand, it provides a detailed insight into the drawbacks of the existing manual, inefficient and inaccurate mechanisms. IoT gives us a consistent interconnection among heterogeneous gadgets. By applying information investigation and coordination of different IoT gadgets utilized for early alerts about flood situations. If there should arise an occurrence of a flood circumstance part of relocatable cycles are conveyed. By utilizing Geo-information processing and mobile technology innovation to address this issue (for safe area choice, identifying refugee locations, navigating, etc.) gives a compelling and fruitful result.

Furthermore, the following recommendations were made by the researcher after the serious analysis of the identified limitations and the planned further improvement on this research project.

a. Since the system needed to be tested on an actual flood scenario and it was unable to be carried out within this research work researcher recommends going with parallel implementation along with the existing mechanisms, b. Assign some dedicated users from the flood departments' administration side to operate this system and monitor the progress, issues, limitation during a flood situation as well as in the normal way, c. And the developed flood identification module is better to be upgraded with flood prediction capabilities using machine learning concepts, d. Use many training camps and workshops for all these stakeholders to make them more familiar with the developed system. (especially for the civilians.), e. Place the water level measuring IoT components in a place where anyone can easily reach for the maintainable and replacing purposes. But with more physical security procedures.

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CUSTOMER INTENTION TO ENGAGE IN NEGATIVE ELECTRONIC WORD OF MOUTH – THE CASE OF GRAB VIETNAM

by

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ABSTRACT

In parallel with the development as the biggest player in the ride-hailing business in Vietnam, Grab has received an increasing number of complaints from customers due to bad services. It leads to the negative electronic word of mouth (eWOM) communication, which is a serious disadvantage for the firm. This study examined the determinants of customers' negative eWOM intention in the case of Grab in Vietnam. The literature was based on theory of planned behavior and cognitive dissonance theory, and the study employed quantitative method with the valid sample size of 300 respondents. Using structural equation modelling for data analysis, the research confirmed that perceived behavioral control, subjective norm and customer attitude are three variables that strongly affect customer intention to disseminate online criticisms. Several practical implications were suggested regarding to the findings so that Grab Vietnam could resolve the issues for its service improvements.

KEY WORDS: Electronic word of mouth (eWOM), Customer intention, Online criticism, Theory of planned behavior, Cognitive dissonance theory

INTRODUCTION

Word of mouth (WOM) is considered as a significant factor on customer attitude, intention, behavior, and on the choice of a product or service. WOM was one of the most influencing resources in information transmission field in human history (Godes & Mayzlin, 2004; Maxham & Netemeyer, 2002; Reynolds & Beatty, 1999). Along with the development of information technology and the appearance of social networking site (SNS), a new and modern form of WOM called eWOM (electronic word of mouth) emerged and solved the old problems that WOM had in the past (Laroche et al., 2005). According to Lee (2009), the use of eWOM is not limited by time and space. Since eWOM messages are transmitted through SNS in the form of written text instead of informal speaking words, they do not quickly vanish and tend to stay long in a constant time. This allows eWOM to be spread faster and wider (Sung et al., 2010). Consequently, eWOM is considered to have better and stronger influence on the purchase of product or service comparing to WOM. Ariely (2007) claimed that in business, eWOM is identified in both positive and negative side, as a chance to grow and a threat to drive loss which managers should concern.

Grab, a Singapore-based technology company in ride-hailing, ride sharing, food delivery and logistics services is performing at the top positions in Vietnam. On average, every 2 out of 10 Vietnamese are Grab users. On the other hand, the number of complaints from Grab customers has increased over time due to the dancing prices, longer waiting time, bad drivers' attitudes and poor customer service (Tuoitre News, 2018). This stimulates a tremendous amount of negative eWOM through SNS, which possibly causes the loss in Grab's revenue and other consequences. Therefore, to identify possible strategies to overcome this problem, it is necessary to understand which factors drive customer intention to engage in negative eWOM. This study will aim to answer these following questions:

- Which factors influence customers' intention to post online negative comments?
- How does each factor impact on the negative eWOM intention?

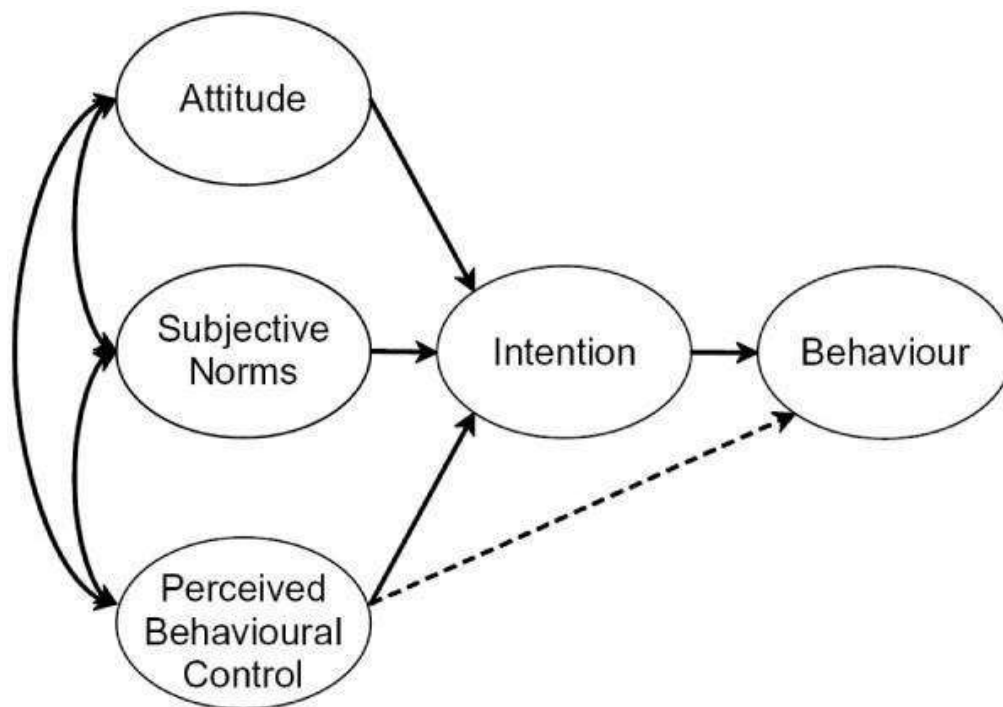
LITERATURE REVIEW

Theory of Planned Behavior.

According to the Ajzen (1991), human social behavior is guided by three kinds of considerations: behavioral beliefs, normative beliefs and control beliefs. The three variables have a strong impact on behavioral intention. The model pays attention to the behavior itself and goes beyond attitudes to consider other influences on behavior such as perceived social norms and self-efficacy beliefs (Cheng et al., 2005). Hansen et al. (2011) stated that the intention to complain of customers is greatly affected by their attitude toward complaining. Similarly, East (2000) found that subjective norms also had a strong impact on customer complaining intention while perceived behavioral control was proved to have a connection with the voice to dissatisfaction (Bodey & Grace, 2006). Theory of planned behavior is widely used in advertising, public relations, health care or customer management. In the case of Grab Vietnam,

the theory of planned behavior provides a foundation to explore how the customer's attitude, the perceived behavioral control and social norms influence his intention to engage in negative electronic word of mouth.

Figure 1: Theory of planned behavior (Ajzen, 1991)



Cognitive Dissonance Theory

Cognitive dissonance is an irritating state of mind that happens when a person holds two or more cognitions that are inconsistent or even conflict with each other (Festinger, 1957). Due to the annoying feeling that dissonance stimulates, people will find a way to ease or reduce it. The similar thing occurs to customers when they make decision based on their negative experience with a product or service. To reduce or eliminate this cognitive dissonance, customers will spread WOM or eWOM widely to get rid of their angers (Ng et al., 2011). When a customer is not satisfied with the service of Grab and feels that he could not directly ask for the compensation from the company, he may think of writing his feedback and comments regarding the bad service on any electronic channels such as his social networking sites like Facebook, Youtube channel or online newspapers. By doing this, that customer perhaps is able to release his dissonance but at the same time his story becomes harmful to Grab's business in Vietnam.

Negative eWOM intention

According to Balaji et al. (2016), negative eWOM intention is described as the intention of customers to involve and share negative comments or critical feedbacks about a product or a

service with friends, family and others via SNS. Comparing to WOM, the immense network and social environment give people more chances and allow them to freely share their product reviews (Cheung & Lee, 2012). Since there are few geographical limitations in SNS, negative eWOM has opportunities to approach every customer in the world who also has interest in the same product or service. As an inevitable consequence, the firm's image, reputation and perhaps the revenue can be severely influenced.

Firm responsibility

In the study of Wirtz and Mattila (2004), a consumer satisfaction is tremendously impacted by his or her perception upon a company's responsibility. Stable – root failures tend to reappear more regularly than those with unstable ones, and this insight could head customer to anticipate identical results later in the future (Folkes, 1984). Hence, when customers consider another customer bad service derive from stable causes, they tend to expect alike results would happen again. Consequently, if a company could not execute control over malperformance, it might cause displeasure to the consumer. In other words, customer would blame the reappearance of bad service on the company's responsibility.

H1: Firm responsibility for failures negatively affects customer satisfaction

Customer satisfaction

For many decades, the impact of customer satisfaction upon behavioral intention of customers has been elaborated (Anderson & Sullivan, 1993; Bolton & Drew, 1994). As an up-to-date version of WOM, eWOM is anticipated to accelerate communication among people about service experiences in modern times (Hennig-Thurau et al., 2004; Huang, 2008). Thus, satisfaction is regarded as good measurement over online discussions. Corresponding to Lii and Lee (2012) and Royo-Vela and Casamassima (2011), consumers who possess pleasant experience towards products or services have the tendency to engage with positive eWOM. On the contrary, those with reversed experience are prone to produce negative eWOM (Berezan et al., 2013; Boo & Kim, 2013).

H2: Consumer satisfaction adversely affects negative eWOM intention

Perceived behavioral control

If customers are confident that they have enough of the required resources such as equipment, knowledge and the control ability, their eWOM communication could be greater influenced by perceived behavioral control (Fu, 2015). According to the theory of planned behavior, the emergence of perceived behavioral control led to a remarkable enhancement in forecasting intention, which was submitted proof by empirical evidence (Ajzen, 1991).

H3: Perceived behavioral control positively affects negative eWOM intention

Subjective norm

Subjective norm is the person's recognition of whether other crucial individuals consider that the behavior ought to be done or not (Ajzen, 1991). It includes the anticipation of individual's viewpoints, normative beliefs and the degree of an individual's agreement with those viewpoints, along with the motivations to abide by (De Vries et al., 1988). Chu & Kim (2011) defined the correlation between individuals as a key part in predicting actual behavior (eWOM). Rhodes et al. (2002) and Trafimow (2000) contended that subjective norm positively affects behavioral intention in the way it targets on the perception of a person whose fear connects to the judgement of others when he or she performs the action.

H4: Subjective norm positively affects negative eWOM intention

Fishbein and Ajzen (1975) suggested that attitude and subjective norm in the theory of planned behavior model are likely to depend on each other. Lim and Dubinsky (2005) supported this opinion with their clarification of the interrelation between those two variables with the knowledge concluded from persuasion and cognitive dissonance theory. People receive the perceptions of vital referents in the action of forcing the attitude to follow it (Ru et al., 2019).

H5: Subjective norm positively affects customer attitude towards negative eWOM

Customer attitude

Customer attitude consists of attribute credence of a person toward an object or an event and recognized the attribute importance in deciding to adopt (Nui Polatoglu & Ekin, 2001). The perception of either positive or negative attitude will affect the customer intention to generate online word-of-mouth communication about products or services afterwards. Richins (1987) considered attitude toward complaining as the propensity of an unhappy client who want the company to perform indemnification. Kim et al. (2003) stated that consumers' attitude towards making complaints positively relates to the intention to complain. Customers with comfortable feeling towards complaining or negative eWOM communication are more likely to implement complaining to the company (Fu et al., 2015).

H6: Customer attitude positively affects negative eWOM intention

Warning other customers

Altruism is defined as a voluntary behavior that is done for the benefit of other people without anticipating any favor in exchange (Sundaram et al., 1998). Hennig-Thurau et al. (2004) implied that concern for other consumers is also a section of altruism. Fu et al. (2015) expressed that the ones who follow altruism tenet consider that to be useful in eWOM communication, they had better become the informative and practical performers. Altruistic action, in the research of Yap et al. (2013), was found to have tendency to be fiercer when people consider themselves as a justice protector and might execute their message fluently. The conception of concerning for other individuals is divided into the help and desire to warn other consumers

(Hennig-Thurau et al., 2004). Customers who experienced good services or products will give advice to help others in choosing a smart decision. In contrast, consumers who face with frustrating service will be adverse for the later users of that service.

H7: Warning other customers positively affects customer attitude towards negative eWOM

Anxiety reduction

Cheung and Lee (2012) claimed that when the purpose of a behavior is to develop an individual's own benefit, the belief towards that perception is viewed as egoistic. Generating negative emotion via the share of critical feedback online about past consumption experience may allow customers to decrease their frustration and anger related to the incidents (Sundaram et al., 1998). Hence, customers who are not against the action of using negative eWOM to effectively reduce their anxiety tend to have positive attitude towards negative eWOM.

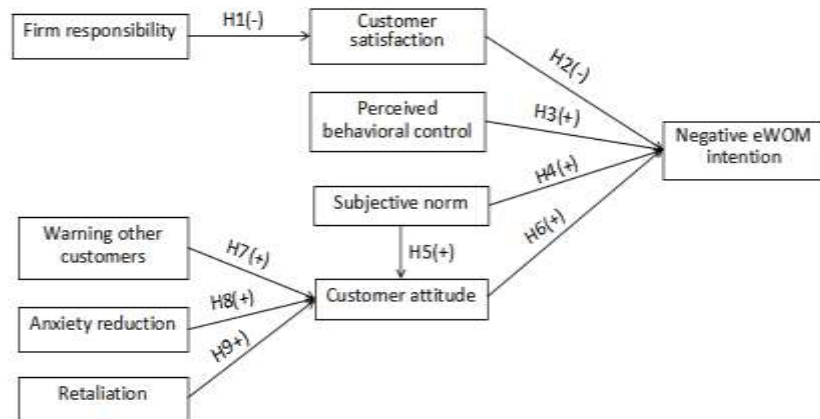
H8: Anxiety reduction positively affects customer attitude towards negative eWOM

Retaliation

The dissatisfied users with substandard service experience might utilize negative eWOM to persuade other people to boycott the company providing service and have intention to implement vengeance and punishment to the firm (Sundaram et al., 1998). In order to have others complied with the viewpoint, people who post comment may try to plainly describe everything with clear words and specific examples, from that they are able to logically strengthen the argument (Yap et al., 2013). The negative messages transferred via SNS with releasing and revenge motivation are likely to include anger and frustration (Wetzer et al., 2007; McColl-Kennedy et.al, 2009).

H9: Retaliation positively affects customer attitude

Figure 2: Conceptual framework



METHODOLOGY

This study employed quantitative approach to answer the research questions. In order to collect the most relevant and useful data, the questionnaires were distributed to respondents who are Grab users and have experiences in SNS interactions. To target that research population, the convenience sampling technique and snowball technique were used and both online and hard-copy questionnaires were delivered with the valid response of 300 participants living in Ho Chi Minh City, Vietnam. The measurement items of each variable are developed based on previous studies which were discussed in the literature review, using 5-point Likert scale. SmartPLS was used for analyzing data, testing the reliability and validity of the constructs as well as running the structural equation modelling (SEM) to confirm the relationships of all variables.

TABLE 1. Descriptive Information of the Sample.

		Frequency	Percentage
Gender	Female	166	55.3%
	Male	131	43.7%
	Others	3	1%
Age	From 15 to 20	101	33.7%
	From 21 to 25	116	38.7%
	From 26 to 30	59	19.7%
	Older than 30	24	8%
Frequency of using eWOM	Never	50	16.7%
	Hardly use	69	23%
	A few	75	25%
	Sometimes	78	26%
	Regular	28	9.3%
Source for posting	Do not have	52	17.3%
	Facebook	193	64.3%
	Instagram	10	3.3%
	Twitter	0	0%
	Blog	13	4.3%
	Youtube	8	2.7%
	Others	24	8%

DATA ANALYSIS

Reliability and Validity Test

To satisfy the requirement of reliability, composite reliabilities should be greater than 0.7 (Bagozzi & Yi, 1998). As shown in Table 2, all nine constructs met this criterion. In addition, all factor loadings were higher than 0.5 and AVEs were greater than 0.5 (Table 3), thus the scale had good convergent validity (Hulland, 1999; Fornell & Larcker, 1981).

TABLE 2. Composite Reliability

Name of variable	Citation	Number of items	Composite Reliability
Firm responsibility (FR)	Hess et al. (2003)	4	0.918
Customer satisfaction (CS)	Fu et al. (2015)	4	0.942
Perceived behavioral control (PC)	Liao et al. (2007)	3	0.882
Subjective norms (SN)	Liao et al. (2007)	3	0.920
Warning other customers (WC)	Hennig-Thurau et al. (2004)	3	0.897
Anxiety reduction (AR)	Fu et al. (2015)	3	0.913
Retaliation (RE)	Fu et al. (2015)	4	0.921
Customer attitude (CA)	Kim et al. (2003)	4	0.924
Negative eWOM intention (NI)	Balazi et al. (2016)	3	0.911

TABLE 3. Average Variance Extracted (AVE)

Variables	Average Variance Extracted (AVE)
FR	0.789
CS	0.803
PC	0.713
SN	0.794
WC	0.744
AR	0.778
RE	0.795
CA	0.754
NI	0.772

TABLE 4. Discriminant Validity

	FR	CS	PC	SN	WC	AR	RE	CA	NI
FR	0.888								
CS	-0.293	0.896							
PC	0.301	-0.288	0.844						
SN	0.284	-0.349	0.467	0.891					
W C	0.203	-0.277	0.461	0.510	0.862				
AR	0.185	-0.456	0.454	0.543	0.545	0.882			
RE	0.279	-0.312	0.443	0.453	0.488	0.385	0.892		
CA	0.272	-0.318	0.534	0.605	0.620	0.525	0.590	0.868	
NI	0.294	-0.348	0.597	0.653	0.585	0.595	0.579	0.742	0.879

Structural Equation Modelling

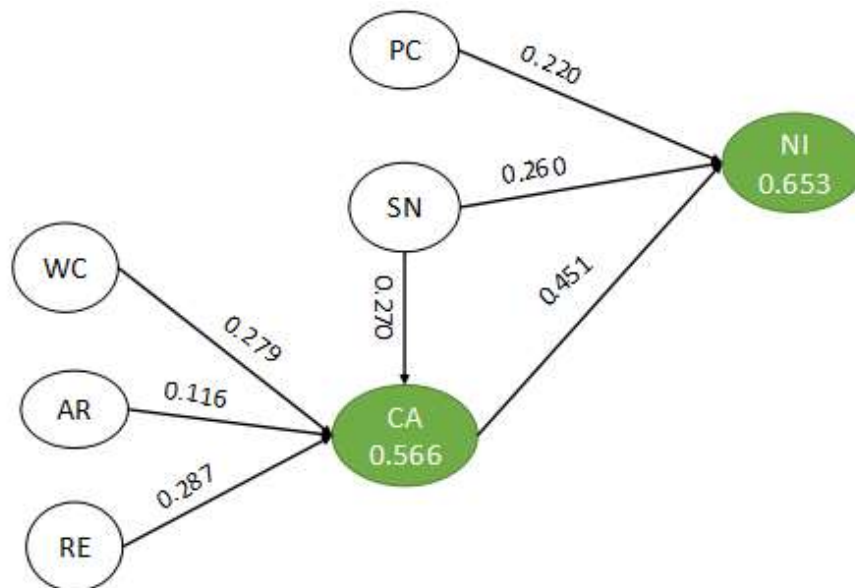
The strength of possible relationships among variables is determined by path coefficient, which is estimated from the correlations among them and measures the direct and indirect effects of those variables. To test the existence of hypotheses with direct effect, Bootstrapping was run to show whether a path coefficient anticipated to be significant or not. The test is going to be implemented in the form of two-tailed test with 0.05 level of significance. Meanwhile, the correlation will be evaluated using T-value.

TABLE 5. Hypotheses Testing Results

Hypothesis	Coefficient	T-value	Evaluation
H1	-0.405	8.257	Supported
H2	-0.049	1.366	Not supported
H3	0.220	4.815	Supported
H4	0.260	4.855	Supported
H5	0.270	4.503	Supported
H6	0.451	8.433	Supported
H7	0.279	4.823	Supported
H8	0.116	2.108	Supported
H9	0.287	4.995	Supported

From table 5, the second hypothesis was not supported. Other hypotheses were supported with t-value greater than 1.96.

Figure 2: Confirmed research model



DISCUSSION AND CONCLUSION

The aim of this study is to apply the theory of planned behavior and cognitive dissonance theory to investigate customer intention to engage in negative eWOM in the case of Grab service in Vietnam. The findings show that customer attitude emerged to be the strongest predictor with the highest coefficient, following by subjective norm. It was similar to the finding from Fu et al. (2015), which proved the strong effects of customer attitude and subjective norm on negative eWOM intention. Perceived behavioral control was also confirmed by this study to have an impact on negative eWOM intention. This relationship was supported by Cheng et al. (2006) with the same finding in their research.

When a customer experiences an irritation such as bad driver's attitudes, long waiting time or even a sudden trip cancellation from a Grab driver, that annoying feeling is more likely to drive his intention to posting negative judgements on online channels. The association between customers' attitudes and behavioral intention confirmed by this study is underpinned by the theory of planned behavior. In addition, subjective norms also influence the negative eWOM intention. Vietnam has the collectivistic culture and thus, what people choose to act depends on how their relatives, friends or families think and believe. If they see other customers express negative feelings on social networking sites or their friends advise them to do so for complaining, they will engage in that behavior. In a similar manner, online viewers who read the negative comments about Grab service may think that the feedback is true and therefore, hesitate to select Grab service in the future. All of these norms and behaviors together result in a severe problem for Grab in maintaining good customer relationships as well as the market share. As an international company, Grab must be aware of this cultural issue to better manage and resolve customers' complaints.

The results pointed out that customer satisfaction did not create much effect on the dependent variable, which was confirmed by studies from Yang (2013) and East (2000). Even though customer satisfaction might be a requisite condition for online WOM communication to occur, it is not a factor that could result in negative eWOM intention.

Additionally, firm responsibility coupled with customer satisfaction in a negative way, and that was an exploration that Huang (2008) claimed. In other words, the more consumers consider a company to be responsible for its failure in providing good services or products, the more they feel dissatisfied with the firm.

In conclusion, this study is able to achieve its objectives in identifying the factors that influence negative eWOM intention and weighting the impact of each determinant on the dependent variable. The investigation has verified that negative eWOM intention can be predicted by perceived behavioral control, subjective norm and customer attitude, which are similar to the notion of the theory of planned behavior introduced by Ajzen in 1991. In the case of Grab services in Vietnam, the organization should be aware of the roots that might cause customers' irritating feelings in order to minimize consequences from unexpected criticisms. Besides training their staffs and business partners (vehicle owners who register Grab accounts for ride-hailing service) on service attitude, the firm may open a 24/7-call-center to receive and respond to customers' needs quickly. Integrated chatbot in Grab application is another sugges-

tion to reduce the heavy workloads of the customer service staffs. Customers or Grab partners can send requests for assistance through the application and receive quick instructions on many situations that frequently happen.

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APPENDIX

Factors Influence Negative EWOM Intention:

Please choose the answer that best describes your opinion. Only one answer should be allowed in each question.

1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree

For the reversed questions ®, the scale will be different

1= Strongly agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly disagree

FIRM RESPONSIBILITY	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Grab should be responsible for the service failure					
Grab should prevent the service failure					
Grab should control the service failure					
Grab service failure recur frequently because it has stable (enduring) causes					
CUSTOMER SATISFACTION					
According to the negative experience with Grab, how do you assess your decision to choose its service?					
_ A terrible choice					
_ I am very unsatisfied					
_ Service is awful					
_ I feel very unhappy with its service					
PERCEIVED BEHAVIORAL CONTROL					
I have control over comments that I post online					
I have good ability to post comments online					
I have the resources, knowledge, and ability to post comments online					
SUBJECTIVE NORM					
People who are important to me supported my posting about negative experience with Grab online					
People who have impact on my behavior wanted me to post negative experience with Grab online					
People whose viewpoints that I appreciates preferred that I post my negative experiences with Grab online					

CUSTOMER ATTITUDE	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Not complaining about unsatisfactory Grab service make me uneasy					
It is my duty to complain about unsatisfactory Grab service					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
People should not complain because Grab sometimes provide unsatisfactory service ®					
I rarely complain when Grab service is unsatisfactory ®					
WARNING OTHER CUSTOMERS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
It is my duty to warn others of Grab bad service					
I want to save other individuals from experiencing the same negative Grab service as me					
I want to help others with my own negative experience about Grab service					
ANXIETY REDUCTION					
My contributions help me to shake off irritation about bad Grab service if I post negative comments about this experience on the Internet					
It will get anger off my chest if I post negative comments online about Grab bad service					
It allows me to decrease disappointment after the bad experience of Grab service if I post negative comments online about this experience					
RETALIATION					
It is proper to think that Grab should be punished in some way					
It is legitimate to cause Grab in some troubles					
It is a right thing to do to get even with Grab					
I want to make a Grab get what it deserved					
NEGATIVE EWOM INTENTION	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I intend to post this negative experience about Grab online					
I will try to post this negative experience about Grab online					
I plan to post this negative experience about Grab online					

II – Basic Information:

1. Gender ☐ Male ☐ Female ☐ Others
2. Age ☐ 15-20 ☐ 21-25 ☐ 26-30 ☐ >30
3. Posting eWOM experience within 6 months
☐ Never ☐ Hardly (1 time)
☐ A few (2 - 3 times) ☐ Sometimes (4-5 times)
☐ Regular (>5 times)
4. Place to post
☐ Facebook ☐ Twitter ☐ Online newspapers
☐ Youtube ☐ Others

THE IMPACT OF SERVICE FAIRNESS AND SERVICE QUALITY ON CUSTOMER SATISFACTION AND LOYALTY IN AUTOMOBILE SERVICE CENTERS IN THAILAND: A PROPOSED MODEL

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ABSTRACT

Automobile industry is one of Thailand's major industries that creates economic value, employment, value added and automobile technology development for the country. Thailand's automobile production capacity ranks the 15th of world production in 2017 with over 3 million vehicles. Given high volume of automobile market, car service business becomes a crucial strategy in maintaining customer loyalty. However, car service centers have been facing high competition and lower market demand. Although service quality in automobile has been extensively studied in marketing literature, very few studies investigated the impact of employee characteristics and physical environment on customer satisfaction in automobile industry. This article aims to propose three important relationships. First, direct impacts of employee characteristics consisting of responsiveness, competence, staff knowledge, courtesy and accessibility on customer satisfaction. Second, direct impacts of physical environment consisting of credibility, security, communication, tangibles and reliability on customer satisfaction. Third, a direct impact of customer satisfaction on behavioral intention consisting of reuse intention, recommend, and word-of-mouth. The value of the proposed framework in this study is useful for service providers and management who are involved in making strategies for car service business. This proposed model provides a major concern of employee and physical environment in the realm of changing business environment.

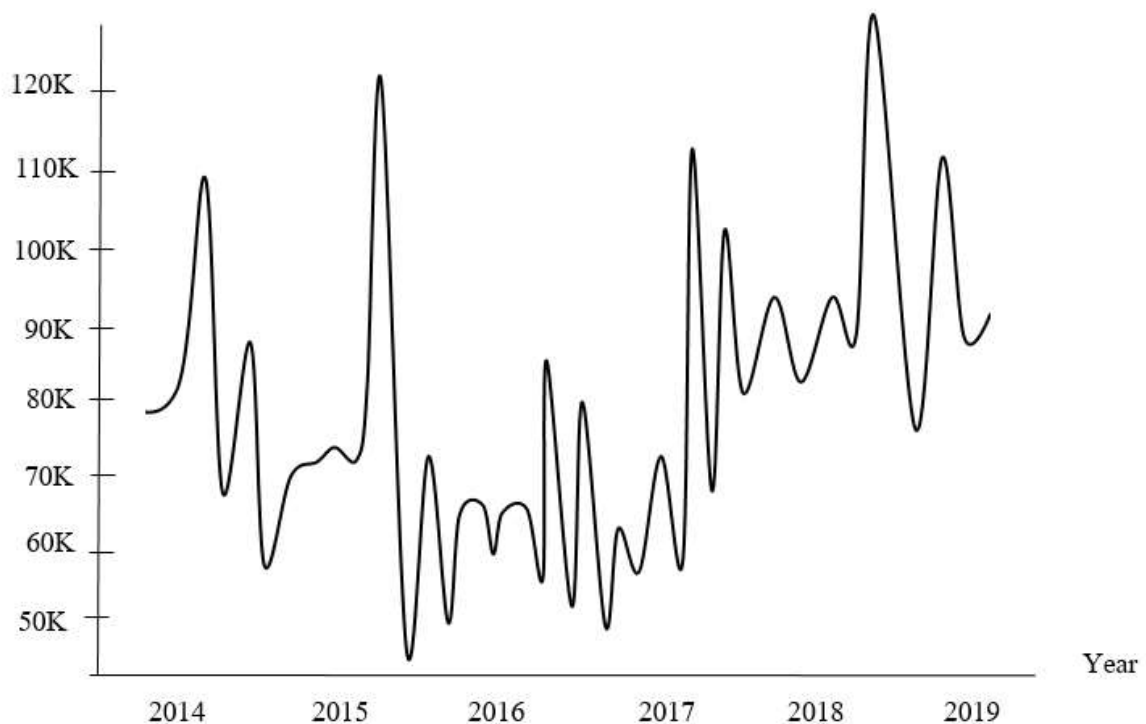
KEY WORDS: Service quality, Satisfaction, Loyalty.

INTRODUCTION

Automobile industry is one of Thailand's major industries that creates economic value, employment, value added and automobile technology development for the country. Compared to other countries around the world, Thailand ranks the 15th in terms of number of car production. In 2019, automobile production capacity manages to exceed 3 million vehicles for each automobile and motorcycles. Moreover, car manufacturing companies employs more than 500,000 skilled workers in the factory. This comes from an increasing demand of possessing a passenger car in both domestic and international markets, especially the growing number of emerging markets such as China, India, Indonesia and Western regions. Automobile Industry Trends In 2016, the automobile industry in Thailand is projected to grow by 5-10% in 2019 compared to the previous year. According to the world economy and the economy in Thailand, many car manufacturers have introduced new cars to the market in the end of 2019, which is driving the car market.

Thai automobile industry has high growth rates to meet the need of in creating demand the people who own automobile (Figure 1). This growing industry has links with a variety supporting industries, which include small and medium enterprises (SMEs), as well as those producing raw materials. In terms of raw materials, there are three different tiers in automobile industry, such as metal sheets, rubber products and engineering plastic products. These auto-part levels support the overall car product in the country.

Figure 1: Number of car sales in 2018 in Thai market



As sales of automobile has been increasing for past years, service quality is considered as a major tool in improving business performance. Automobile manufacturers attempt to promote their exquisite service centers especially repair service to differentiate from other

competitors, such as a wide coverage of sales office and repair centers. Moreover, the headquarters in mother country aims to control overseas subsidiaries in order to standardize the quality of overall service.

Due to increased production of vehicles there is also an increased demand for after-sales service. After-sale service occurs when an automobile was purchased by a customer. It plays an important role in achieving customer satisfaction by providing warranty, repair, and maintenance of the vehicle. Auto companies send a reminder to the customer after a certain time period through their dealers. Generally, dealers take the feedback from the customers which show the level of satisfaction in the customers. This type of service is essential for all automobile companies to meet company mission and three basic goals; deliver customer service, achieve employee satisfaction, and achieve financial success. Author acknowledged that after-sales service represents constant connection with the customers (Gallagher et al., 2005). Numerous studies have explored the importance of service quality in automobile service industry in different angles (e.g. Andaleeb & Basu, 1994; Izogo & Ogba, 2015). However, very little research examined the impact of service quality on customer satisfaction which then leads to customer loyalty.

LITERATURE REVIEW

Service Quality

Service quality refers to a function of the differences between expectation and performance of different quality dimensions. Parasuraman et al. (1985) developed the measurement tool of service quality by using performance-minus-expectations scores, namely SERVQUAL, that has been implemented in many research areas. Although SERVQUAL heightened the interest of many researchers, some arguments against its validity also exist (Brown, 1993; Taylor, 1992; Teas, 1993). Cronin and Taylor (1992) were the first researchers who argued that measuring service quality on a performance minus-expectations basis is inappropriate and renamed this measurement as SERVPERF. Specifically, they proposed that simply looking at the attributes with the largest gap between performance and standards or expectation does not necessarily imply focusing on those that are really important. Thus, this study chose performance-only scores, developed by Cronin and Taylor (1992) which have been robustly tested to have higher reliability and predictability than other methods.

Service quality is a form of attitude which can be measured by assessing consumers' quality perceptions of service firms' efforts in fulfilling the service quality gaps. In other words, it is measure by what consumers receive (i.e., technical quality) and how they get the technical outcomes, i.e., functional quality (Gronroos, 1984). Since service quality has been accepted as being complex and multidimensional (Galloway & Ho, 1996), it has been widely used across a range of service categories. The original SERVQUAL instrument is considered to be multidimensional was developed by A. Parasuraman et al. (1988), comprising of five dimensions: tangibles, responsiveness, reliability, assurance, and empathy (Parasuraman et al., 1988). These dimensions have been implemented and modified in accordance with different industries, such as the tourism and hospitality industries (Rauch et al.,

2015), healthcare services (Kilbourne et al., 2004), and banking (Ganguli & Roy, 2011). In automobile service industry, there are several researchers explored service quality dimensions in different context, as shown in Table 1.

TABLE 1. Service dimensions in automobile service industry

Researchers	Service quality dimensions
Andaleeb and Basu (1994)	perceived fairness, empathy, responsiveness, reliability, convenience
Andronikidis and Bellou (2010)	tangibles, reliability, responsiveness, assurance, empathy
Techakanont (2011)	reliability, responsiveness, assurance, empathy, tangibles
Jahanshahi (2011)	perceived reliability, responsiveness, assurance, empathy, tangibles
Shuqin and Gang (2012)	fairness, empathy, responsiveness, reliability, convenience
Chang, et al. (2012)	perceived fairness, empathy, responsiveness, reliability, convenience
Shammari (2014)	tangibles, reliability, responsiveness, assurance, empathy
Izogo and Ogba (2015)	empathy, tangibles, responsiveness, reliability, commitment
Kashif et al. (2015)	tangibles, reliability, assurance

According to the literature, this study chose five important dimensions of service quality based on five expert interviews undertaken in Thailand. The details of each dimension is described the following statement.

First, tangibles or service scape refer to the perceptions of customers who see, touch, and feel towards a physical environment of the service providers (Saravanan & Rao, 2007). This dimension has been found to significantly influence customers' perceptions of service quality (Dabholkar et al., 1996). In particular, they involves all facilities including guest or waiting room, furniture, cleanliness, modern equipment, temperature, environment, safety, as well as personnel dress code. Various studies have revealed the significant impact of tangibles of service on customer satisfaction, particularly in service businesses such as hotels, hospitals, banks, and educational institutions. In automobile service sector, it is important for service provider to offer sufficient space areas for customers to rest during a repair process. While the customers are waiting for repair operations, they are looking for a place that make them feel welcome and comfortable as they are at home. To engage the customers, some repair centers provide a fridge and offer a free snack bottled water as well. Table seating can facilitate customers to work with their laptop while they wait.

Second, responsiveness refers to the ability and willingness of staff members to spontaneously help customers and provide prompt service in accordance with customer requests. It involves a person's ability to cope with unexpected behavior and requests from the customers and react to that situation in a short period. In the aspect of responsiveness, time of service should be considered. It is the time it takes to process of car repair service that a customer must wait until the operational process is completed. Service provider's responsiveness allows the company to promote the competitive advantage by differentiating itself from its less-responsive competitors. In turn, differentiation enables a company to build brand loyalty and charge premium prices for its services.

Third, communication refers to the company keeps customers informed about the service in a language that they can understand and listening to the customers. For example, in the case of an automobile service centre, this could include detailed and accurate information whenever a repair process is on time or delayed.

Fourth, competence refers to the fundamental basic skills of sell tactic, negotiation, technical, critical thinking, creativity, initiative, problem-solving, risk assessment, decision-taking and communication of staff members, which are essential foundations for service activities (Ghobadian, 1993). It also includes staff knowledge and information that is memorized in staff's brain and can be applied in their job on a regular basis. This knowledge must be job-related and used to solve a specific problem that are unanticipated. In automobile service center, staff should possess the necessary technical skill, knowledge and information on their products to match the product with the customer's needs effectively. They should also provide the best possible advice to the potential customer.

Fifth, empathy refers to behavior marked by polished manners or respect for others courteous behavior. This dimension involves employee's attempt to understand the customer's needs and specific requirements; providing individualized attention; and recognizing the regular customer. This factor is considered as an important determinant of quality in high-contact customized services.

Service fairness

Fairness is defined as a judgment of whether an outcome and the process to attain an outcome are reasonable, acceptable or just (Bolton et al., 2003). (Bei & Chiao, 2001) confirmed that perceived price can be measured by the fairness of price to be paid. If the customers consider the price to be reasonable or fair then they feel more satisfied (Clemes et al., 2008). In this study, the customer's perceived price is what was given or sacrificed to attain auto repair services. Service fairness is split into three dimensions: distributive; procedural; and interactional (Ha & Jang, 2009; Shanklin et al., 2005; Wu et al., 2010). Distributive fairness refers to the perceived fairness of the tangible outcome of a dispute; a negotiation, or a decision involving two or more parties (Blodgett et al., 1997). So in a retail setting, distributive fairness relates price to service outcomes and reflects customers' perception of the cost-benefit balance of the service. Procedural fairness refers to the policies and procedures employed by the service provider in producing the outcome. Fair procedures are consistent; unbiased; impartial; respect all parties' interests, and are based on accurate information and ethical standards (Leventhal & MacCallum, 1980). Finally, interactional fairness refers to the way a customer is treated through interpersonal communication in a service context. It involves the manner in which the service problem is dealt with by service providers and the specific service interactions (McColl-Kennedy & Sparks, 2003). Interactional fairness deals with interpersonal fairness that refers to courtesy; respect, and consideration shown during the transaction, and the extent and quality of provider-customer communication. Interactional fairness is found to have the greatest impact, from all three types of fairness.

Customer satisfaction

Customer satisfaction has been defined in several aspects and appears to have achieved the widest acceptance. It refers to a post-choice evaluative judgment of a specific product or service feature (Bastos & Gallego, 2008). In addition, customer satisfaction is about nur-

turing and meeting customer preferences and expectation in order to enhance customer delivered value (Owusu-Frimpong et al., 2010). Customer satisfaction occurs when a customer perceive the value of service and compare it with the price, acquisition costs, and area coverage (Blanchard & Galloway, 1994; Hallowell, 1996; Hart et al., 1990). Moreover, it is also affected by past experience from period to period.

Customer satisfaction in after-sales service creates good rapport with the service provider. This relationship will lead to customer loyalty. Results suggested that after-sales service can generate sustainable relationship with customers and it significantly helps in increasing customer satisfaction (Kurata & Nam, 2010). Returning customers are more profitable because they require less effort in marketing and relationship building (Jacob & Ulaga, 2008). If customers receive poor service from the service provider then it will lead to dissatisfaction and negative word of mouth. The cost of getting a new customer is ten times greater than the cost of keeping an existing customer.

Customer loyalty

Customer loyalty is defined as a deeply held commitment to re-buy or re-patronize a preferred product consistently in the future despite situational influences (Oliver, 1997). Customer loyalty is a combination of customers' favorable attitude and the behavior or repurchases (Kim, 2004). In marketing literature, this construct involves brand recommendations (E. Boulding, 1993), resistance to superior products (Narayandas, 1996), willingness to pay a price premium (Zeithaml et al., 1996) and repurchase intention ((Anderson & Sullivan, 1993), resistance to switching to competitor's product or service that is superior to the preferred vendor's product or service, and willingness to recommend the preferred vendor's product or service to friends and associates. Since this study focuses on automobile service sector, which requires expense and high expectation, this construct included word of mouth, reuse intention, and complaint.

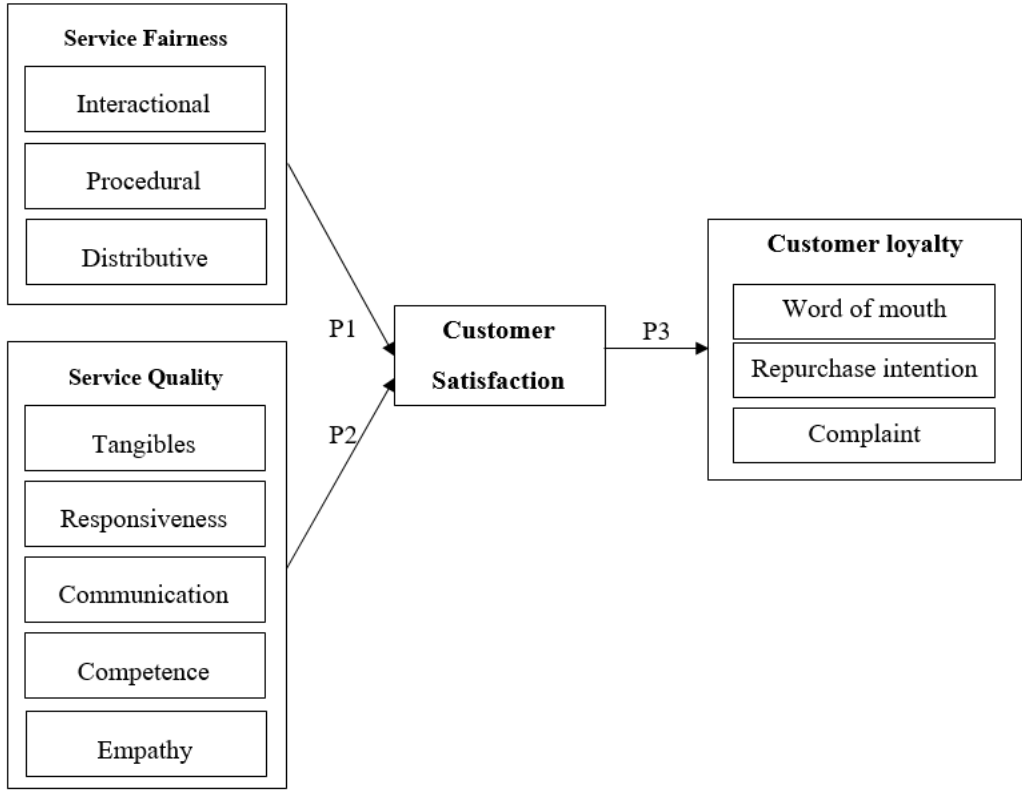
Customer loyalty whether attitudinal or behavioral, leads to customers spreading a positive word-of-mouth to others (Lee et al., 2001). It has been an important element to increase firm profitability. Although, achieving customer loyalty in service sector is a challenging task, most service organizations obtain several benefits, especially the spread of a positive word-of-mouth to influence and attract new customers for the company (Lewis & Soureli, 2006). Accordingly, it is necessary for a company to enhance service quality that can help the organization to satisfy customers' needs in order to obtain loyalty (Amin & Nasharuddin, 2011).

PROPOSED CONCEPTUAL FRAMEWORK AND PROPOSITION DEVELOPMENT

The direct causal relationship between factor of service quality and customer satisfaction has been studied by many researchers.(Boulding et al., 1993; Headley & Miller, 1993; Taylor, 1992) Although a number of previous research studies demonstrated the mediating roles of customer satisfaction between service quality and customer loyalty(Caruana, 2000; Dhandabani, 2010; Ehigie & Osayawe, 2006; Olorunniwo et al., 2006; Santouridis & Trivellas, 2010) this study extends previous study by investigating the impact of customer satisfaction on three different constructs of loyalty, including word of mouth, repurchase intentions, and complain.

Figure 2 depicts proposed conceptual framework which is drawn from an in-depth analysis of the literature review in order to create a clear picture of service fairness and service quality from automobile service centers. This study illustrates three groups of variables: dependent variable, independent variable, and mediating variable. For independent variable, service fairness comprising three constructs (interactional, procedural, distributive), service quality comprising five constructs (tangibles, responsiveness, communication, competence, and courtesy). For dependent variable, there three constructs comprises word of mouth, repurchase intention, and complain. For mediating variable, customer satisfaction is proposed.

Figure 2: Proposed Conceptual Framework



This research aims to investigate the impact of service fairness and service quality on customer loyalty. Specifically, the study attempts to examine the mediating effect of customer satisfaction on these relationships. The context of this research is the employees from automobile service centers in Thailand.

The impact of service fairness on customer satisfaction

Fairness is related to the degree to which a customer perceive the value of service they paid for. Previous studies have found the positive effect of service fairness on satisfaction in different contexts. For example, Carr (2007) found that service fairness positively affects customers' perceptions of service quality. Specifically, he argues that favoring certain individuals or groups over others is perceived by customers as revealing poor service

quality and, thus, reduces levels of satisfaction and loyalty. Moreover, Andaleeb and Basu (1994) found that perceived fairness has the most important criteria in measuring service quality in automobile repair service. Since service fairness can be categorized into three groups; interactional, procedural, and distributive, this study extends previous research by examining the effect of different dimensions of service fairness on customer satisfaction as shown in the following proposition.

Proposition 1a: Interactional fairness has a positively direct effect on customer satisfaction of car dealers

Proposition 1b: Procedural fairness has a positively direct effect on customer satisfaction of car dealers

Proposition 1c: Distributive fairness has a positively direct effect on customer satisfaction of car dealers

The impact of service quality on customer satisfaction

The link between service quality and customer satisfaction has been the focus of a number of previous research (Dahiyat, 2011; Ladhari, 2008; Sureshchandar et al., 2002) and (Samen, 2013). However, service quality in this study is a focused evaluation that reflects the customer's perception of specific dimensions of service namely tangibles, responsiveness, price fairness, competence, and empathy. In terms of tangibles, Izogo and Ogba (2015) found that tangibles, responsiveness, reliability, commitment, and empathy of automobile repairers had a positive impact on customer satisfaction/loyalty. However, since customer satisfaction and loyalty are mutually exclusive and should be separately tested, this study proposes the impact of all service quality dimensions on customer satisfaction alone, which later leads to loyalty. The following proposition can be formulated.

Proposition 2a: Tangibles has a positively direct effect on customer satisfaction of car dealers

Proposition 2b: Responsiveness has a positively direct effect on customer satisfaction of car dealers

Proposition 2c: Communication has a positively direct effect on customer satisfaction of car dealers

Proposition 2d: Competence has a positively direct effect on customer satisfaction of car dealers

Proposition 2e: Empathy has a positively direct effect on customer satisfaction of car dealers

The impact of customer satisfaction on customer loyalty

The nature of relationship between satisfaction and loyalty has also been a subject of debate amongst academics. Oliver (1997) argued that satisfaction and loyalty are not surrogates for each other and that it is possible for a customer to be loyal without being highly satisfied and to be highly satisfied and yet not be loyal. (Naumann et al., 2010) found that switching motives and actual reasons for switching are quite different and customers, despite being satisfied, are more likely to switch suppliers for reasons other than quality. In a

multi-sectoral study spanning four industries (i.e. banks, pest control, dry cleaning and fast food) conducted by Cronin and Taylor (1992), it was found that satisfaction determines repurchase intentions. However, even though there are situations in which satisfied customer do not repeat purchase or dissatisfied customers choose to remain loyal, there is greater likelihood that satisfied customers will be loyal than otherwise. Thus, the following hypothesis can be stated.

Proposition 3: Customer satisfaction has a positively direct effect on customer loyalty in automobile industry

SCOPE FOR FURTHER RESEARCH

The proposed conceptual framework of this study can be used to extend existing body of knowledge in several directions as shown in the following statements.

1. Further qualitative research through face-to-face in-depth interview with industry experts in automobile industry should be conducted in order to deeply understand the significance of service quality from a person's perspective and experience of specific field and interpreted by the researcher. Having said that, the interviews facilitate researcher to explore the participant's point of view, feelings and perspectives. This type of interview sets out a formal one-to-one interviews, administered by trained interviewer who ask a set of semi-structured questions. The interview primarily aims to

The objectives of expert interviews will be to 1) gain a depth of understanding of the key concepts, processes and participants involved in the research and 2) refine and reconsider all involved variables and their relationship in the propositions. To achieve these objectives, expert interviews were conducted with small number of selected participants. In this sense, interviews use a systematic recording and documenting of responses, along with intense probing for deeper meaning and understanding of the responses in order to gain a rich of information from the informants.

2. In addition to qualitative research phase, the researchers should also undertake quantitative research using large scale data collection from different automobile firms in Thailand. Data analysis with inferential statistics will be testing the proposed impact of all components of employer branding on employee satisfaction that leads to loyalty and engagement. The results will provide useful implications for both academics and practitioners in hotel industry. The key participants are the car buyers or customers who had at least 1-year experience with automobile companies in Thailand because these timeframes have a significant impact on customer knowledge and personal experience with the service.

3. Since service quality is multifaceted, measuring customers' perception and experience towards service quality should be carefully examined. Triangulation can be implemented to accommodate researchers to validate the results of this study. Moreover, data collection needs further exploration in a wider range of service industry. Further study can be undertaken in additional service industry to enable generalizability of the findings.

CONCLUSIONS

This paper proposes a conceptual framework by exploring the relevant literature on service quality and its effects on customer satisfaction and loyalty in different contexts. A detailed literature review indicates a clear direct influence of service quality on customer satisfaction which then leads to customer loyalty. To gain a comprehensive explanation of this relationship, researchers need further approach in qualitative phase, following by quantitative phase in research methodology with a large scale data collection. However, the propositions of this research can be a guideline for further study or applied in other service areas of research, such as restaurant, airline, and tourism.

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INVOLVEMENT IN PRODUCT DEVELOPMENT AND INTERNATIONALIZATION OF EMERGING ECONOMY FIRMS: THE CONTINGENT ROLE OF CUSTOMERS' GEOGRAPHIC DISPERSION

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ABSTRACT

Emerging economy firms are often resource dependent on their foreign supply chain partners for global success. Embeddedness logic explains the potential resource and learning exchange between transactional partners, while power/autonomy logic explains their bargaining power positions. Following embeddedness logic, this study examined the relationship between emerging economy firms' product development involvement with major customers (a proposed measure for relational embeddedness) in the global supply chain and their future engagement in internationalization. Empirical analyses suggested that product development involvement positively relates to the subsequent degree of firms' internationalization. Further, the positive relationship between product development involvement and future internationalization is strengthened by the learning contingency associated with the geographic diversity of global supply chain partnerships, since geographic dispersion reduces the dependence of emerging economy firms on a particular partner for power/autonomy, thereby allowing greater knowledge leverage from multiple resource-providing partners.

KEY WORDS: Relational embeddedness; Production development involvement; Internationalization

INTRODUCTION

Linkage with technologically advanced foreign counterparts is an important source of competitive advantage for emerging economy (EE) firms (Hitt, Li, & Worthington, 2005; Zahra, Ireland, & Hitt, 2000). The globally interconnected character of supply chains offers opportunities for EE firms to accumulate capabilities and strengthen their market positions (Alcacer & Oxley, 2014; Mudambi, 2008; Saliola & Zanfei, 2009). However, a paradox exists for EE firms participating in global value chains (GVCs): foreign counterparts usually place pressure on EE firms to compete against each other on price and profit margins, which can lead to relationship instability (Schmitz, 2006). Some participating EE firms may not be motivated to strengthen GVC linkages, but gradually reduce their commitment in international markets or eventually exit the GVC as a result. Given that there are variations in EE firms' motivation and capability to exploit their global linkages for future international market expansion, this study investigated the influence of EE firms' product development involvement with major GVC customers on their future commitment to global linkages.

RESEARCH AIMS AND QUESTIONS

To date, it remains unclear which linkage characteristics EE firms can leverage to achieve the learning that will in turn allow them to develop additional linkages with foreign counterparts. The current study aimed to address this knowledge gap by examining a particular type of GVC linkage and its influence on the subsequent internationalization of EE firms. It explored this issue by empirically testing the following research questions:

- (i) To what extent does product development involvement (an indication that signifies high relational embeddedness) affect the subsequent degree of internationalization (DOI) of EE firms?
- (ii) To what extent is the association between product development involvement (INVOLVE) and the subsequent DOI of EE firms allowed to vary according to the geographic dispersion of GVC partnerships (an indication of learning source diversity)?
- (iii) To what extent might the INVOLVE–DOI relationship vary by firm age (an indication of organizational inertia)?

THEORY AND HYPOTHESES

A GVC linkage comprises a relationship that is both mutual and power dependent, which participating EE firms must manage in order to benefit from. To specify the linkage characteristics that EE firms can leverage from GVC linkages, this paper draws on the embeddedness logic (Gulati & Sytch, 2007) of resource dependence theory (RDT; Pfeffer & Salancik, 2003). Embeddedness in exchange relationships has important implications for the resource exchange between partners and thereby the partners' overall performance (Gulati & Sytch, 2007; Xia, Ma Lu, & Yiu, 2014). By applying such logic to the context of EE firm linkages in GVCs, where they are dependent on GVC partners because of supply chain integration activities (Crook & Combs, 2007), this paper highlights relational embeddedness in GVC partnerships as distinct from transactional embeddedness in arm's

length relationships. Transactional embeddedness stems from the magnitude of the economic transactions in arm's length or trade relationships (Gulati & Sytch, 2007; Xia, 2011) and captures the extent to which a firm is dependent on the current transactional relationship and thereby motivated to strengthen it. Relational embeddedness, in contrast, gauges a collaborative relationship among partners engaged in value creation activities within exchange relationships. This embeddedness is also reflected in the importance of a focal firm's value creation roles and competencies (Hite, 2003; Moran, 2005) in contributing to its partner's competitiveness by making itself an integral part of the partnership. This paper maintains that relational embeddedness is more appropriate in the context of a GVC partnership where partners are integrated in various operational processes (Crook & Combs, 2007; Gereffi, Humphrey, & Sturgeon, 2005). Moreover, relational embeddedness can be captured by product development involvement because this reflects the extent to which exchange partners are embedded in the organized network of both interpersonal and competence-based interactions.

In the context of GVCs, value-adding roles in product development determines the importance of the GVC partnerships to the focal EE firm both as a source of revenue generation and as a platform of knowledge resources and value creation (Y. Kim & Choi, 2018). Through product development involvement, increased relational embeddedness leads to stronger coordination between parties (e.g., EE supplier firms and foreign buyers) and increases their information exchange, cooperation, and performance (Gulati & Sytch, 2007; Uzzi, 1996). Therefore, this study expected linkages characterized by product development involvement to be a learning source that can be leveraged by EE firms to increase their knowledge and capabilities for further engagement with internationalization activities. As an example, the knowledge and skills accumulated may offer opportunities for firms to capitalize in terms of enlarging their customer base or facilitating their entry into new markets (Kamath & Liker, 1990). Additionally, the product and design uniqueness belonging to EE firms will also increase the attractiveness of their outputs to new foreign customers.

Hypothesis 1: *An EE firm's product development involvement in GVCs is positively related to its subsequent degree of internationalization.*

Further, the future international engagement of EE firms is contingent upon revenue and the international dispersion of knowledge sources as well as the organizational characteristics of EE firms (e.g., firm age). From the power/autonomous logic of the RDT perspective, an EE firm can stabilize and increase the flow of critical knowledge and resources when it has alternative sources for the same or substitutable knowledge and resources (Xia, Jiang, Li, & Aulakh, 2014). As an example, the power imbalance stemming from the EE firm's dependence on a foreign partner may cause relationship dissolution and create disruption and/or discontinuity with regard to resource flows (Xia, Ma, et al., 2014). In such circumstances, EE firms are incentivized to use strategies to balance the foreign partner's resource importance by establishing relationships with new partners to create substitutions for the original partner, thereby enhancing an EE firm's power and/or autonomy (Xia, Jiang, et al., 2014). This paper considered the diverse geographic scope of the GVC partnership as a source of autonomy and/or power and thus viewed it as a potential moderator in the relationship between an EE firm's product development involvement and their subsequent internationalization. This paper thus expects that the internationalization benefit from product development involvement is contingent on geographic diversity of customers (due to less resource dependence and thus more power for the focal firm).

Hypothesis 2: *The geographic dispersion of the GVC partnership of an EE firm positively moderates the relationship between the EE firm's product development involvement and its subsequent degree of internationalization such that the relationship is stronger when the geographic dispersion of the GVC partnership is diverse as opposed to focused.*

Nevertheless, the learning benefit of future GVC linkages may vary because of the learning inertia associated with the aging process of EE firms. Firm age is likely to moderate the learning of firms because of structural inertia. Structural inertia theory suggests that the aging process increases inertia and decreases organizational responsiveness to environmental change (Hannan & Freeman, 1984), as reflected by a firm's limited ability to make changes in its strategy, structure, and core organizational functions (e.g., goals, technology, and marketing). In the sense, older firms are less likely to accommodate external knowledge gained from a GVC partnership into the structure and core functions of their organizations. This paper argues that Older firms may be slow to respond to stimuli from resource-providing partners and to implement change even when decisions are made to do so (Desai, 2008) owing to significantly established routines, managerial mindsets, and dominant logic (BarNir et al. 2003). Consequently, they would suffer from conservatism which cause poorer performance when compared with younger firms (Durand & Coeurderoy, 2001). The characteristics of older organizations may hamper the beneficial influence of product development involvement on their future internationalization more than for younger organizations.

Hypothesis 3: *The age of an EE firm negatively moderates the relationship between the EE firm's product development involvement and its subsequent degree of internationalization such that the relationship is weaker when the firm age is high as opposed to low.*

RESEARCH METHODOLOGY

Sampling

Empirically, this study utilized survey data from 291 Thai manufacturers engaged in GVCs in six major industries. Thai manufacturers are increasingly participating in GVCs, largely propelled by the influence of significant inward internationalization in the form of foreign direct investment (FDI) since the mid-1980s (Pananond, 2013). The devaluation of Thai currency and the amendment of foreign investment regulations during the Asian financial crisis of 1997–1999 has also significantly attracted inward FDI into Thailand, thereby deeply integrating the Thai economy into GVCs. To date, because of the limited size of the Thai market, Thai firms have used GVCs as a platform to reach wider markets and to learn simultaneously to compete in the global economy, rendering GVC participation virtually unavoidable for the growth of Thai firms. Thailand thus represented an ideal location for this study owing to its high dependence on global linkages as suppliers in GVCs.

Using a questionnaire method, this study drew a random sample of 1000 Thai manufacturing firms from an initial sampling frame of approximately 11,600 firms, which were listed on the website of the Department of International Trade Promotion, Royal Thai Government. Of this initial sample, 895 firms had valid contact details. To ensure comparability between the English and Thai versions of the survey instrument, a back-translate proce-

dures were employed. Questionnaire items were pretested and validated by one business executive and three academics prior to the administration of the questionnaire.

To avoid common method variance (CMV), the measures of the key variables (e.g., customer scope and product development involvement) were placed at different positions in the questionnaire (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Further, potential biases associated with using survey methods were examined. Following these extrapolation methods, the non-response bias was assessed by comparing earlier respondents with those who responded later (248 versus 43 responses) using a t-test on several key variables, such as product development involvement, geographic dispersion of GVC partnership, firm age, foreign sales, firm size, ownership, and international experience. No significant differences of mean comparison were detected.

After two to three follow-up reminders, a total of 351 responses were received. Of those, 60 responses were excluded owing to 1) too many missing values, 2) missing key variables, and/or 3) a firm age of less than six years.¹ After excluding the unusable questionnaires, 291 responses were identified as useable, yielding a 32.51% response rate. The sample distributions on key characteristics were mostly consistent with the population (see Table 1), providing confidence in the representativeness of this sample.

TABLE 1. Sample firms and key distributional characteristics.

Firm Age (Years, %)						Export (%)		
MIC 2012	< 5	5–9	10–19	20–29	> 30	< 20	20–49	> 50
(n = 424,196)	18.4	26.2	34.8	12.8	7.8	25.90	26.3	47.8
This sample (n = 291)	n/a	8.2	54.3	20.6	16.8	13.7	49.8	36.4

	No. of Employ- ees (Size)	Thai Firms (%)	Joint Ven- tures (%)	Foreign Firms (%)	Total (%)
TFP2015 (n = 903)		28.60	1.40	0.80	30.80
This sample (year 2015, n = 120)	< 50	38.14	3.09	0.00	41.23
TFP2015 (n = 960)		27.70	3.30	1.70	32.70
This sample (year 2015, n = 73)	51–200	15.12	5.84	4.12	25.08
TFP2015 (n = 1069)		26.30	6.00	4.20	36.50
This sample (year 2015, n = 98)	> 200	8.93	11.34	13.40	33.67
Total TFP2015 (n = 1069)		82.60	10.60	6.70	100
Total sample (year 2015, n = 291)	All	62.2	20.3	17.50	100

Note: Population information was obtained from (i) the 2012 Manufacturing Industrial Census (MIC) published by the National Statistical Office, Ministry of Digital Economy and Society, Royal Thai Government and (ii) the Total Factor Productivity (TFP) Report 2015 published by the Office of Industrial Economics, Ministry of Industry, Royal Thai Government.

The samples were predominantly from six major industries: consumer electronics and electronics components (7.8%), machinery and industrial equipment (8.2%), automotive parts and motorcycles (9.93%), furniture and decor (12.33%), textiles and clothing (10.96%), gems and jewelry (26.37%), and other industries (24.4%).

As illustrated in Table 1, 8.2% of those suppliers were younger than 12 years; 54.3% were between 10 and 19 years, and 37.4% were older than 20 years. Of those suppliers, 41.23% had less than 50 employees; 25.08% were medium size (51–200 employees), and 33.67% were large firms (with more than 200 employees). Approximately 36.4% of those suppliers reported that foreign sales accounted for more than 50% of their total sales, while 13.7% reported that foreign sales accounted for less than 20% of their total sales.

TABLE 2. Correlation matrix and descriptive statistics of measures.

	1	2	3	4	5	6	7	8	9	10
1 Degree of internationalization	1									
2 High-tech industry	-0.23**	1								
3 Heavy industry	-0.08	-0.15**	1							
4 Ownership	-0.06	0.56**	0.19**	1						
5 Firm Size (log)	-0.01	0.47**	0.18**	0.57**	1					
6 International experience (log)	0.20**	0.06	0.05	0.08	0.21**	1				
7 Financial slack	0.28**	-0.38**	-0.03	-0.33**	-0.22**	0.04	1			
8 Product development involvement	0.33**	-0.49**	-0.13*	-0.36**	-0.39**	0.00	0.53**	1		
9 Geographic dispersion of GVC partnership	-0.10	-0.06	0.10	-0.26**	-0.12*	-0.05	0.00	-0.14*	1	
10 Firm age (log)	0.10	0.07	0.00	-0.02	0.22**	0.72**	0.04	-0.08	0.03	1
Mean	44.35	0.29	0.05	0.38	4.40	2.23	3.88	4.42	3.26	2.36
Std. Deviation	20.79	0.45	0.23	0.49	1.50	0.80	1.41	1.71	1.54	0.80
Skewness	0.55	0.96	3.93	0.51	0.23	-0.68	0.18	-0.33	-0.17	-0.55
Kurtosis	0.76	-1.09	13.50	-1.76	0.08	0.96	-0.62	-0.78	-1.47	0.70

Note: n = 291; **Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Table 2 presents the means, standard deviations, and correlations among the focal variables and controls. The average DOI for EE firms in this sample was 44.35%. On average, the EE firms sold to 3.26 different countries of origin. Of the sample, 28.52% were in high-tech industries and 5.50% were in heavy industry, while 65.97% were from other industry types. Due to a limited space, correlations among variables cannot be discussed here. Nevertheless, the overall correlation results justified the inclusion of control variables.

Measurement

The measurement items in this study were adapted from established scales in the literature. Some variables were measured using actual values (e.g., firm age, size, and years of international experience).

Dependent variable: Since this study was interested in subsequent engagement in internationalization, respondents from each firm were asked to refer to the period 2013 to 2014 (time 2) and to indicate “Foreign sales as a percentage of total sales.” (Sullivan, 1994).

Explanatory variables: *Product development involvement* reflected the extent to which EE firms were involved in relational embeddedness, for example, through value creation roles or innovative activities in design and product development (Alcacer & Oxley, 2014). Built upon Saliola and Zanfei’s (2009) notion of the knowledge intensive value chain relationship characterized by the involvement of suppliers in product R&D activities, this study asked the respondents to refer to the period between 2011 and 2012 (time 1) and rate the extent to which they agreed with the following statements. “Our company initiated new designs of products to major customers” and “Our company was involved in product development with major customers” (using a 7-point scale from 1 = strongly disagree to 7 = strongly agree).

Geographic dispersion/diversity of GVC partnership: Adapted from Tallman and Li’s (1996) country count and Zhang et al.’s (2010) measure of the diversity of countries of origin, this study operationalized this construct using a count of the countries of origin of major customers to capture the geographical diversity of partnership portfolio. The respondents were asked to refer to the period 2011 to 2012 (time 1) and to identify the countries of origin of their major (top five) customers.

Firm age: This variable was measured as the number of years since the founding of the firm (BarNir et al., 2003). This study asked for the number of years of operation until year 2016 and then calculated the age of the firms during the period 2011 to 2012 (that is, firm age in year 2016 minus five years).

Control variables: Some key variables highlighted in previous studies (e.g., Grant et al., 1988; Nobeoka et al., 2002; Tallman & Li, 1996) as affecting internationalization were included as control variables. This study controlled for supplier *size* (operationalized as the average number of employees in the period 2011 to 2012), *financial slack* (using the three-item measures of financial slack developed by Tan and Peng [2003]), *international experience* (the number of years serving international customers/markets up until the year 2011), and *ownership* (joint venture firms were coded 1, with those wholly owned by Thais as the baseline). These variables reflect a firm’s resources that are conceptually related to both learning and utilizing external knowledge sources.

Last, as prior research has shown, industry factors can affect the variability of a firm's profitability (Grant et al. 1988), and hence this study coded *industry dummy for high-tech* (Qian & Li, 2003; Stuart, 2000) and *heavy industry* (Rumelt, 1982), with other industries as the baseline, and included these dummy variables in the model.

Methods of analysis

This study used regression diagnostics to assess whether the hypothesized relationships were satisfied. We transformed variables, namely, firm age (AGE), firm size (SIZE), and international experience (INTL) using a natural logarithm to obtain normal distribution. This study used an average value of the two-item measures of product development involvement (INVOLVE) to account for relational embeddedness. Factor score weighted items were calculated to create a composite variable from the three weighted items of financial slack (SLACK) measure. This study used the standardized values of focal independent and moderator variables to create the interaction terms (i.e., Z_SCOPE* Z_INVOLVE and Z_AGE* Z_INVOLVE) to avoid multicollinearity. A moderating effect existed only if the interaction term contributed significantly to the variance explained in the dependent variable. To avoid spurious conclusions, the multiple regression models also included control variables.

To evaluate the explanatory power of product development involvement (INVOLVE) relative to that of the other independent variables, incremental adjusted R^2 s (Δ adjusted R^2) between the five models were calculated. Following Grant et al. (1988) and Nobeoka et al. (2002), the variables were entered in five steps, with only basic control variables first (Model A), the focal independent variables second (Model B), the interaction term Z_SCOPE* Z_INVOLVE (Model C), the interaction term Z_AGE* Z_INVOLVE (Model D), and both interaction terms at the end (Model E).

RESULTS

Multicollinearity was not a significant problem in this study for two reasons. First, all individual variance inflation factors (VIFs) ranged from 1.05 to 2.16 in Model E, indicating low collinearity. Second, the correlation matrix in Table 2 indicates that the focal variables were not highly correlated. INVOLVE (time 1) had a low correlation with DOI (time 2) and had a low negative correlation with SCOPE (time 1). SCOPE (time 1) had an insignificant correlation with DOI and AGE. Age also was not significantly correlated to DOI, INVOLVE, and/or SCOPE.

In Table 3, Model A shows that the effects of all control variables on the DOI of EE firms at time 2 were significant, except for SIZE. Both HITECH and HEAVY were always negatively related to DOI across all models ($B = -0.31$, $SE = 3.39$, $p = 0.000$; and $B = -0.17$, $SE = 5.37$, $p = 0.004$, respectively, in Model A). International experience (INTL) was always significantly and positively related to DOI ($B = 0.18$, $SE = 1.43$, $p = 0.001$ in Model A). These results indicated that the firms in high-tech and heavy industries were likely to have a low level of subsequent DOI, while a longer time spent serving the international market increased the subsequent DOI. OWN was only significant in Model A, while SIZE did not appear to have a significant relationship with DOI, except in Model D ($B = 0.14$, $SE = 0.98$, $p = 0.049$). These results suggest that OWN and SIZE do not have a major im-

pact on the future DOI of EE firms. SLACK showed a significant positive association with DOI in Models B and D, but was not significant in Models C and E, implying that SLACK becomes less significant with the presence of the product term $Z_SCOPE * Z_INVOLVE$.

TABLE 3. Regression results of subsequent DOI.

	Model A		Model B		Model C		Model D		Model E	
	<i>B(SE)</i>	<i>p</i>	<i>B(SE)</i>	<i>p</i>	<i>B(SE)</i>	<i>P</i>	<i>B(SE)</i>	<i>P</i>	<i>B(SE)</i>	<i>P</i>
Control—industry										
HITECH	−0.31(3.39)	0.000	−0.24(3.51)	0.002	−0.20(3.46)	0.010	−0.24(3.51)	0.002	−0.20(3.46)	0.010
HEAVY	−0.17(5.37)	0.004	−0.14(5.39)	0.020	−0.14(5.26)	0.017	−0.13(5.39)	0.024	−0.14(5.26)	0.021
Controls										
OWN	0.15(3.19)	0.046	0.12(3.30)	0.126	0.10(5.26)	0.171	0.12(3.30)	0.137	0.10(3.22)	0.183
SIZE (log)	0.10(0.97)	0.173	0.14(0.98)	0.054	0.13(0.96)	0.071	0.14(0.98)	0.049	0.13(0.95)	0.065
INTL(log)	0.18(1.43)	0.000	0.19(1.95)	0.014	0.18(1.90)	0.014	0.20(1.96)	0.010	0.19(1.91)	0.010
SLACK	0.22(0.88)	0.000	0.13(0.95)	0.040	0.09(0.94)	0.149	0.13(0.95)	0.043	0.09(0.94)	0.154
Independent variable										
INVOLVE			0.22(0.89)	0.003	0.11(0.93)	0.162	0.21(0.89)	0.004	0.10(0.93)	0.173
SCOPE			−0.04(0.78)	0.535	0.01(0.78)	0.850	−0.03(0.78)	0.623	0.02(0.79)	0.771
AGE (log)			−0.03(1.99)	0.748	−0.01(1.94)	0.927	−0.04(2.01)	0.583	−0.02(1.97)	0.761
Interaction terms										
Z_SCOPE * Z_INVOLVE					0.26(1.43)	0.000			0.26(1.43)	0.000
Z_AGE * Z_INVOLVE							0.08(1.12)	0.157	0.07(1.09)	0.197
Model summary										
<i>F</i> value	9.686	0.000	7.886	0.000	9.009	0.000	7.324	0.000	8.362	0.000
<i>R</i> ²	0.170		0.202		0.243		0.207		0.248	
Adjusted <i>R</i> ²	0.152		0.176		0.216		0.179		0.218	
Δ Adjusted <i>R</i> ²			0.032		0.042		0.006		0.046	
Incremental <i>F</i> value			3.468 (Model A to B)	0.012	7.623 (Model B to C)	0.000	2.001 (Model B to D)	0.157	8.588 (Model B to E)	0.000

Note: Dependent variable: DOI; n = 291; The beta values (βs) in the table are standardized coefficients.

Model A, given it did not include any learning source variables (i.e., INVOLVE) or learning contingencies (i.e., SCOPE and AGE), was not effective in predicting DOI at time 2, as demonstrated by an R^2 of only 17.0% (Adj. $R^2 = 0.152$, $p < 0.001$). When adding product development involvement (INVOLVE), geographic dispersion of GVC partnership (SCOPE), and firm age (AGE) all at time 1 in Model B, the explanatory power of the model improved significantly and accounted for 20.2% (Adj. $R^2 = 0.176$, $p < 0.001$) of the variance of DOI (time 2). In particular, INVOLVE, at time 1, had a significantly positive relationship with the DOI at time 2 ($p = 0.003$). Next, the interaction terms were added to Models C and D, respectively; that is, $Z_SCOPE * Z_INVOLVE$ was added to Model C while $Z_AGE * Z_INVOLVE$ was added to Model D. The R^2 jumped to 24.3% in Model C (Adj. $R^2 = 0.216$, $p < 0.001$) but it only slightly increased to 20.7% in Model D (Adj. $R^2 = 0.207$, $p < 0.001$). When the interaction terms were both added to Model E, the explanatory power increased to 24.8% (Adj. $R^2 = 0.218$, $p < 0.001$).

As can be seen in Model B, INVOLVE, as predicted, had a positive and significant association with the DOI at time 2 ($B = 0.22$, $SE = 0.89$, $p = 0.003$), even after controlling for other factors that might influence subsequent DOI. This result offers empirical support for Hypothesis 1 and suggests that the value creation role through product development involvement enables learning and strengthens the subsequent engagement of EE firms in internationalization activities. However, standardized regression coefficients for SCOPE and AGE were not statistically significant, suggesting that they do not have a direct relationship with future DOI. This was consistent across all models.

To test the moderating effect of SCOPE (time 1) on the relationship between INVOLVE (time 1) and DOI (time 2), we introduced the interaction term ($Z_SCOPE * Z_INVOLVE$) in Model C. We found that the interaction term exhibited a positive and significant effect on subsequent DOI ($B = 0.26$, $SE = 1.43$, $p = 0.000$). To investigate further the moderating effect of SCOPE (time 1), we estimated the relationship between INVOLVE (time 1) and DOI (time 2) using bias-corrected bootstrapped 95% confidence intervals (5,000 bootstrap samples) at ± 1 standard deviation of SCOPE. As shown in Table 4, INVOLVE was positively related to subsequent DOI for EE firms with a high degree of SCOPE since 95% confidence intervals were positive and did not contain zero (i.e., at mean + 1 SD; conditional effect: $b = 4.60$, $SE = 1.00$, $p < 0.001$, 95% CI [2.62, 6.56]), but not for those with a low degree of SCOPE (i.e., at mean - 1 SD; conditional effect: $b = -2.00$, $SE = 1.46$, *non-significant*, 95% CI [-4.86, 0.87]). This suggests that the INVOLVE–DOI relationship varies depending on SCOPE. The conditional effect of INVOLVE on DOI was significant and positive at a high value of SCOPE, lending support for Hypothesis 2. This therefore suggests that the association between INVOLVE (time 1) and DOI (time2) would be greater if EE firms have increased SCOPE.

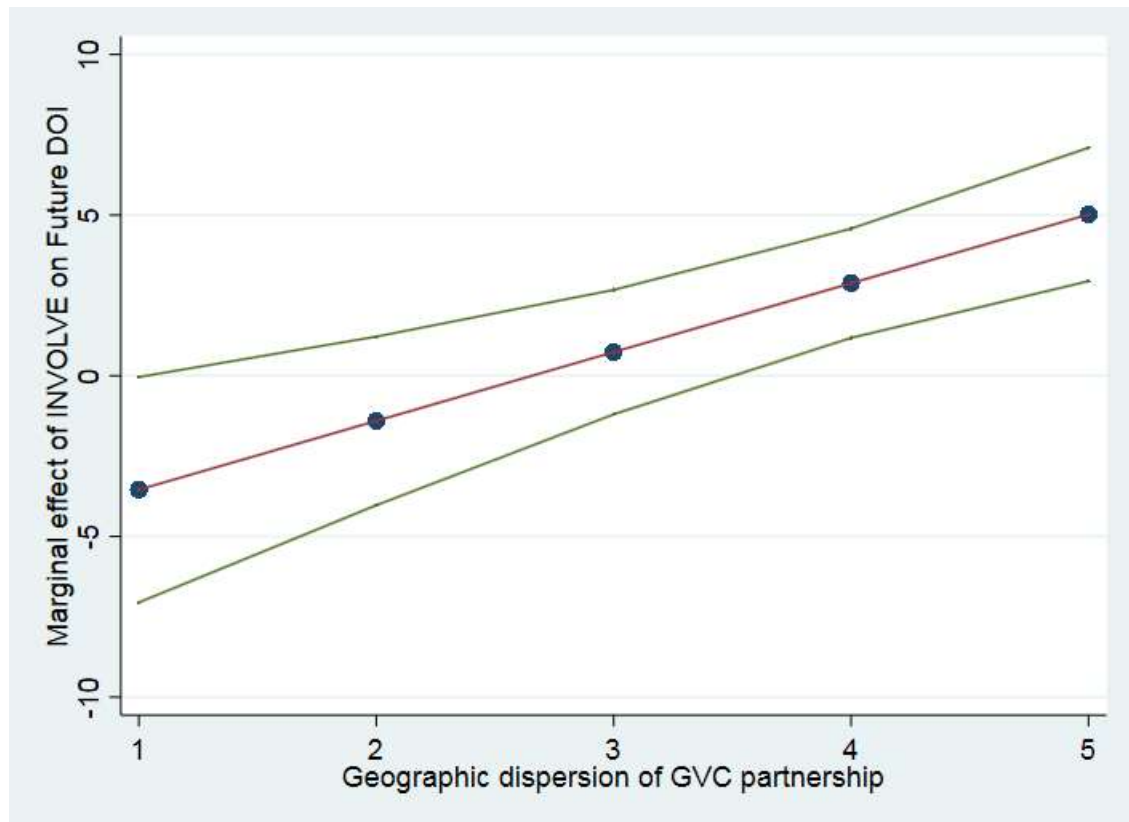
TABLE 4. Estimates and bias-corrected bootstrapped 95% confidence intervals (5000 bootstrap samples) for the moderating effect at ± 1 standard deviation of moderator.

Moderator	Model D (Moderating Effect) INVOLVE on Subsequent DOI		
	Level of estimate	<i>B (SE)^a</i>	95% CI
SCOPE	-1 SD	-2.00 (1.46)	[-4.86, 0.87]
	+1 SD	4.60 (1.00)	[2.62, 6.56]

Note: CI = confident interval. ^a Bootstrapped estimates for the standard error (*SE*) are presented.

We further explored the nature of the moderating effect of INVOLVE (time 1) on subsequent DOI (time 2) at different values of SCOPE (time 1) by calculating marginal effect. The marginal effect was significantly stronger for values of SCOPE above 3.45, and 45.02 % of the sample observations were in the range where the marginal effect was significant (see Fig. 1).

Figure 1: The marginal effect of product development involvement on subsequent DOI at the values of scope of the GVC partner portfolio.



Conversely, the interaction term ($Z_AGE * Z_INVOLVE$) shown in Table 3, Model D, was not significantly associated with the DOI of EE firms at time 2 ($B = 0.08$, $SE = 1.12$, $p = 0.157$). Hypothesis 3 therefore was not supported. The results echo the inconclusive

findings and continued debate among scholars regarding the effect of organizational inertia on learning.

Further, the significance of cross product between $Z_SCOPE * Z_INVOLVE$ in Model E ($B = 0.26, SE = 1.43, p = 0.000$) was consistent with the result in Model C. $Z_AGE * Z_INVOLVE$ also remained consistently insignificant ($B = 0.07, SE = 1.09, p = 0.197$) in Model E. Thus, the regression results across the five models clearly indicated that, first, INVOLVE had a positive and significant relationship with the future DOI of EE firms, and, second, SCOPE significantly and positively moderated the relationship, whereas age did not, between INVOLVE and future DOI.

DISCUSSION AND CONCLUSION

Building on the notion of embeddedness (Gulati & Sytch, 2007), this study has distinguished transactional embeddedness in arm's length relationships from relational embeddedness in GVC partnerships, and has examined the association of relational embeddedness and the subsequent DOI of EE firms by taking into account the role of major customers' geographic dispersion and organizational inertia.

Overall, the results indicated that EE firms involved in value creation roles (e.g., product development) had a significantly higher subsequent DOI compared with those with less involvement in a value creation role. While this study found the age of EE firms does not significantly attenuate the relationship between product development involvement (INVOLVE) and subsequent DOI, the geographic diversity of the GVC partnership has a positive moderating effect on the INVOLVE – future DOI relationship. Consequently, the diverse scope of the GVC partnership, by reducing the dependence of the focal EE firm in relation to a particular foreign partner in terms of revenue generation and knowledge sources, allows the firm to stabilize and increase the flow of critical knowledge from diverse learning sources, and thereby strengthens the internationalization activities of the firm through establishing multiple resource-providing partners.

This study has argued that product development involvement, as an important form of embeddedness in GVCs, has implications for subsequent and future engagement in internationalization by EE firms. The study shifts the focus from the mutual dependence reflected in the magnitude of exchange in arm's length relationships to the mutual dependence that stems from product development involvement in GVC partnerships. This research, hence, provides a new exploration of RDT for the internationalization of EE firms, which could be a potential area for further research.

This study makes two key contributions to current knowledge about the internationalization of EE firms. First, it developed a framework based on the embeddedness logic of RDT to examine subsequent engagement in internationalization by EE firms in GVC settings. This represents a step towards understanding the recursive process whereby EE firms' current linkages within a GVC vary along relational embeddedness. Moreover, the linkages are related to the future degrees of international linkages of EE firms. Second, this study integrated relational embeddedness and multi-nationality to explain future internationalization (Contractor, Kundu, & Hsu, 2003; Hennart, 2011; Verbeke & Brugman, 2009) and to extend understanding of how EE firms combine value creation roles and partnership portfolios to configure GVC linkages that enable their learning.

For EE SMEs aiming to upgrade their competitive advantage at an international level, the managerial implication from the findings is to engage in GVC linkages as a platform for nurturing their capabilities is essential. Nevertheless, it is clear from the results that linkages characterized by production development involvement are more conducive to future internationalization activities. For larger EE firms, interactions in product design and development involvement with GVC partners can be a channel for intensive knowledge flow, which they can utilize to move up to a higher competitive position in the value chains, ultimately enabling their increased international presence and activities. These findings and implications reinforce the notion that the product development and design is a more substantial knowledge intensive linkage than pure manufacturing linkages (Alcacer & Oxley, 2014; Saliola & Zanfei, 2009). The results also suggest that EE firms' bargaining power stemming from the diverse scope of GVC partnerships helps increase the relative power to GVC partners in terms of revenue and knowledge sources, and thus allows EE firms to stabilize and increase the flow of critical knowledge from multiple resource-providing partners, which can then be leveraged beyond the key customer or focal chain. Therefore, ensuring a diverse geographical scope of GVC partners can strengthen the relationship between product development involvement and DOI.

This study has several limitations that may provide avenues for future research. First, although this study utilized techniques to avoid CMV and used actual data when possible, the design of this study was limited because the questionnaire requested information that was retrospective (i.e., asking managers to refer to the periods 2011–2012 and 2013–2014 when answering the questions). While this technique allowed the respondents to recall and recognize the development of the firms, they may not have been able to clearly delineate what happened during those specific time periods. Future research using secondary data sources would allow cross validation with the self-reported data by the respondents. Also, relational embeddedness can be operationalized in ways other than the level of product development involvement (e.g., a number of direct interactions with up- and down-stream partners in other value creating areas).

It is possible for future research to investigate further the drawbacks or non-linear moderating effects of increasing geographic diversity within GVC partnerships in conjunction with product development involvement and other dimensions of internationalization performance. Further investigating the embeddedness that emerges from other ways in which EE firms interact with GVC partners could potentially advance our understanding of learning in GVC linkages. In addition, EE firms may develop subsequent international linkages in diverse ways (see Hult et al., 2008; Sullivan, 1994) from those considered in this study. Future research addressing subsequent international linkages using different theoretical constructs could also be beneficial.

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FINANCIAL FACTORS AFFECTING RETURN OF PROPERTY FUND AND REAL ESTATE INVESTMENT TRUST IN THAILAND: A MODERATING EFFECT OF ASSET TYPE AND ASSET OWNERSHIP

by

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ABSTRACT

Property fund and real estate investment trust in Thailand have gained increasing attention from both investors and researchers since they provide relatively stable returns in the form of dividends. This study aims to 1) identify the factors affecting the return of property fund and real estate investment trust to the investors in Thailand, and 2) examine moderating effects of asset type and asset ownership. The secondary data were drawn from 61 funds and trust that were publicly listed on the stock exchange of Thailand's online database. The property funds and real estate investment trust were categorized by their portfolio in Thailand. In data analysis, multiple regression analysis was performed to test proposed hypotheses. The results show that 1) price, market capital and price per net asset value have direct impacts on return, and 2) asset type and asset ownership has moderating effects towards the impact of price, market capital and price per net asset value on return. These research outcomes provide guidelines for four stakeholders in property industry, including real estate developers, underwriters, influencers, and investors.

KEY WORDS: : Property fund, Real estate investment trust, Asset type, Asset ownership, Stock exchange of Thailand

INTRODUCTION AND RATIONALE

Thailand is one of the best places to invest in real estate sector, compared global and attracts an increasing number of both local Thai and foreign investors around the world. Property Fund and Real Estate Investment Trust (PF&REIT) incorporated in Thailand had one of the highest dividends yields in Global in the 2019 (Klynveld Peat Marwick Goerdeler (KPMG), 2019). Stock market consider Thailand as a potential PF and REIT destination.

TABLE 1. Global REIT attractive spreads across the region.

Market	Dividend yield
Singapore	6.2%
Thailand	6.0%
UK	5.9%
Europe	5.8%
Malaysia	5.6%
Hong Kong	4.7%
US	4.4%
Australia	4.4%
Japan	4.0%

*Data as of 2 January 2019

Source: Bloomberg Finance LP, DBS Bank

Table 1 shows listed Global REIT as of the 2 January 2019. Singapore, Thailand, and UK are among top Global leaders. Especially, Thailand is only one of two developing country from these lists. As a developing country have a lot of potential to grow such as infrastructure development from government policy and private sector itself.

Real Estate Investment Trust (REIT) was first founded in the United States in 1960. Since then, more than 30 countries around the world have established REIT regimes and formulated REIT legislation (National Association of Real Estate Investment Trusts (Nareit)). By the year 2014, REITs have a total market value of more than US \$ 1 trillion or about 2 percent of the total global stock market value (Sun, 2014).

In Thailand, there are the regulations which restrict the Property Funds (PF) issuance or investment, and establish new fund as REIT. The REIT structure has many aspects like Property Funds but has more flexibilities than other funds in many ways, such as the investment properties, and leverage degree. REIT regulations was imposed on 1 Jan 2013 and new fund setups have to be under the REIT structure. The Thai government has agreed to extend all taxes waivers relating to the conversion from property funds into REITs until end-2017. It is expected to see more property funds being converted into REIT (DBS Vickers, Jones Lang Lasalle Thailand (JLL Thailand), 2018).

The major factor that makes PF and REIT more attraction is the nature of these investments. PF and REIT allow investors, who are interested in property development project, to invest in those properties through the close end funds or trusts with the lower budgeting and higher liquidity by trading in the stock market. These investment tools also have been restricted by the dividend policy. It means that the investors must pay at least 90 percent of their net income. In Thailand, these investments are seemingly safe in the value comparing with the market because they receive the dividend in return and have the lower return deviation which they do not give the huge in capital loss (Jutamas, 2016).

PF and REIT historically have delivered competitive total returns, based on high, steady dividend income and long-term capital appreciation. Their comparatively low correlation with other assets also makes them an excellent portfolio diversifier that can help reduce overall portfolio risk and increase returns. One of the main drivers are the impact of financial factors: price, market capital, net asset value and price per net asset value. These are the characteristics of real estate investment such as airport, residential, hotel, warehouse and factory, serviced apartment, commercial, office and mixed-used projects. It is named as asset type, however we categorized them into top 3 functionalities: residential, commercial and warehouse and other. Lastly, the last moderating affect can also be categorized by asset ownership into 3 types: freehold, leasehold and hybrid which combines the first two (The Stock Exchange of Thailand, 2009).

For this challenging reason, this study aimed to examine whether the impact of financial factors: price, market capital, net asset value and price per net asset value and moderating effect of asset type and asset ownership on property fund and real estate investment trust in Thailand return. The secondary data were drawn from 61 funds and trust that were publicly listed on the stock exchange of Thailand's online database.

RESEARCH QUESTIONS

The purpose of this study is to investigate how financial factors affecting return of PF and REIT in Thailand and how asset type and asset ownership moderates these effects by analyzing secondary data. The proposed research model was developed by adopting return as a dependent variable, financial factors as independent variable, and asset type and asset ownership as moderating variables. There are three research questions to be answered:

RQ1: Do financial factors (price, market capital, net asset value and price per net asset value) have direct impacts on return?

RQ2: Does asset type have moderating effects towards the impact of price, market capital and price per net asset value on return?

RQ3: Does asset ownership have moderating effects towards the impact of price, market capital and price per net asset value on return?

From those two moderating effects, the nature of each group is notably different. Asset type is based on physical characteristic of property including residential property, commercial property and warehouse. Asset ownership is based on the common ownership including freehold, leasehold and hybrid.

LITERATURE REVIEW

The researchers reviewed the literature on investment especially PF and REIT. Additionally, we reviewed the comparisons of models and combinations of models in literature as well as a consideration of three different contexts of PF and REIT usage, consisting of determinants (price, market capital, net asset value and price per net asset value), moderators (asset type and asset ownership) and return.

From the literature reviews, according to Capital Assets Pricing Model CAPM (Jack, 1961), Arbitrage Pricing Theory (APT) (Ross, 1976), Fama-Macbeth (1973), there is a wide range of factors predicting return for the investors. These factors involve firm's internal (e.g. characteristics) and external factors, investment policy, and so on. However, this study chose financial factors following Stock Exchange of Thailand (SET) for moderators, asset type was drawn from Capozza (1995), Danielsen (2007), and Richard (2012) whereas asset ownership was drawn from Richard, (2012) and Asteriou (2013).

The Arbitrage Pricing Theory (APT) was developed by Stephen Ross (1976). It takes multiple risk into this model by demonstrates the relationship between rate of return and multiple economic factors where it was not explicitly specifying such a factor or how many factors. Researcher, whom use this model for analysis should conduct empirical research to find which factors influence the return on stock by used the APT model appropriately.

Financial Factor

There are many financial factors that have been provided in market and also a lot of ratio have been created by many reviewers. Otherwise we selected and followed The Stock Exchange of Thailand with four main factors that were required to publish in SET.

First, price is a normalized average (typically a weighted average) of price relatives for a given class of goods or services in a given region, during a given interval of time. It is a statistic designed to help to compare how these price relatives, taken as a whole, differ between time periods or geographical locations (Tsai, 2012).

Second, market capital is the size of portfolio is how large of a grouping of financial assets such as stocks, bonds, commodities, currencies and cash equivalents, as well as their fund counterparts, including mutual, exchange-traded and closed funds (Liu, 2012).

Third, Net Asset Value (NAV) is a number that represents "The true value of the mutual fund" which tells unitholders that if they want to buy or redemption of mutual funds How much will the price be? (The Stock Exchange of Thailand, 2015). Net Asset Value is the value of all assets of the mutual fund as well as various benefits that the mutual fund received from the investment at a certain time minus expenses and liabilities that mutual fund normally will calculate the value of asset of the fund according to the market price (Mark to Market) each day to reflect the true value (The Stock Exchange of Thailand, 2015). However, the announced price at SET-online is shown in the form of "Value per investment unit" by taking the NAV divided by the total number of investment units sold which the value per unit may increase or decrease.

Fourth, price per Net Asset Value (P/NAV) ratio also known as price/book. The Price per Net Asset Value ratio shows the company's share price to the net asset (or book) value per share. It shows how much investors are prepared to pay per one of net assets.

Asset Type

According to Capozza (1995), Danielsen (2007), Richard (2012), PF and REIT can be categorized by asset type. Each type has distinctive characteristic as described below.

First, residential property is an establishment where it was originally or currently being used by a host as their main place of dwelling or home. Architecturally, a residence is typically a house, mansion, cottage or grand castles and palaces. A residence is offered to travelers as temporary lodgings where they can rent a room. The rooms are generally furnished in the style which complements the architecture type of the building. This boutique type of accommodation has a nice homely feel where the traveler is the 'house-guest'. Hotels, especially the extended stay chains, commonly function as residences for many guests.

Second, commercial property is the process of selling consumer goods or services to customers through multiple channels of distribution to earn a profit. Retailers satisfy demand identified through a supply chain. The term "retailer" is typically applied where a service provider fills the small orders of a large number of individuals, who are end-users, rather than large orders of a small number of wholesale, corporate or government clientele. Shopping generally refers to the act of buying products. Sometimes this is done to obtain final goods, including necessities such as food and clothing; sometimes it takes place as a recreational activity. Recreational shopping often involves window shopping and browsing: it does not always result in a purchase.

Third, warehouse is a large building where raw materials or manufactured goods are stored until they are exported to other countries or distributed to shops to be sold and a building or set of buildings where large amounts of goods are made using machines. And other is included a specific real estate such as airport.

Asset Ownership

According to Richard, (2012), Asteriou (2013), PF and REIT can also be categorized by asset ownership into 3 types. Each type has distinctive characteristic as described below.

First, freehold is the common ownership of real property, or land, and all immovable structures attached to such land. It is in contrast to a leasehold: in which the property reverts to the owner of the land after the lease period has expired. For an estate to be a freehold, it must possess two qualities: immobility (property must be land or some interest issuing out of or annexed to land) and ownership of it must be of an indeterminate duration. If the time of ownership can be fixed and determined, it cannot be a freehold. It is "An estate in land held in fee simple, fee tail or for term of life (The Stock Exchange of Thailand, 2009).

Second, leasehold is an ownership of a temporary right to hold land or property in which a lessee or a tenant holds rights of real property by some form of title from a lessor or landlord. Although a tenant does hold rights to real property, a leasehold estate is typi-

cally considered personal property. Leasehold is a form of land tenure or property tenure where one party buys the right to occupy land or a building for a given length of time. As lease is a legal estate, leasehold estate can be bought and sold on the open market. A leasehold thus differs from a freehold or fee simple where the ownership of a property is purchased outright and thereafter held for an indeterminate length of time, and also differs from a tenancy where a property is let (rented) on a periodic basis such as weekly or monthly.

Until the end of the lease period (often measured in decades or centuries; a 99-year lease is quite common) the leaseholder has the right to remain in occupation as an assured tenant paying an agreed rent to the owner. Terms of the agreement are contained in a lease, which has elements of contract and property law intertwined.

Third, hybrid is mixed between freehold and leasehold as some PF and REIT have many kinds of assets in one fund some of asset could be freehold and some could be leasehold as well depend on investment policy of each funds.

Return

There are 2 kinds of return that investors receive from property funds investment (Stock Exchange of Thailand, 2009); first, the dividend payment of the fund comes from the profits that the fund generates from the property fund invested by the fund. Most funds have a dividend policy of 90-100 percent of the profits which can be done in each period. From the analysis of Kim Heng sector, returns from dividends of the Property Fund currently in the stock market range between 7-12 percent (Kim, 2009). Second, capital gain can be obtained by buying funds from the stock market at a lower price then sold back to the stock market at a higher price. This can be occurred by the demand for the fund from other investors. The other investor willing to buy at a higher price than the purchase price. However, the income and return of the fund mainly depends on the asset invested.

RESEARCH METHODOLOGY

The secondary data were drawn from 61 funds with 5 years (2015-2019) in Thailand that were publicly listed on the stock exchange of Thailand (SET) online database. Table 2 lists the number of funds in PF & REIT in 3 categories; residential, commercial, and warehouse and other. In addition, Table 3 lists the number of funds in PF & REIT in 3 categories; freehold, leasehold and hybrid.

TABLE 2. PF&REIT in terms of Asset type

	Number of Funds	Percent
Resident	21	34%
Commercial	24	39%
Warehouse and Other	16	26%
Total	61	100%

TABLE 3. PF&REIT in terms of Asset Ownership

	Number of Funds	Percent
Freehold	20	33%
Leasehold	23	38%
Hybrid	18	30%
Total	61	100%

The collected data were coded into statistical software for data analysis, which were divided into two major parts consisting of descriptive statistics analysis as to present the finding in terms of frequency, percentage, mean, and standard deviation, and inferential statistics analysis for hypothesis testing with the use of multiple linear regression analysis method. Moreover, all data were analyzed in 3 ways. First, financial factors affecting return property PF and REIT. Second, data were analyzed by asset type to be examine moderating effect of asset type. Lastly, data were analyzed by asset ownership to be ensure the moderating effect of asset ownership. In addition, according to Arbitrage Pricing Theory (APT) by Ross (1976), it suggests how to forecast rate of return by multiple factors and how this forecast is moderated by another factor. The main idea behind of this model is the focus on the degree to which factor effect to PF&REIT and the degree to which kind of moderator's effect to PF and REIT as well.

FINDINGS

TABLE 4. Financial Factor affecting return of property fund and real estate investment trust in Thailand

Financial Factor			
	Standardized Coefficients		Std. Error
	Beta (β)	t	
(Constant)		4.253	2.252
Price	1.008	1.985*	0.227
Market capital	-0.18	-2.115*	0
P/NAV	-0.983	-2.297*	2.562
NAV	-0.165	-1.106	0.214

*p < .05

Finding for RQ1

Table 4 show that financial factors; price, market capital and price per net asset value (P/NAV) has a significant effect on Property Fund and Real Estate Investment Trust (PF&REIT) return but net asset value has no effect on Property Fund and Real Estate Investment Trust.

TABLE 5. Moderating effects of asset type

Asset Type	Residence		Commercial		Warehouse and Other	
	Standardized Coefficients		Standardized Coefficients		Standardized Coefficients	
	Beta (β)	t	Beta (β)	t	Beta (β)	t
(Constant)		-0.172		3.342		-0.591
Price	-1.944	-2.043*	0.592	1.828	-0.246	-0.553
Market capital	0.38	1.41	-0.104	-0.927	-0.538	-3.017*
P/NAV	1.136	1.788	-0.644	-2.318*	0.211	0.624
NAV	0.709	2.035*	-0.184	-1.253	0.394	2.133*

*p < .05

Finding for RQ2

Table 5 show that regarding asset type, price has a significant effect on residence, market capital has a significant effect on warehouse and other, price per net asset value (P/NAV) has a significant effect on commercial fund and net asset value (NAV) has a significant effect on both residence and warehouse and other fund.

Equation for each asset type can be show below;

Residence, Return = -1.944 (Price) +0.709 (NAV)

Commercial, Return = -0.644 (P/NAV)

Warehouse and Other, Return = -0.538 (Market Capital) +0.394 (NAV)

TABLE 6. Moderating effects of asset ownership

Asset Ownership	Freehold		Leasehold		Hybird	
	Standardized Coefficients		Standardized Coefficients		Standardized Coefficients	
	Beta (β)	t	Beta (β)	t	Beta (β)	t
(Constant)		0.783		4.106		5.819
Price	-0.822	-2.114*	0.741	1.669*	3.526	4.055
Market capital	-0.035	-0.23	-0.117	-0.751	0.016	0.076*
P/NAV	0.335	1.102	-0.551	-1.648	-3.506	-4.845
NAV	0.528	2.955*	-0.26	-1.22	-0.882	-3.971

*p < .05

Finding for RQ3

Table 6 show that regarding asset ownership, price have a significant effect on freehold fund and leasehold, market capital has a significant effect on mix fund and net asset value (NAV) has a significant effect on freehold.

Equation for each asset ownership can be show below;

Freehold, Return = -0.822 (Price) +0.528 (NAV)

Leasehold, Return = 0.741 (Price)

Hybrid, Return = -0.016 (Market Capital)

CONCLUSION

The PF and REIT in Thailand has grown rapidly in recent half decades, but existing research on REIT performance is not conclusive and limited to asset selectivity aspect. This paper contributes to the literature by analyzing Real Estate Investment Trust performance using asset type and asset ownership as moderators.

We found that price has a positive effect on PF and REIT return especially leasehold, but it has a negative effect on residence and freehold. The market capital has a negative effect on PF and REIT return included warehouse and other, on the contrary, has a positive effect on hybrid. The price per net asset value has a negative effect on Property Fund and Real Estate Investment Trust return especially commercial. The net asset value has a positive effect on residence, warehouse and other and freehold.

In addition, according to the analysis of two different groups that shows some similar directions. For example, net asset value has a positive effect both groups especially residence, warehouse and other and freehold as shown in table 5 and 6.

CONTRIBUTIONS OF THE STUDY

This research benefits for both academicians and practitioners. For academicians, research results can serve as an example for future research on PF and REIT especially Thai's PF and REIT. For practitioners, these research outcomes provide guidelines for four stakeholders in property industry, including real estate developers, underwriters, influencers, and investors. Real estate developer can apply the findings in the field of top 3 important ranking factors can make more benefit, can influence investors decision on PF and REIT, Thailand. Underwriter or REIT Manager: RM (The REIT Manager will propose Selling trust units through securities distributors) can apply the findings to make a strategy for offer to investors. Influencers can apply the findings in the field of which factor are affecting investor decision. Investors and new investors can apply the findings in the field of top 3 important ranking factors affecting investors decision REIT, Thailand therefrom the investors can decide to invest on its.

THE LIMITATIONS AND RECOMMENDATIONS

The data collected in this research had two limitations. First, the period of data correction covers only 5 years (2015-2019) as a published of SET online database. Second, the number of funds was minor for stock market, especially covid-19 crisis effect was not included here. In additional, this research will be focusing on dividend yield only. regarding all funds have been existed in Stock market and will not sell any funds in period of study. So, capital gain will be not occurred anywhere. Consequently, further research should extend period of study to explore highly approach from market and also investigate other type of funds or stocks such as real estate stock can be categorized by asset type or asset ownership by investment company's policy.

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STRENGTHENING BRILLIANT THAI SMES BY A MODEL OF POWERFUL PRACTICE FOR BIG DATA USAGE TOWARDS THE ASIANIZATION CONTEXT IN THE DIGITAL ERA

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ABSTRACT

The research aimed to escalate the amplitude of Thai SMEs' skill development, gadgets in a model using big data affect, and the internal processes in an organization in the digital era. The purposeful sampling was employed to select the key informants from specified criteria to use the internet, smartphone, and the potential expanding business in Asian from five provinces, namely Chiang Mai, Udon Thani, Chon Buri, Bangkok, and Surat Thani. These key informants need to evaluate the capabilities of new businesses with big data to improve. The approach also viewed that entrepreneurs are more practicing big data and professional use to be a smart Thai SME with information on the internal process of an organization and plan to business processes accurately. After finishing the proper big data, Entrepreneurs propose to exchange new data with Asian networks through an online system in the digital age confidently.

The survey showed qualitative research, in-depth interview, participant observation, and documentary study for obtaining results of reliability in real Business and analyze the qualitative information on the inductive approach. Based on the findings, Emotional Cognition induces positive changes model for strengthening them as follows: 1) Enthusiastic and Optimistic Practice Big Data to solve business obstacles. 2) Courageous Fighting to use technology driving in business innovation. 3) Screened Facts from big data on fact-finding sustainable economic incomes. Additionally, the determinations also reveal to raise the four ways to guide the model of powerful practices for big data in internal information in an organization impacted the Asianization in the digital era such as 1) A proactive guide. 2) New process. 3) Collaborative digital technologies and 4) A new technique. The draft manual was set up and use Mann-Whitney U test showed Post-test of difference providing towards standard manual and McNemar test for the reliability of the practicing model and also evaluated the satisfaction assessment in the exercises of the draft manual. Finally, the studies propose theoretical, management benefits to academics, and further in-depth manual designs.

KEY WORDS: Strengthening of Brilliant Thai SMEs, Big Data, Digital Era, Asianization

INTRODUCTION

In the highly competitive digital era, information is potential power. Entrepreneurs can find information faster and win over competitors (Soroka, Han, Liu, and Halteem, 2017). The digital technology makes big data in the super real-time. By the way, big data are like a treasure trove in which users must use the data correctly without infringement (Vonkorp, 2019). Entrepreneurs should develop an open-mind to use information around the world. Most entrepreneurs perceive that big data is inaccessible, so they should study how to search big data to find new business channels to meet the real needs of consumers (Sen, Ozturk and Vayvay, 2016).

This probe showed that big data make the disruption of process work. It has been a barrier to find facts and filters for an entrepreneur. Only large industries interest and invest in the process of using big data until it is successful, as opposed to Thai SMEs. Many SMEs are confused about using data to fragment. The big data system has created efficiencies for predicting uncertainty (Mourtzis et al., 2016). It can help SMEs to analyze customer behaviour and how to search the sources of business partners to joint ventures. It's choices, not from the financial institutions only.

The government and related parties should fully support how to use a big data system (Peters and Besley, 2019). They can upskill SMEs and upscale high revenues to meet the national income's goals in the 6th strategy of the Thai economy with Digital Technology and ASIAN competition in the digital era. Hence, the supporting SMEs at the beginning of changing their mindset of how to use big data in their business in the critical situation from both domestic and Asian competitions, including economic fluctuations. Thai SMEs must have an opportunity to carefully make strategic goal decisions, production planning access to customers.

It is the priority of the qualification screening from big data to make a better decision on business performance (Lugmayr, Stockleben, Bjoern, and Scheib, 2017). The development of practices to filter out the facts from big data is the appropriate preparation in the digital era and the 5G soonest.

Much research has focused on the advantage of big data, but there was little research providing with practice. Reasoning, I am interested in examining the strengthening of Brilliant Thai SMEs on big data in utilities (Kang, Wu, and Wang, 2019). The big data cognition of entrepreneurs can also create a 5% rating of revenues for Thai national incomes by opening their mindset to use big data processes as well (Secretariat, 2017).

OBJECTIVES

1. To study the emotional characteristics related to practice big data.
2. To guide the model of powerful practices for big data in internal information in an organization impacted the Asianization in the digital era.

SCOPE OF RESEARCH

Content Scope

The research related to the theories and enhanced Thai SMEs for big data usage in the digital era efficiently from the Federation of Thai Industries and the Chamber of Commerce in 2019. The study considered the key informants in 5 Provinces who have experiences to contributed to strengthening on finding as well.

LITERATURE REVIEW

The Perspective of driving the success of Thai SMEs

The government focuses on the 6th strategy on the Thai economy with digital technology shortly (Prendeville et al., 2016). The raising of brilliant Thai SMEs consists of 1. Digital Economy 2. E-commerce, and 3. Free trade in Asianization. With increasing online can make a high income through online more conveniently (Praditphollert, 2017). The studies found that Thai SMEs survive with a 1:10 ratio only (Huang, Wu, Wang, and Ouyang, 2018a). Big data is a tool to become capabilities of smart SMEs in the DBCG economy (OECD, 2016c)

The importance of raising to Brilliant Thai SMEs by preparative developing of mindset and behaviours, leading to big data efficiently.

The studies found that many SMEs don't have the skills of big data. The development of the skills focuses on e-commerce and online marketing more than big data (Hussein et al., 2017). The result of Phungphol's research (2018) searched for the characteristics of open-minded entrepreneurs towards business performance consisting of 1. **Enthusiastic** has a positive perspective and knowledge of big data in solving business obstacles. 2. **Courageous** to use digital technology for driving business innovation. The research integrated the mindset of elements into interview questions. Sen, Ozturk, and Vayvay (2016) found that entrepreneurs' mindset is the main of the changing in the internal process of the organization as follows: 1. The ability of the organization with the practices of the use of big data. 2. The ability benefits from big data efficiently. 3. Set key responsible people clearly, and 4. The plan to prevent information leakage. The research used interview questions, linked to the characteristics of entrepreneurs that play a role in opening up to parallel use big data with internal planning.

Use Potential Big Data for Thai SMEs.

The ability of digital technology connects to big data that the potential big data consist of both software-defined networking and network functions virtualization. The decisions make precisely via mobile phones, vehicles, internet systems in the factory having a high level of safety in more quality data. However, Thai SMEs have few connections in big data compared with Asians (Singapore, Malaysia, and Vietnam), having to use big data for driving a higher gross income than Thailand in 2019 onward. Rising the level of Thai SMEs in big data usage is a more urgent need. After all, we can create a competitive advantage (Ogbuokiri, Udanor, and Agu, 2015).

Big data related to the Asianization in the digital era.

Based on most Thai entrepreneurs still have problems with the limitation in receiving information such as government policies, information on the marketing insides, and outsides organizations. More importantly, 10% of Thai SMEs that can survive, if they can find big data to use in their businesses properly (Tippkorn, 2017). Therefore, to upgrade Thai SMEs, Chaos theory focused on the adjustment of the organizational structure of changes in the digital era and habitat fragmentation in doing business with ASIAN for setting the interview questions. The big data practice is the complexity of the organization, and entrepreneurs change their perspectives to use online. The applications may cause more revenues but lower costs at the same time, according to disruptive digital technology (Coleman, 2016).

Research Method

The study used the methodology of qualitative research and used purposive sampling to select 17 key informants. The debate specified the criteria for purposive sampling method to suitable the research approach (Ames, Glenton, and Lewin, 2019) as follows: 1. Entrepreneurs have experienced on the internet for 5 years up and received an SME Award, and 2. A variety of business types in production, retail, wholesale, and services in each province has the potential of expanding business in Asian. There were 17 key informants have the specified criteria to use the internet, smartphone, and the potential expanding business in Asian from five provinces, namely Chiang Mai = 2 people, Udon Thani = 2 people, Chon Buri = 2 people, Bangkok = 2 people, Surat Thani = 2 people, networking chairman = 1 people, and Thai SMEs consultants from different provinces = 6 people. The researcher used the in-depth interview method, participant observation, and documentary study with the use of data triangulation technique (Sangraksa, 2013)

The analysis has been sent to relevant parties to correct, and have made recommendations to improve the report and completely summarized data collection methods. To gain insights from the research questions developed from the review of the concept of the upgrade of Thai SMEs by using the bigger data practices model of the context of Asianization in the digital era.

Design

The study started with in-depth interviews by checking the content validity index (CVI) and measured content validity for interview questions (DeVellis, 2003). I invited the six specialists to determine content validity and construct validity. CVI was equal to 0.87 accurately. The tools of this study include document synthesis and participant observation in an in-depth interview to acquire reliable sources of information at all and meet the research objectives. Before starting, I informed the topic, and 40 minutes in each round for the key informants and also created a friendly atmosphere and conducted the meeting until no doubts and no new information occurred to the data was saturated. There was no disclosure of the name and company of the informants by using the code as specified and also conducted an experimental group to find the appropriate training model and assessed the quality of knowledge in the preliminary content model.

Reliable Data Checking

The data of the research verified reliability and validity. There was diverse information to be a triangulation of analyst and investigator, methodological triangulation to analyze the completed results (Phungphol et al., 2018).

Data Analysis

The postmodern on the research led an in-depth interview and purposive sampling for 17 key informants in five provinces using an internet network or smartphone frequently and the potential expanding business in Asian on the emotional characteristic related to the big data. The study prepared the draft manual, which they attended 10 people only and used McNemar Test for the reliability in the practicing model and also a descriptive statistic for satisfaction assessment to provide a standard manual for further complex and other systems in big data.

Results and Discussion

The results of the research showed that 17 key informants (ten owners, one network chairman, and six Thai SME consultants for all four types of businesses (production, retail, wholesale, and service) need big data to use for the internal process such as strategic planning, production planning, marketing, sales, raw materials purchasing, and logistics to support faster and more convenient on-time payments by e-wallet is linked to online payment and e-bill system with purchasing systems, etc. The research results achieved all objectives as follows:

1. Emotional characteristics related to practice big data. The study has resulted in knowledge and underlying cognition affecting the personality by a positive behaviour expression, so entrepreneurs have to attend the class for understanding how to become positive emotion as follows:

1.1 Enthusiastic and optimistic in the continuous development of big data knowledge to solve business obstacles = 55.5% of entrepreneurs is the most necessary to develop the model of practice big data as core comments:

"I concerned the changing in the positive enthusiasm, proactively dealing with the digital era and 5G shortly that drives faster and more streamlined. As a result, big data will increase easier management and make better speed to the internal process to support customers more effectively."

"I attended many training classes, so I want the special practice on how to use big data clearly and also have trainers coach us beyond our ability."

Sen, Ozturk, and Vayvay (2016) found that big data used to analyze management in the organization to meet the needs of consumers. As diverse as possible to find new ways to create a new process of working, it is worthwhile to practice and work continuously. Enthusiasm may still find it worthwhile to discriminate optimistic due to most SMEs are enthusiastic with dictation for their team to use big data. By the way, SMEs should use the sense-making process more than enthusiasm (Lycett, 2017)

1.2 Courageous Fighting to use new technology driving for business innovation = 22.7% that is necessary to develop the models of practice for big data as core comments:

“I dare to change positively in my company. Most of my employees are not brave enough to use big data on their daily work. I need smart trainers to coach them with our business content. ”

“The digital era is disruptive all technologies and operative processes. Every entrepreneur and team should have the courage to fight to do a new thing by using high technology and keep looking for updated information and build networks with Asian.”

Relating to the research results of Tambunan (2008) found that the emotional characteristics of courage are related to the use of big data, especially if they find the information. They have to dare digital technology usage. Therefore, the behaviour of being a brave person take concrete actions to do business with Asian's confidence. Moreover, Mayer-Schönberger and Cukier (2013) argued that not only is the brave SMEs to use big data, Experienced information, and practices of how to use big data to dare decisions is more carefully.

1.3 Screened Facts from big data to analyze and make sustainable economic income = 21.8% is necessary to develop the model of practice for big data as core comment:

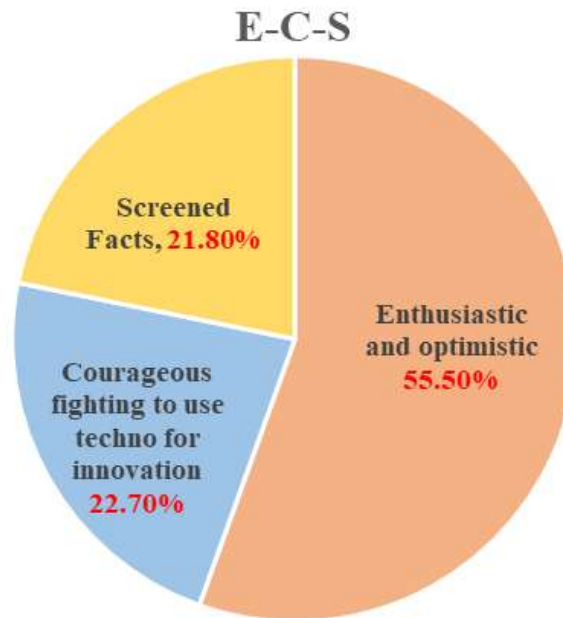
“Collected data systematically and accurate information is the most important. So, the behaviour of screened fact can drive the business growing from the extraction from big data.”

“I am 50 years old and face changes in the business every 10 years. I believe that finding various data to analyze the new thing as well as being airy for everyone to have a good mood for determination the quality information.”

Relating to the research result of Bruton, Ahistom, and li (2010) said that entrepreneurs must move their mindsets to do a new thing with creating another network for survival by fact-finding from the big data. However, Johnson, Denning, A. Delic, and Sousa-Rodrigues (2018) found that Screened Data must be carefully understanding the abuse of personal data and strengthening citizens' rights, data protection by plan for failure to fulfill an obligation or default, and stronger enforcement of the rules as well.

A summary of three emotional characteristics changes the behaviour of Thai SMEs in the first step before participating in the activity, according to the model of powerful practices of big data in figure 1.

Figure 1: Emotional characteristics affecting to big data practices.



2. To guide the model of powerful practices for big data in internal information in an organization impacted the Asianization in the digital era. The study found 2.1. Practice Guildelines and 2.2. How to Practice with a draft manual with statistic test being confident to arrange a standard manual and up to next step as follows:

2.1. Practice Guidelines

In the model of using big data effectively, most entrepreneurs are ready to practice big data in the Asianization context towards achieving national economic goals of the 6th strategy of the Thai economy with Digital Technology. To come up with the objective, The research indicated **four practice guidelines** as follows: 1) **Proactive process** as details: 1.1) Collect of problems, both inside and outside the organization, 1.2) Screen, group and prioritize the most urgent needs to implement changes to the digital transformation system. 1.3) Build participation in the organization and providing training on mindset clearly for decision-making on issues. 1.4) Define short and long term plans, implementation and evaluation. 1.5) Create a new business model in collaboration with the team, and 1.6) Meet with a consultant to create a digital system linked to an online supply chain system directly connect to production, retail, wholesale partners and service in a network system. By starting at the human resource development process, purchasing department, marketing department, sales department, and production department respectively. The step one is the most necessary to develop the model of practice big data as core comments:

“I do the business from my family. I know big data and try to study by myself until got SMEs Award. The Ministry of industry invited me to be a Coach and Instructor many times. I need to share my success in starting big data is Proactive on the internal Process of the business by awareness of customer focus.”

“I have not any known idea on big data at the first time until my team and I get together and set up sharing the problems of process, so we start with a collection of the problem first and then build all units involve and send my team to attend how to use big data class and return to share the information for all of us. Finally, we try to plan and take action as well.”

“I and my son, new generation have experiences on a big idea from his entrepreneur class in USA., He creates a new idea and provides the consultant to coach how to use online to create new business and finds the huge information on “Google search”, “Social.gg application”, and “social media” on big data such as Ads Audience, etc.”

Relating to the research result of the McKinsey Global Institute found that using big data to analyze results can help SMEs to predict consumers’ demand for internal process managing towards digital factories (Manyika et al., 2011). The research found the argument of the Proactive Process on big data from Chen, Kazman, Monarch, and Wang (2017), who argued utilizing big data on another way for the Proactive Process. Users should identify potential attacking and developing preventive counter-measures include scope on how to use the standard manual as well.

2) Create and practice process as details: 2.1) Set up the objectives. 2.2) Consider using free open sources. 2.3) Search internal data analysis techniques by keywords. 2.4) Predict the results by quality data selection for action 2.5) Assess and follow-up to connect international operation with ASIAN. The most necessary incidents developed the model of practice big data relating as core comments:

“I concern the plan by creating the objective and follow them strictly on the small process and a focus on success succeed success.”

“Before starting to use big data, all team need to put the free open sources to trial such as Google Adwords, Facebook Audience Insight and send the promotion for one month.”

“As well known about Big data have huge information, we just click on a finger, I already studied how to use big data by keywords and use it to predict our new business before making a decision and use it as a tool for an action plan as well.”

Relating to the research result of Fogg (2009) found that the practice based on the effective use of data resources to cover the appropriate technology channel before implementation as well. The creative process needs the steps to include successful examples of persuasive design, performing rapid trials, measuring behavioral outcomes.

3) Collaborate on digital technology and Asian as details: 3.1) Use big data to change micro to macro process. 3.2) Practice how to use basic big data to improve the internal process. 3.3) Establish budget and periods. 3.4) Parallel with the care of the environment on networks both insides and outsides the organization, and 3.5) Create creative resource

and cost reduction information for the national level and Asian. The most necessary incidents developed the model of practice big data relating as core comments:

“As mentioned, I got a SME Award, so I can share how to use smart big data on the budget setting by using many open sources at the first step.”

“People always think big data is impossible to develop all processes in a business. We need to study big data for success to care for the surroundings inside and outside of the business. I need to share how to work with Asian for cost reduction information and sharing creative resources.”

Relating to the research result of Snow, Fjeldstad, and Langer (2017) found that The surgeons perform those operations by controlling surgical micro-instruments attached to robotic arms which close to this study from Snow, Fjeldstad, and Langer (2017) about collaboration on digital technology and Asian that showed to reduce risk, speed products to market, decrease the costs of solution development and process improvement and enable access to new knowledge, technologies, and markets.

4) Asian Network and cooperation as details: 4.1) Use big data to change small things within one month and further expand working together in a team on society, the national economy, and Asians. 4.2) Utilize the biggest data network both inside and outside the organization. 4.3) Require a leader for responsibility and support, and 4.4) Work with data-scientists as a consultant on how to practice big data from micro to macro. The most necessary incidents developed the model of practice big data relating as core comments:

“Our company plans to use big data step by step, and also work with Asian as a partnership.”

“I send my team to study the new technology, and my son informs us to collect our big data and plan with a data scientist in Asian to guide us on how to utilize from micro to macro as well.”

Relating to the research result of Wang, Osen, O., Li, Li, Dai, & Zeng (2015) found that optimized on analyzed results and the advantages and superiority by using big data getting together with Asian Network to support society and fact-finding from oversea.

2.2. How to Practice a draft manual

The research designed to conduct the model practice of how to use big data to improve SMEs' internal process on planning to use big data for innovative business. The study found that SMEs should set up a budget and periods to extend such as warehouse, transportation, etc. The care of the environment should work with networks both insides and outsides the organization. To create creative resources and cost reduction information for the national and Asian in their environment. Ward and Rhodess (2014) mentioned that smart SMEs should practice running with global and concern the economy as well as the environment cover also plan to training how to use big data for fact finding Asian business. The research used the drafted manual for practice 17 key informants and they attained only 10 people.

The study used the draft manual from big data content of the Pre-test and Post-test for understanding the big data model and examined by the Mann-Whitney U test as shown Pre-test and Post-test of difference (Taweephol, 2017) in table 1 and 2.

TABLE 1. The analysis of Pre-test and Post-test

Group/Amount	Post-test		Mean Rank	Pre-test		Mean Rank	Different	t-test	p-value
	Mean	SD		Mean	SD				
Practiced Group 10 people	15.40	3.67	13.85	10.10	3.57	7.15	5.30	-3.278	.004

p<.01

The results explained the Post-test was different from the Pre-test with significance at 0.01. The meaning clarifies that the practice can provide a good content and be available to utilize the manual, more importantly as shown in Table 2.

TABLE 2. The analysis of difference in understanding and using the practice model.

Group/Amount	Pre-Post Test Difference on understanding and approach of using		Mean Rank	Mann-Whitney U	z-test	p--value
	Mean	SD				
Practiced Group 10 people	5.30	0.10	6.70	16.50	-2.539	0.009

p<.01

The comparison of before and after practicing by Mann-Whitney U Test=16.50, z-test=2.539, df=19, p-value=0.009. The Pre-test is different from the Post-test on significance at 0.01. The Pre-test scored less than Post-test. Therefore, the practice can implement in the workplace effectively.

Moreover, the study also tested the reliability of the practice in terms of Pre-test and Post-test by McNemar Test to inspect the change of Pre-test and Post-test by arranging the same group, as shown in table 3.

TABLE 3. McNemar Test for Pre-test and Post-test by Chi-Square.

McNemar Test of Experimental group focus on Pre-test and Post-test to suit for this practice model	χ^2	df	p-value
	3.22	1	0.037

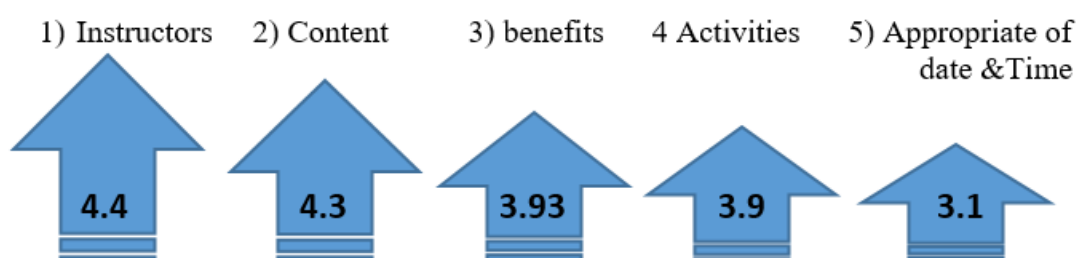
p<0.01

McNemar test, $p\text{-value} = 0.037$, it can be seen that the results of the Pre-test are different from the Post-test of the significance of 0.05 (Kolkitchaiwan, 2018). Based on the results of the Test, the model of practice in big data should be flexible on adaptation to adopt for each type of business. Therefore, it will be able to upgrade for smart Thai SMEs by review big data.

Furthermore, the study found the reaction of evaluation in the context of practice in emotional characteristics, the exercises of big data, and instructors after ending the training with descriptive statistics.

To clarify the reaction evaluation after finished the practice by Mean and SD as follows: 1) Instructors have knowledge and experiences = 4.40, 0.52 2) The content is appropriate to use in real business = 4.30, 0.48 3) The total benefit = 3.93, 0.58 4) The activities cover the objectives = 3.90, 0.57 5) The date and time are suitable for all activities = 3.10, 0.74 on figure 2.

Figure 2: A reaction evaluation after ended the practice

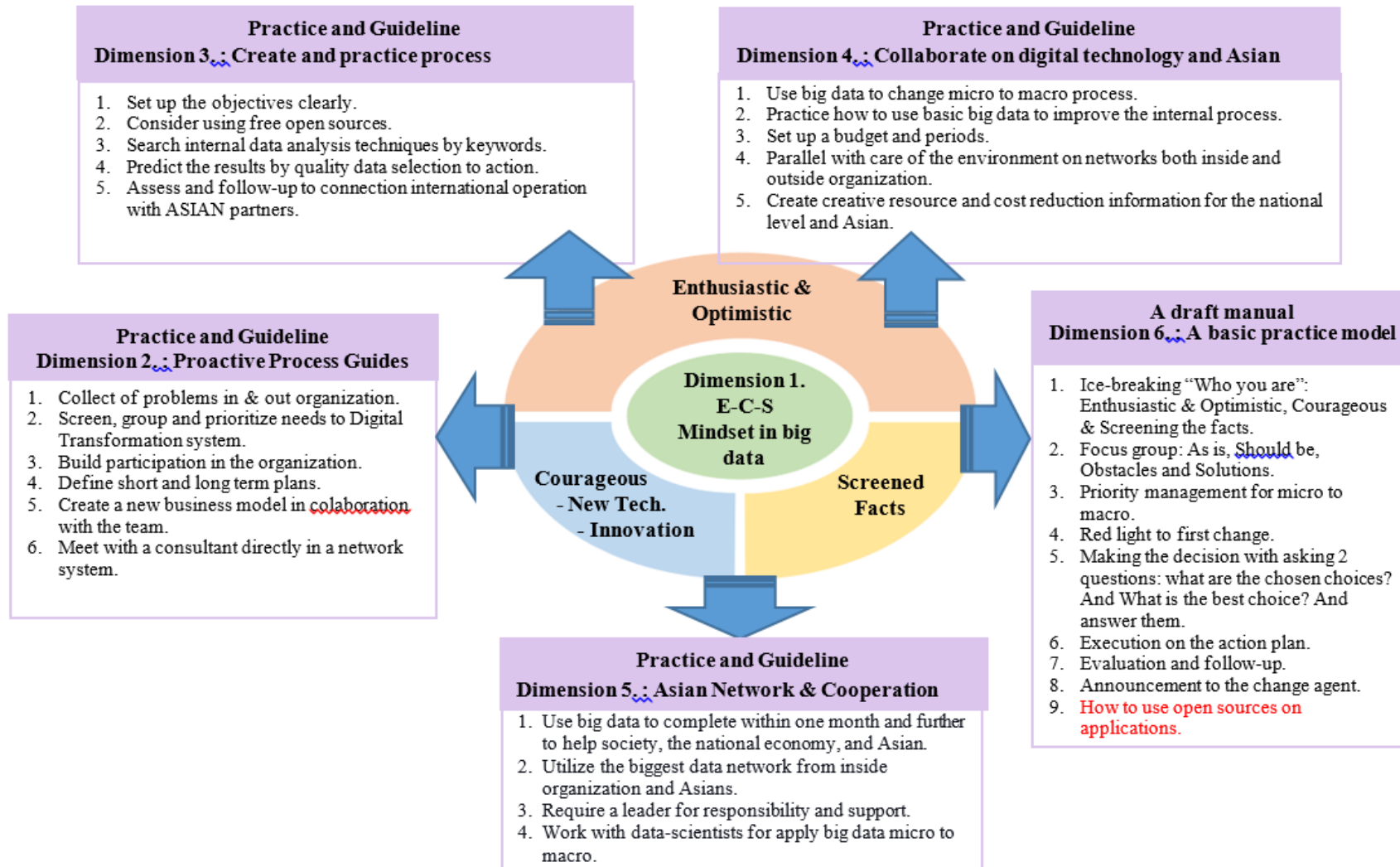


As figure 2, it is shown that most of the issues were at the high rating, except the date and time should arrange more than one day. Seizing these statistical results appropriately practice and also provide focus on the main internal business.

The study found that a basic practice model related to a draft manual as details: 1) Ice-breaking “Who you are” for enthusiastic & optimistic, courageous, and screening the facts. 2) Focus group by using the activity of As is, Should be, Obstacles and Solutions. 3) Priority management for micro to macro. 4) Red light to first change. 5) Deciding what the choices and select the best choice. 6) Execution on the action plan. 7) Evaluation and follow-up and 8) Announcement of the change agent. 9) How to use open sources on applications i.e. google search, social.gg/Thailand/en/ranking and New audience and ads audience for opportunity on new customers– data analysis by using big data, etc.

The Summary of the Results on figure 3.

Figure 3: The Summary Results of Strengthen Brilliant Thai SMEs



DISCUSSION

1. The results reveal the strengthening of brilliant Thai SMEs to preparing the development of three emotional characteristics for the open-mind of practicing big data consistently. The behavior approach is to change, 1. Enthusiastic and Optimistic, 2. Courageous Fighting to adjust internal process with innovation, and 3. Screened Facts. Some concerns are additional aspects of Enthusiasm with dictation for their team to use big data. SMEs should use the sense-making process more than Enthusiasm. Courageous Fighting to use big data with Experienced information, and Screened Fact to be careful the abuse of personal data, strengthening citizens' rights, and data protection by default on the rules.

2. The study exposed to guide the model of powerful practices for big data in the internal process that impact customers and the Asian in the digital era. Encouraging brilliant Thai SMEs **are on Practice Guidelines** on the details: 1. **Proactive Process** guide a collection of problems insides and outsides of organization, screening, and prioritize the need for digital transformation, build participation in the organization, define short and long term plans, create a new business model, collaborate with the team, and meet with a data scientist. 2. **Create and practice a guide that has more complex levels** for new businesses. The practice must be flexible in each type of business. Additionally, the results showed the details: 1) Set up the objectives clearly. 2) Consider the use of free open sources before a decision on the paid system. 3) Search techniques for the keywords. 4) Analyze Internal data techniques. 5) Predict for the results. 6) Select quality data in action. 7) Assess and follow-up. 8) Provide a procedure and manual with Asian partners. 3. **Collaborate on digital technology and Asian** using big data to change micro to the macro in the internal process at the organization by providing a budget with the care of the environment, a creative resource, and cost reduction. Thai SMEs should work closely with Asian as a partnership.

3. This research found how to practice for a draft manual that uses a statistics test being confident to arrange a standard manual and up to the next step. The draft manual has content about concern the economy by working with networks and also create new resources for cost reduction as well as care for the environment. Based on powerful practices as a basic guideline as follows: 1) Ice-breaking “who you are” for Enthusiastic and Optimistic, Courageous, and Screening the facts step. 2) Focus group about As is, Should be, Obstacles and Solutions. 3) Priority management for micro to macro. 4) Red light to first change step. 5) Deciding the possible choices and the best choice. 6) Execution on the action plan. 7) Evaluation and follow-up, 8) Announcement to the change agent, and 9) How to use open source on applications. The draft manual points out the outstanding of Post-test and Reliability, which can manage to be standard and a further advanced step in the future.

CONCLUSION

The results indicated to strengthening brilliant Thai SMEs by powerful practices big data towards the Asianization context in the digital era. The study used qualitative research, a purposive method for sampling evidence, and descriptive statistics to ensure reliable and trustworthy manual to develop the standard procedure on the real business. The result found three emotional characteristics of Thai SMEs: Enthusiastic and Optimistic, Courageous, and Screened Fact (E-C-S). The inductive approach analysis found how to practice as a Proactive Process, Creative Resources, and Collaborative Digital Technology on the

Asian network. The study can provide both economic and academic benefits and also a draft to standard big data manual.

RECOMMENDATION

Theoretical recommendation

The study applied the **Chaos Theory** that focuses on the adaptation of organization structure according to digital technology and working together in Asian habitat fragmentation by using and analysis on big data properly. Researchers and scholars can apply this theory to other dimensions and found the **integrated and new variables** to strengthen smart entrepreneurs about changing their emotional characteristics before practice big data that we call **E-C-S**. The definitions are **E-positive Enthusiastic** means eager with proactive behaviour to practice how to utilize big data effectively. **C- technological innovative Courageous** to fight to use big data, with technological innovation to get enormous benefits. **Additional the offer that S-Screened Fact** means to choose the right information with good ethics to the resolution.

Policy Recommendation

This research responds to the 6th strategy of Thai economy with Digital Technology under the 12th edition of the 2017-2021 Act, in which the government, ministries and the private sector should plan digital technology and support 5G shortly and also develops beyond the context of Asianization by boosting mindset and formulating more substantial strategies than in the past.

Managerial recommendation

The results suggest that building train the trainer for each type of business for Thai SMEs and select master trainers to develop a trainer to support SMEs nationwide development. A system monitoring measure KPIs from consistently increased revenue. It can create a big data operation for Thai SMEs as follows: 1) Create a separate manual for each generation of Thai SMEs because they have different concepts and experiences in the use and analytical concepts. 2) Communicate to understand before practicing on boosting attitude. 3) Prepare tools for measuring the level of knowledge and skills for big data using before training. 4) Organize a meeting of SMEs with high skills and relevant agencies to create advanced manuals effectively. 5) Need to separate skills training into each business type, such as production, wholesale, retail, and service that is appropriate for each organization.

FUTURE RESEARCH

For future research, the results suggest studying one type of business separately. The evaluation and follow-up should arrange for six months and twelve months. The big data practices need to train on both short-term, long-term, and academic interests.

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M6 STUDENTS' UNIVERSITY COURSE CHOICE: AN EMPIRICAL STUDY IN PUBLIC SCHOOLS OF NAKHON-NAYOK PROVINCE, THAILAND

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ABSTRACT

The demographic characteristics of Thailand is changing rapidly; ratio of university going students is declining. Many university programs are struggling to get enough students to survive. Considering that crisis, this research explores the factors that affect university course choice decisions by the soon-to-be high school graduates. Through literature review, five major factors were determined. A total of 342 Grade 12 (M6) students from different high schools in Nakhon-Nayok province took part in the survey. A questionnaire consists of 25 questions was distributed to determine the influential factors in course choice. To measure the influence of factors on course choice decision, a 10-point scale is used. Descriptive statistics method is utilized to analyze the data. The result reveals that top three fields of study of respondents are (chronologically) Health Science, Education and Business Administration. The study also discovers that social and institutional factors play the most important role in course choice and family factor is in the third position. Findings of this study could be generalized by taking bigger group of respondents from different parts of the country. Such a result could benefit the administrators of both private and public universities to update their curriculum and facilities to meet the requirement of future students.

KEY WORDS: Course choice, Thai university, Mathayom 6, Institutional factors, Family factors.

INTRODUCTION

Universities or higher education institutes all over the world are facing challenges in student recruitment. Several reasons ignite that situation such as demand changes (among the students and other stakeholders), competition, funding, and so on (Kallio 1995; Jarvis 2000; Gibbs 2001; Veloutsou, Lewis, and Paton 2004). In many countries, the higher education industry became competitive and institutions are aggressively competing for students (James et al., 1999). To gain a competitive advantage, universities should have a clear idea of students' decision-making process and current subject/major choice trends. Therefore, in recent years, universities are focusing on prospective students' perceptions about the institutes' image and their expectations towards that.

This competition to recruit students is also becoming intense in Thailand as the number of students going down compared to the number of available seats in the higher education institutes. A recent report on TCAS 2019 provides similar findings. Higher education institutes are re-designing the courses to meet the market demand. But as the potential students have several options in hand, institutes should be a step ahead of the competitors to recruit high-quality high school graduates.

Considering this ongoing challenge in recruiting students this research explored, from a marketing point of view, influencing factors to choose higher education courses among the future students. The target group of this study is Mathyom 6 students as they are the most important segment of the market for higher education institutes. The purpose of this study is to facilitate the marketing strategy of higher education institutes to attract more students and to be updated about the recent students' trend.

This study explored the most prominent factors that influence students' decision making in course choice by utilizing hypothesized five factors compiled through literature review. The researchers argue that these findings could be useful for Thai higher education institutes, especially in terms of marketing, considering its limitation.

LITERATURE REVIEW

The decision to choose the university to attend and subject to study is a complex one to make as there are a couple of factors related (Briggs and Wilson 2007). There are several theories regarding student behavior on university and subject choice such as econometric theory (Punj and Staelin, 1978), sociological theory (Sewell and Shah 1978), combined model (Hossler, Schmit, and Vesper 1999).

Vrontis, Thrassou, and Melanthiou (2007) suggested a student-choice theory by considering the aforementioned theories using a holistic view approach. They include both process and influence determinants (such as environmental, institutional, and individual). Vrontis et al., (2007) develop their student choice model by considering three prominent combined models; the Jackson model (Jackson, 1982), the Chapman Model (Chapman, 1984), and the Hanson and Litten model (Hanson and Litten, 1989). The primary idea of this model is consumer behavior from a higher education perspective. Following this theory, our research looks into the pre-purchase decision of the final year high school students (M6) of Nakhon Nayok province. We used a simplified version of this model.

In their model, Vrontis et al., (2007) included eight types of choice factors by considering customer (here students) purchase decision behavior. Factors are students characteristics (demographic characteristics such as sex, race, social/economic condition of the family, parents' education, and so on), high school characteristics (quality of the school, curriculum, and social composition), influence/media used (influence such as counselor, parents, friends and so on), personal attributes (individual differences based on academic performance, lifestyle, aspirations and so on), environment (cultural and economic conditions as well as occupational structure), public policy (financial aid), college characteristics (characteristics of the institute such as size, location, reputation and so on), and college actions (campus visit, admission process, and recruitment activities). This study adopted the model developed by Vrontis et al., (2007) and restructured to fit our purpose. For our study context, we proposed a five-choice factors model of university course choice including financial, social, institution, family, and course factors.

RESEARCH METHOD AND INSTRUMENT

This is a quantitative research using primary data. Data was collected from grade 12 (M-6) students of four public secondary schools situated in Nakhon Nayok province.

A questionnaire was developed to investigate students' perceived important factors of subject choice. Items for five above-mentioned factors are developed by using items of Maringe (2006).

The first part of the questionnaire consists of demographic characteristics of the respondents. The second part includes questions to assess the influential factors of subject choice. Questions in the second part separated based on five different factors. Financial factor scale includes 5 items, social factor includes 6, institution factor includes 7, institution scale consists of 7, and course factor adds 5 items.

Respondents were asked to rank all the 37 items of five factors between 1 to 10. Rank 1 represents that the item is least important and rank 10 indicates that the item is extremely important (Maringe, 2006). Ordinary descriptive statistics (mean, standard deviation, and variance) are used to determine important factors behind the course choice of future university students.

FINDINGS

This section provides findings of the study to answer the main research questions.

TABLE 1. Profile of the survey respondents.

Attributes		Frequency	Percentage
Gender	Male	111	32.5
	Female	231	67.5
GPA	0.00-0.99	1	.3
	1.00-1.99	4	1.2
	2.00-2.99	96	28.1
	3.00-4.00	241	70.5
Parents' Professions	Government Officials	107	31.3
	State Enterprise Em- ployees	28	8.2
	Private company em- ployee	40	11.7
	Self-employed	124	36.3
	Not working	2	.6
	Other	41	12

The table reflects that total 342 students participated in this survey. Out of them 231 are female students which comprises of 67.5% whereas male students are 111 that represents 32.5% of the total respondents. Among the respondents, 70.5% students scored between GPA 3.00-4.00, 28.1% students were in between GPA 2.00-2.99. The numbers became insignificant after GPA 2.00. It showed only 1.2 and 0.3 percent students attained in the range of GPA 1.00-1.00 and 0.00-0.99 respectively. Majority of the students' parents are self-employed and govt. officials (36.3% and 31.3% respectively) followed by private company employees (11.7%).

To determine the most influential factors, students' provided scores to factors are divided into three categories: strong, moderate, and weak influence. Scores between 7 and 10 are considered as a strong influence, scores between 4 and 6 moderate, and scores between 1 and 3 are weak influence (Maringe, 2006).

TABLE 2. Factors influencing subject choice.

Factors	Strong influence		Moderate influence		Weak influence	
	(Frequency)	(Percentage)	(Frequency)	(Percentage)	(Frequency)	(Percentage)
Social	185	54.09	136	39.47	21	6.14
Institution	185	54.09	133	38.88	24	7.01
Family	161	47.07	155	45.32	26	7.6
Course	115	33.62	175	51.16	52	15.2
Financial	102	29.53	194	56.72	46	13.45

Table 2 reflects that both social and institutional factors have the highest influence (54.09%) among the students to decide the subjects for their future study. Followed by the family factor that comprises 47.07%. Students were influenced by their families' preference to choose their courses. Besides, financial condition and course factors have moderate influence over students' decision making, i.e., 33.62% and 29.53% respectively.

DISCUSSION AND CONCLUSION

The top two factors that influence students' subject choice, social and institutional factors, found to be more realistic. The Institute's reputation, qualification of faculty as well as curriculum, its overall environment, and job placement ability attracts students to join the course. The students are now keener to study a course by keeping an eye on their career. The Social factor here includes job security, social viewpoint (towards both subject choice and career prospect of that subject), career growth, and so on. Both factors are quite well related to the reality of today's university students' condition. Some students are receiving student loans from the government and some others are funding by themselves (family), whatever the source of funds, they want to make sure that the money that they are investing for education will pay them back. This tendency demonstrates that students are not choosing a subject merely based on emotion rather by reality considering the job market, future career, social status, and, more importantly, the return of their investment. Family factors also found a very important determinant in choosing university courses. This finding also found a relevant result considering Thai culture. Students are prioritizing their family's choices and ability to support them during the study. This is showing that even at this day students are thinking about the family before making a big decision of their lives.

Limitation

This study is not beyond limitation. Smaller sample size and convenience sampling method made this research difficult to generalize for all the areas. Taking bigger data from other provinces could help the study to generalize for all university going students in Thailand. Moreover using inferential statistics to check the findings gender, family income, education level differences could show us the bigger picture. However, by using descriptive statistics this finding confirms that students are more prone to choose a subject that will ensure their future career and lifestyle.

Implication

The finding of this study could be used by the educational institutions in Thailand to attract more students by offering courses picked by the students and one that provides better prospects. Even if it's not possible to include the courses immediately the institutions can add or modify courses that will help the students to secure their dream carrier. Universities may also consider changing the institutes' environment and modify the marketing strategy by focusing on the factors identified in this study.

Conclusion

Higher education has become very competitive in Thailand as the number of students is decreasing compared to available seats in the University. This study showed that students

are not just a receiver of service rather astute choosers in the sectors. Education institutes in Thailand need to focus more on students' subject choosing factor factors to attract more students in their Institute. Therefore, the universities have to modify the curriculum, study environment, and marketing strategy based on the findings of this study and similar ones.

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THE RELATIONSHIP BETWEEN MANUFACTURING FLEXIBILITY AND INNOVATION SPEED IN THE THAI AUTOMOTIVE INDUSTRY

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ABSTRACT

In the “age of digital disruption” there is a massive interest in innovation management. However, what has been investigated little in the literature is whether a specific type of manufacturing flexibility enhances innovation speed, and what the nature of the relationship between them is. This paper discusses the relationships between the two types of manufacturing flexibility (modification and volume flexibilities) and innovation speed. The cross-sectional survey method was utilised in this present study. By launching a mail questionnaire, data were collected from 180 manufacturing plants in the Thai automotive industry. According to the multiple regression analysis, it was found that volume and modification flexibilities have positive effects on innovation speed. This paper offers theoretical contributions that essentially supports the notion that manufacturing flexibility and innovation speed are cumulative capabilities. For decision-makers, this research provides a richer understanding of the improvement of innovation speed, which helps a company gain advantages to being the “first” in the market more efficiently in the “age of digital disruption.”

KEY WORDS: Manufacturing flexibility, Innovation speed, Modification flexibility, Volume flexibility.

THE AGE OF DIGITAL DISRUPTION AND THE NEED FOR INNOVATION SPEED

Generally, digital disruption refers to “the advancements in digital technologies that occur at a pace and magnitude that disrupt established ways of creating value within and across markets, social interactions, and more generally, our understanding and thinking” (Case, Dick, Granger, & Akbulut, 2019, p. 290; Reimer, Gal, Hamann, Gilchriest, & Teixeira, 2015). Case et al. (2019, p. 290) point out that “digital disruption can be also considered as a transformation that is caused by emerging digital technologies and business models that affect the value proposition of existing goods and services...The emerging technologies that underlie digital disruption are often called “disruptive technologies”—technologies that create growth in the industries they penetrate or that create entirely new industries through the introduction of new products and services that are dramatically cheaper, better, and more convenient.”

Therefore, the age of digital disruption dramatically examines changes in the nature of manufacturing and sheds light on the increasing importance of innovation. Basically, innovation refers to the creation of something entirely new that is reflected in changes in the end product or service offered by the organisation (Cooper, 1990; Damanpour, 1991; Prajogo & Ahmed, 2006). The requirement of this age is that products that stand out from their competitors will be unique, which can be fulfilled by companies’ innovativeness (Behrens & Patzelt, 2018). The competitive struggles reflected in the market have turned it from a seller’s market into a buyer’s market in which production capacity exceeds demand. This means that companies have to modernize their product lines more often and turn out new products at a faster pace. Companies have also to shorten the product development process times as well as deliver products/services more quickly.

A number of companies have adopted time-based strategies to increase innovation speed (Behrens & Patzelt, 2018; Cankurtaran, Langerak, & Griffin, 2013). Cankurtaran et al. (2013) and Kessler and Bierly (2002) define innovation speed as “the ability to move quickly from ideas to actual products...Increased speed is achieved by decreasing development cycle time, the elapsed time from the beginning of idea generation to market introduction.” Innovation time, timeliness in product development, and rapid innovation, also denote the same concept (Campbell, 1997; Cankurtaran et al., 2013; Kessler & Bierly, 2002).

The core argument of Bolwijn and Kumpe’s (1990) evolution model of high-volume manufacturing is that each phase builds on and encompasses the strengths of its predecessor. For example, the innovative firm would be able to combine flexibility and innovation. In the complexity of business contexts there lies a new interest in a firm’s manufacturing flexibility as a way of adjusting, under conditions of uncertainty, to customers’ needs in terms of volume, characteristics, and customised products (Bolwijn & Kumpe, 1990; Hatum & Pettigrew, 2006). Several operations management (OM) researchers agree that manufacturing flexibility is a manufacturing strategy for fast response to demand variations (Buffa, 1984; Llorens, Molina, & Verdu, 2005; Skinner, 1996; Wheelwright, 1984). This target can be achieved by shortening the production lead-time, decreasing the inventory levels, employing fast and concurrent design, and targeting specific needs. It is, furthermore, expected that the basis of competition would focus on innovation taking over as “winning order criteria” on the top of flexibility (De Meyer, Nakane, Miller, & Ferdows, 1989). Takeuchi and Nonaka (1986) also have argued that the rules of the game in new

product development are changing. Other researchers (Bolwijn & Kumpe, 1990; Takeuchi & Nonaka, 1986; Whipp, Rosenfeld, & Pettigrew, 1989) assert that in order to compete in a highly competitive marketplace, many companies need to be innovative on top of the accepted basis of high quality, low cost, and flexibility.

Previous research indicates that managers can influence innovation speed by emphasizing speed in their strategic planning, by formulating clear goals, promoting innovation champions, and empowering the innovation team (Behrens & Patzelt, 2018; Kessler & Chakrabarti, 1996). According to Cankurtaran and colleagues' (2013) meta-analysis, other antecedents of innovation speed include project characteristics, process characteristics, new product development (NPD) team characteristics, NPD competencies, firm characteristics, and environmental characteristics. Purwanto, Kamaruddin, and Mohamad (2015) found that manufacturing flexibility was positively associated with innovation capability. However, what is little in the literature is whether a specific type of manufacturing flexibility enhances innovation speed, and what the nature of the relationship between these factors is. This paper will discuss these issues.

The rest of this paper is organized as follows. First, a literature review on the concepts of innovation speed and manufacturing flexibility will be presented. A set of hypotheses to show how manufacturing flexibility enhances product innovation will be proposed. Then the research methodology and analyses of the results are presented. Finally, the theoretical and practical implications of the findings are discussed.

INNOVATION SPEED

Generally, product innovation is concerned with generating ideas or the creation of something entirely new that is reflected in changes in the end product or service offered by the organisation. A review of past research on organisational innovation reveals that numerous variations have been used to measure the innovation capability of organisations.

According to previous empirical studies of innovation, such as those of Miller and Friesen (1982) and Subramanian and Nilakanta (1996), there are four characteristics of innovation: the number of innovations, the speed of innovation, the level of innovativeness (novelty or newness of the technological aspect), and being the "first" in the market; and these are transposed into product innovation. More specifically, the speed of innovation will be the focus here.

Apart from the number dimension, innovativeness also incorporates the time dimension (e.g., the speed of innovation). The studies by Subramanian and Nilakanta (1996), Gopalakrishnan and Damanpour (2000), and Prajogo and Ahmed (2006) substantiate the importance of the time or speed dimension of innovation as certain parts of their findings. Moreover, a number of researchers (Cankurtaran et al., 2013; Kessler & Bierly, 2002) commonly hold that product innovation performance is not only concerned with the number of new product or its features but also with the time (or speed) required for development. According to Droge et al. (2004); Jacobs et al. (2007), Kessler and Bierly (2002), and Rosenzweig et al. (2003), innovation speed refers to the ability to minimize the time in developing new products, and to minimize the time in introducing completely new products or making product improvements/variations to existing products.

The importance of speed has appeared in the innovation literature (Campbell, 1997; Cankurtaran et al., 2013; Kessler & Bierly, 2002) in terms of innovation time, timeliness in product development, rapid innovation, and innovation speed. For example, Campbell (1997) reported that rapid innovation allows firms to address the distinct needs of individual customers or micro-segments in order to nurture long-term relationships with customers. By providing innovation in less time than competitors, companies can react to changing customer needs with a customised and immediate response and capitalise on first mover advantages in changing markets. When considering the time aspect, innovation researchers (Cankurtaran et al., 2013; Prajogo & Ahmed, 2006) commonly refer to early market entrants and speed of product development. Das (2001) also suggests that innovation speed is one of the key aspects of manufacturing performance in the current business situation. In the next section, the concepts of manufacturing flexibility will be presented.

MANUFACTURING FLEXIBILITY

Defining the concept of flexibility is critical since different people attribute various meanings to it. Sanchez et al. (1995) proposed that flexibility can be considered as a firm's ability to respond to the diverse demands of the competitive environment. More comprehensively, Upton (1994) defined flexibility as the ability to adapt to change and to react with few penalties of time, effort, cost, or action. Beach, Muhlemann, Price, Paterson, and Sharp (2000) noted that the above definitions illustrate three important points. They reflect the breadth and diversity in the understanding of the subject, they refer to the ability to respond to change, and they point to the use of flexibility to accommodate uncertainty.

Manufacturing flexibility, as one type of flexibility that is well established in the operations management literature, generally refers to all the operations that are needed to manufacture a product (de Toni & Tonchia, 2005). Among the various types of manufacturing flexibility proposed by a number of dominant researchers (Gerwin, 1987; Sethi & Sethi, 1990; Upton, 1994), this paper focuses on volume and modification flexibilities, which can be called first-order flexibilities.

Suarez et al. (1996) concludes that first-order flexibility types are those that directly affect the competitive position of a company in a market, that is, those flexibility types perceived by the customers. Slack (1987) supported the idea that at the total manufacturing system level, managers included them as a main type of flexibility. Theoretically, these types of flexibility can be achieved by lower-order flexibility types, such as routing, machine, and labour flexibilities. Several researchers (Llorens et al., 2005) assert that volume and modification flexibilities are the two most widely cited.

Based on the assumption that social systems facing uncertainty utilise flexibility as an adaptive response, flexibility in this sense is the ability to respond effectively to changing circumstances (Gerwin, 1987). In general, there are at least two different sets of uncertainties and associated manufacturing flexibilities that directly affect the competitive position of a company in a market (Gerwin, 1987).

First, uncertainty with regard to the amount of customer demand for the products offered leads to *volume flexibility*, which can be defined as the ease with which changes in the aggregate amount of production of a manufacturing process can be achieved.

Second, uncertainty as to which particular attributes customers want may arise at the beginning of the life cycle for a standardised product or throughout the life cycle of a product that can be customised. This leads to *modification flexibility*, which is the ability of a process to make functional changes in the product. Such design modifications are often seen in customization strategies and in declining product life cycle situations (Gerwin, 1987).

In summary, among the various types of manufacturing flexibility, volume and modification are widely perceived as first-order flexibilities that directly affect the competitive position of a company in a market. Therefore, these two types of manufacturing flexibility are the focus of this paper. In the next section the relationship between manufacturing flexibility and innovation speed will be discussed.

THE RELATIONSHIP BETWEEN MANUFACTURING FLEXIBILITY AND INNOVATIONS SPEED

Advocates of the cumulative (or sandcone) model rejected the traditional trade-off model for two reasons (Boyer & Lewis, 2002). First, global competition has intensified the pressure on plants to improve along multiple capabilities (e.g., efficiency, quality, flexibility, and innovation). World-class manufacturers set the standard, developing capabilities that reinforce one another. The most quoted example is that of high-quality enabling plants to become more responsive to customers' needs (flexibility), and to be more reliable (delivery) and more efficient (cost). The idea is that improvements in certain manufacturing capabilities are basic and enable improvements to be made more easily in other manufacturing capabilities, according to the law of cumulative capabilities (Schmenner & Swink, 1998).

Second, Boyer and Lewis (2002) examined the idea that advanced manufacturing technology (AMT) helps plants to develop multiple capabilities simultaneously. According to Corbett and Van Wassenhove (1993), AMT may allow for the production of widely-varied or customized products with greater precision, speed, and efficiency. The literature also indicates the relationship between the use of AMT and innovation (Dodgson, Gann, & Salter, 2005; Shani, Grant, Krishnan, & Thompson, 1992).

Based on the arguments presented above, a number of researchers (Ferdows & De Meyer, 1990) tend to support the cumulative model, supporting the idea that innovative firms would be able to combine flexibility and innovativeness. Based on this model, attempts to improve performance should be organized in such a way as to reinforce rather than replace one another.

According to the cumulative model (Ferdows & De Meyer, 1990), manufacturing flexibility and innovation speed are cumulative capabilities. It is also important to assess the relevance of manufacturing flexibility for the management of product innovation. Flexibility may be a first-order performance just like quality, cost, and time, but may also be a means to obtain other performances, such as innovation speed. The major advantages of a flexible

manufacturing system, for instance, have been seen as reducing delivery lead times, reducing new product introduction lead times, enabling customisation, and so on (Slack, 1987; Toni & Tonchia, 1998).

The literature (Das, 2001; Narasimhan & Das, 1999) sheds light on the arguments supporting the notion that manufacturing flexibility may produce incremental and radical changes in products, which may lead to innovation. Narasimhan and Das (1999), for example, pointed out that a plant with strong modification flexibility capabilities would be familiar with the concept of incremental change. They explained that modification flexibility, which is defined as the capabilities of the manufacturing systems to conceive and implement product redesigns, would likely foster organisational innovation and learning, leading to new ideas and increased competency of developing new products. A high organisational comfort level with incremental change should assist in creating and nurturing radical change, which may refer to product innovation.

Furthermore, as presented earlier, an emphasis on the speed (or time) dimension of manufacturing flexibility may contribute to innovation speed, which can be considered as one aspect of product innovation. Das (2001) pointed out that, conceptually, organisations possessing modification flexibility, which are therefore familiar with making incremental design changes, easing product changeovers, minimizing scheduling conflicts, and reducing manufacturing delays, can be expected to develop new products in less time. Therefore, this leads to the following hypothesis:

H1: There is a positive relationship between modification flexibility and innovation speed.

The ability of the manufacturing system to vary aggregate production volume economically (i.e. volume flexibility) also reinforces innovation speed. Narasimhan and Das (1999), for instance, illustrate that volume flexibility may support incremental and radical change in products by promoting new product flexibility. The introduction and commercial ramp up of a new product typically involves the addition of new facilities for design and capacity reasons. Capacity problems may arise if the new product targets distinct market segments differently from existing ones. However, it can be argued that increased product variety stabilizes aggregate volume fluctuation because a dip in the sales in one product would be compensated by an increase in another. Hence, individual product volume variations may not impact total volume significantly. Narasimhan and Das (1999) also noted that product line scope and complexity are more likely to promote volume fluctuation and thus increase the need for volume flexibility. It is often necessary to plan and design for volume flexibility as a precursor to developing new product flexibility.

Researchers, such as Gupta and Wilemon (1990) and Sanchez (1995), point out the importance of early market testing by producing and introducing new products in a small volume to the marketplace. They illustrate that by doing so, companies can accelerate the number of new products introduced to the market because of the perception of lower risk and the availability of feedback information from real-time marketing research. This may increase the necessity for volume flexibility in an innovative firm that often launches new products into the market. Therefore, this leads to the following hypothesis:

H2: There is a positive relationship between volume flexibility and innovation speed.

RESEARCH METHODS

The cross-sectional survey method was utilised in the present study. The context of this study is manufacturing firms in Thailand. While numerous studies on innovation speed have been conducted at Western countries, only a few studies have focused on understanding this issue in emerging economies. Having risen as one of the emerging economies, Thailand has been considered as an important production platform in South-East Asia and is the base for the regional headquarters of many multinational companies (Apisitniran, 2020; Ferguson, 1997; Grewal & Tansuhaj, 2001; Intarakumnerd, Chairatana, & Tangchitpiboon, 2002; Warr & Kohpaiboon, 2018).

Data were collected through a mail questionnaire, which was sent via postal mail during November 2017 to 1,546 companies in the Thai automotive industry (TSIC: 29), randomly selected from the database provided by the Department of Industrial Work, Ministry of Industry, Thailand. Upon selection, each company was sent a questionnaire, and asked to pass it to the senior manager that had responsibility for and that possessed information about the firm's manufacturing and innovation management. In total, data were collected from 180 manufacturing plants, constituting a 11.63% response rate. According to the previous studies (Green, 1991; Maxwell, 2000), these samples gave a result which was sufficiently powered to detect the hypothesised relationships.

In the sample, the greatest proportion of the firms came from the bodies for motor vehicles, trailers and semi-trailers (30%), followed by parts and accessories for motor vehicles (37.22%), and motor vehicles (31.67%) industries. Almost half of the sample was made up of small- to medium-sized companies (fewer than 200 employees) and the remaining firms employed 200 people or more. The majority of responses to the survey were from top management (i.e., CEO/vice president of manufacturing and plant manager) (47.80%), followed by manufacturing/operations manager (30.00%), and other positions that are relevant to operations, e.g., product quality manager and production supervisor.

Manufacturing-based competitive capabilities comprise two dimensions, namely manufacturing flexibility (volume and modification flexibilities) and innovation speed. These items were drawn from Droge et al. (2004), Jacobs et al. (2007), and Rosenzweig et al. (2003). The respondents were asked to rate their firm's capabilities against its primary competitor in the industry on a five-point Likert scale from "much worse" (1) to "much better" (5).

RESEARCH AND DISCUSSION

Scale validity and reliability

Validity analysis for the scales used in an empirical study comprises three major dimensions: content validity, convergent validity, and criterion validity (Ahire, Golhar, & Waller, 1996). Content validity can be determined by experts and by reference to the literature (Flynn, Sakakibara, Schroeder, Bates, & Flynn, 1990, p. 266). The development of the content of each construct in the present study is discussed in detail, which consequently justified the content validity. Unidimensionality is a pre-requirement for construct reliability and validity analysis (Ahire et al., 1996). The constructs in the present research were designed on an *a priori* basis. Principal component analysis and the rotation method (Oblimin with Kaiser Normalization) were used to analyse the measurement model for the

constructs of interest (Ahire et al., 1996; Hair, Anderson, Tatham, & Black, 2006). Factor loadings were estimated. As recommended by Hair et al. (2006), a 0.70 or higher factor loading indicates that the factor extracts sufficient variance from that variable.

In the present study, the analysis of criterion-related validity (Flynn, Schroeder, & Sakakibara, 1994, p. 350) was primarily focused on the relationship between the two dimensions of manufacturing flexibility (modification and volume flexibilities) and new innovation speed.

Assumptions for using multiple regression analysis were considered. Univariate outliers were checked using z-scores as recommended by Hair et al. (2006). From the screening process, no value exceeded ± 4 , and therefore the sample had no significant problem with outliers. According to the normality test using the values of skewness and kurtosis and graphical Q-Q plots, none of the variables presented a substantial problem with skewness or kurtosis. Homoscedasticity was tested, and it was concluded that the homoscedasticity criterion was adhered to in this study. Multicollinearity was accessed through bivariate correlations with correlation coefficients above 0.90 (Tabachnick & Fidell, 2007), and as a result, multicollinearity was not found in this study.

Reliability analysis

The typical reliability, where two or more indicators in one construct are strongly correlated with each other or share in their measurement of a construct, was tested using the coefficient alpha (Cronbach, 1951). In this study, all coefficient alphas were 0.70 or higher, a scale that is considered to be reliable (Hair et al., 2006; Nunnally, 1978).

Results of multiple regression analysis

A number of researchers have suggested that innovation speed may be influenced by organisational size (Cankurtaran et al., 2013). Therefore, organisational size was considered as a control variable in this study and was classified as small and medium organisations (coded as 1) and large organisations (coded as 2).

Multiple regression analysis was unitised to test Hypotheses 1 and 2. As illustrated in Table 2, it was found that only modification and volume flexibilities had positive effects on innovation speed. Hypotheses H1 and H2 predicted that modification flexibility (H1) and volume flexibility (H2) are positively associated with innovation speed. The standardized coefficients were $\beta = 0.31$ ($p < 0.000$) and $\beta = 0.25$ ($p < 0.002$), respectively, providing support for H1 and H2.

In summation, it was found that modification and volume flexibility have positive effects on innovation speed. As supported by the cumulative model (Ferdows & De Meyer, 1990), manufacturing flexibility and innovation speed are cumulative capabilities. Flexibility may be a first-order capability, just like quality, cost, and time, but may also be a means to obtain innovation speed. The findings are also supported by the previous studies. It seems that a more flexible manufacturing system is equivalent to higher innovation (Purwanto et al., 2015). The ability to innovate relies on the extent to which the manufacturers develop and utilize their resources to be more flexible (Martínez-Sánchez, Vela-Jiménez, Luis-Carnicer, & Pérez-Perez, 2007). A manufacturing plant with strong modifi-

cation flexibility capability tends to be familiar with quickly creating incremental and radical change into an existing product (Das, 2001; Narasimhan & Das, 1999). This situation fosters organisational learning, helping an organisation develop new products. This type of an organisation also has the ability to ease product changeovers, to minimize scheduling conflicts, and to reduce manufacturing delays; consequently an organisation can develop new products in less time (Das, 2001).

Volume flexibility enhances innovation speed by allowing an organisation to produce and introduce new products in a small volume to the marketplace (Gupta & Wilemon, 1990; Sanchez, 1995). Obviously, it is important for companies to conduct early market testing. By doing so, they can accelerate the number of new products introduced to the market if they perceive lower risk and simultaneously gain feedback information from real-time marketing research. Furthermore, increased product variety (resulting from modification flexibility) stabilizes aggregate volume fluctuation because a dip in sales in one product would be compensated by an increase in another. Hence, individual product volume variations may not impact on total volume significantly (Narasimhan & Das, 1999). Therefore, an innovative organisation usually plans and designs for volume flexibility as a precursor to developing innovation speed. In brief, an emphasis on the speed (or time) dimension of manufacturing flexibility is likely to reinforce innovation speed.

TABLE 1. Scale validity and reliability

Scales	Items	Loading Paths	Cronbach's alpha
Volume flexibility	Ability to economically run various batch sizes	0.82	0.88
	Ability to operate profitably at different levels of output	0.80	
	Ability to easily change the production volume of a manufacturing process	0.78	
	Ability to quickly change the quantities of our products produced	0.76	
	Ability to vary aggregate output from one period to the next	0.76	
Modification flexibility	Ability to operate efficiently at different levels of output	0.70	0.88
	Ability to modify existing products quickly	0.93	
	Ability to modify products by adding new parts or substituting old parts easily	0.88	
	Ability to better meet customer needs by quickly modifying existing products	0.82	
	Ability to easily modify products to a specific customer's needs	0.71	
Innovation speed	Ability to modify existing products inexpensively	0.70	0.90
	Ability to minimize the time for introducing completely new products or making product improvements/variations to existing products	0.92	
	Ability to minimize the time for developing new products	0.92	

TABLE 2. Results of multiple regression analysis^a

Model	Standardized Coefficients	t	Sig.	Collinearity Statistics	
	Beta			Tolerance	VIF
(Constant)		2.516	0.013		
Organisational size	0.11	1.609	0.110	0.985	1.015
Modification flexibility (H1)	0.31	3.838	0.000	0.739	1.354
Volume flexibility (H2)	0.25	3.171	0.002	0.774	1.344
$R^2 = 0.25$					

^aDependent variable: Innovation speed

CONCLUSION, IMPLICATIONS, LIMITATION, AND FUTURE RESEARCH DIRECTIONS

This paper indicates that modification and volume flexibilities have positive effects on innovation speed. From a theoretical perspective, the present study contributes to the innovation management research as follows. First, as supported by the cumulative model (Ferdows & De Meyer, 1990), manufacturing flexibility and innovation speed are cumulative capabilities. Previous research discusses the antecedents of innovation speed, including project characteristics, process characteristics, new product development (NPD) team characteristics, NPD competencies, firm characteristics, environmental characteristics, and manufacturing flexibility. Although, Purwanto et al. (2015) found that manufacturing flexibility was positively associated with innovation capability, it seems to be unclear that what type of manufacturing flexibility influence a specific dimension of innovation capability, such as the time dimension (i.e., innovation speed). More specifically, what has been overlooked in the literature is whether specific types of manufacturing flexibility, which are modification and volume flexibilities, reinforces innovation speed. Hence, the results obtained from the present study significantly add to the existing knowledge base. Modification flexibility allows organisations to quickly produce incremental and radical changes in products, which may lead to innovation. The ability of a flexible manufacturing system to vary aggregate production volume economically (i.e. volume flexibility) also reinforces innovation speed. These organisations are therefore familiar with making incremental design changes, easing product changeovers, minimizing scheduling conflicts, and reducing manufacturing delays, and these can be expected to increase innovation speed.

Second, whilst most previous studies conducted in the context of advanced economies (e.g., USA, European countries, and Japan) investigated the factors that affect innovation speed, this study provides findings from an emerging economy (i.e. Thailand) by explaining that modification and volume flexibilities have positive effects on innovation speed. While manufacturers in advanced economies have implemented manufacturing technologies and lean practices widely since the 1980s to enhance manufacturing capabilities, such as flexibility and innovation, Thai manufacturing plants have only adopted these technologies and practices since the 1990s (The Industrial Council of Thailand, 2007). The major challenge facing emerging economies, including Thailand, is how their firms can eventually exploit the benefits from manufacturing flexibilities to increase innovation speed.

Hence, this research contributes to the existing knowledge base by confirming that the cumulative model which has been developed in the context of advanced economies can be applied in the context of an emerging economy. Furthermore, this should encourage others to carry out similar studies in other emerging economies, in order to increase the generalizability of the study.

From a managerial perspective, the present study proposes useful implications as follows. First, the results from this study provide a richer understanding of the increase of innovation speed and can guide practitioners in narrowing their focus to the relationship between the two types of manufacturing flexibility (modification and volume flexibilities) and innovation speed. They should understand that not all types of manufacturing flexibility have a significant positive effect on innovation speed. This study suggests that senior managers should place more effort into improving modification and volume flexibilities if they aim to increase innovation speed. Hence, the findings from this study will help them make decisions more effectively in the age of digital disruption.

Second, a richer understanding of the increase in innovation speed discussed above signals another challenge for managers of manufacturing firms with large investments in flexible manufacturing systems. Swink and Nair (2007) suggest that these are important issues because many manufacturing firms have sunk enormous amounts of capital into investments in these systems over the last decades. By understanding a company's specific strategic needs (i.e. innovation speed), a top executive should be concerned with modernizing its manufacturing systems more effectively and efficiently. For decision-makers, this research provides a richer understanding of the improvement of innovation speed, which helps a company gain advantages to being the "first" in the market more efficiently in the "age of digital disruption." Companies that are first movers can often establish their product as the industry standard and be able to tap into consumers first and make a strong impression, which can lead to brand recognition and brand loyalty. Furthermore, first movers may be able to control strategic resources, such as basing themselves in a strategic location, establishing a premium contract with key suppliers, or hiring talented employees (CFI Education Inc., 2020).

Though this study offers a number of theoretical and managerial implications as presented above, the following limitations of this study should be considered. First, since the cross-sectional survey method was used, causal inferences must be made with caution (Nair & Swink, 2007). A longitudinal study on the evolution of the cumulative relationship between manufacturing flexibility and innovation speed would be recommended to strengthen causal inferences. Finally, this study provides unique insights into the effects of the two types of manufacturing flexibility (modification and volume flexibilities) on innovation speed in the manufacturing firms in Thailand. The findings from this study may be applicable to other emerging economies (such as those in Asia). Hence, replicating and extending this work in other emerging economies may provide a basis for external validation of the findings of this study, especially in the age of digital disruption.

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EXPERTS DEVELOPMENT: A PROGRESSIVE MODEL BASED ON REFLECTIVE LEADERSHIP TOWARDS ENTREPRENEURSHIP IN BUSINESS COURSES

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ABSTRACT

The purpose this paper is to describe expert development through application of core features of effective professional development in Business education. According to the idea described, the authors reflects on the essential trends of experts' development in terms of Professional Development core features. This paper found that business teachers as professionals and experts in their specialization subject area need to follow progressive model of expert development while acquiring certain qualities required for leading students to success in the real world market and real life interactions. Therefore, this paper offers a model of change from novice to expert which encompasses different stages for expert development and connects classes to real world entrepreneurship mindset needed for students' success achievement in the society the presented model has practical implications for educational and learning organizations in which one of their competitive advantages is developing entrepreneurship spirits.

KEY WORDS: Expertise development, Entrepreneurship, Professional development core features

INTRODUCTION

When it comes to professional development in Business education, certain questions are formed in the mind of teachers, teacher educators and leaders in educational settings. The key questions are: (1) why do we need professional development? (2) How can we understand that our professional development is successful? (3) How can we understand professional Development leads to change (success)? The answer to these questions vary and experts have different answers such as we need professional development because schools are not successful in achieving their goals or students are not successful to learn or even some believe that we think students can do better than this or others may reply that curriculum failed to achieve its goals. Politicians and parents particularly may find this failure because they believe that students fail to find jobs in the society. There is no doubt that some may believe our students cannot solve their problems in society and they are not cut out for real life challenges in our modern social life. For all these issues usually heads turn towards teachers and they point to the teachers and expect them to solve such important issues in schools. This comes from the basic interpretation of teachers' roles as teaching experts in their schools. It is believed that these experts are responsible to solve such crucial issues and create change in the current situation.

System wise, it is true that when a system fails to achieve its objectives and goals, change is required and a must, but how this change is possible and who are these experts to create such an essential? What expertise is required to tackle these issues? Cambridge advanced learner's dictionary third Edition (2016) defines "expert" as a person with high level of knowledge or skill relating to a particular subject or activity. It also defines "expertise" as a high level of knowledge or skill. As it is defined "expert" and "expertise" have a dual meaning of "knowing that"-*knowledge*- and "knowing how"- *skill*. In terms of knowledge as Shulman (1987) explained three types of knowledge are needed for teaching: *Content knowledge* (knowledge of the subject matter to be taught), *pedagogical knowledge* (knowledge of how to teach) and *pedagogical content knowledge* (knowledge of how to teach that is specific to what is being taught). Shulman (1987) presented his argument on point that pedagogical content knowledge is beyond content knowledge and general knowledge of pedagogy rather it is what guides the teacher's behaviour, actions and reasoning in a classroom context. It means it is a type of knowledge which forms the defining feature of the *expert teacher*. More precisely, it is not possible to help learners without pedagogical content knowledge to learn when, where, and why use content knowledge. The expertise of the teacher resides in interaction between the *disciplinary knowledge* and *pedagogical knowledge* which is different from a brief set of beliefs that can be reduced to a set of general methodology. Since teaching is defined as the planned actions of teacher for helping learners reach their fullest potential in all aspects of their development, it is not unreasonable to suppose that everyone teaches has some kind of theory of learning. It means his teaching would make his theory explicit if his teaching is rational and purposeful. It proposes the fact that teacher's knowledge is proximately constructed in interaction with his students, teaching materials, and other teachers as well as parents and teaching context and his districts.

"In general, teachers with more explicit and better organized knowledge tend to provide instruction that features conceptual connections, appropriate and varied representations, and active and meaningful student discourse"(Stein, et al, 1990, p. 641). This makes a distinc-

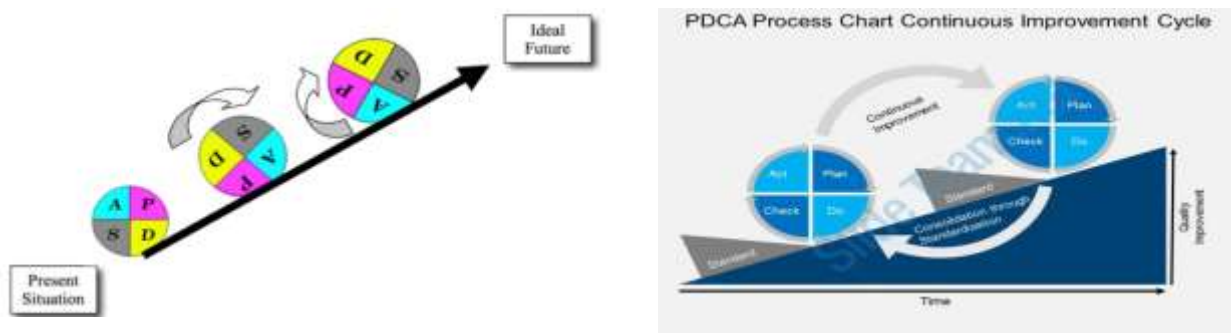
tion between experts and novices. Experts have acquired mechanisms to change performances of novices whereas novices use procedural knowledge without connection where an expert chooses the most appropriate and efficient strategy for the context. Experts help novices become independent learners by designing and monitoring their activities. Van Gog, Ericsson, Rikers and Paas (2005) stated that expert teachers are those who excel mainly in their domain of expertise and perform their tasks almost free from errors. They have superior short-term and long-term memory. Schneider (2000) also believed that it is his rich domain-specific knowledge which defines an expert. On the other hand, Stein, *et al* (1990) believed that teachers with limited knowledge have been found to portray the subject as a collection of static facts; to provide impoverished or inappropriate examples, analogies, and/or representations; and to emphasize seatwork assignments and/or routinize student input as opposed to meaningful dialogue.” In other words, it is possible to say that novices may just use information while experts make a deliberate effort to improve performance. Further to this, experts have varying levels of flexibility in their approach to new problems and issues and use their meta-cognition to monitor their memory status and regulate their strategies.

Teaching Experts always think of creating differentiation in their teaching and their classrooms. They should think of three factors which are reflecting the change in their professional development. The first factor as Tomlinson (1999) emphasized is *content*. Content is the facts, ideas, generalizations, principles, attitudes and skills required for a specific subject. It includes what is taught in the classroom. The second factor is *process*. It refers to how learners are going to understand what the teacher has presented to them. It includes the effective way which involves learners in using the required skills in order to understand an essential idea which leads to the achievement of the assigned learning objectives. This might happen by providing various options for the learners with different levels of understanding and difficulty based on the learners’ needs and interests. These activities can create choices for expressing what they have learnt in the classroom. The third factor is *product*. It refers to what learners can use to show what they have learnt and can do as the *result of the course effectiveness*. In fact it should be a *reflection of solutions* to the real life problems that require knowledge and skills achieved over the period of learning and educating the mind and heart for reflection of what hands can do for life. In fact is the end result of a project which reflects success of the learner in the job market and life-long development. It can reflect the change or differentiation the school or society wants to see in their school graduates and their citizens. It seems quite mind provoking that Don Berwick, the president Emeritus and Senior Fellow at Institute for Healthcare and Improvement and professor of Harvard Medical School says “If you always do what you have always done, you will always get what you have always got!”. The fact is that creating change is not easy because change is *threatening*. It is time consuming and it is testing out things in your own setting. It reflects the fact that some people are never happy, no matter what they do. There are two different ways that people approach change for improvement. The first way is *trial and error* process which sometimes creates chaos and it reflects *too many actions but not enough thinking*. The second way is *too much thinking and no enough action*. These approaches don’t result in any change for improvement.

Edwards Deming in the 1950 introduced a model in which an organization can analyze, and identify the sources of variations which led to deviation of a product from the requirements of the customers. Deming (1986) believed that an organization can follow a continuous

feedback loop so that its leaders can create change for improvements. This model can be also applied to learning organizations and educational settings a simplified model of improvement known as PDCA (Plan-Do-Check-Act) see figure 1.

Figure1: Deming's PDCA for improvement



LITERATURE REVIEW

Theories Explaining Progression towards Expertise

The Deming's model is structured approach for making small incremental changes to systems. Its full cycle for planning, implementing, testing and identifying further changes. It is an easy tool to understand for creating change. It can also reduce anxiety to change. Its cycles have a long pedigree (record) which are 'natural' to human study development e.g. health care. Its small rapid cycles lead to improvement which has methodological validity and have been used and developed by Collaborative participants in the UK and even across Scandinavia and America.

- PLAN: Design or revise business process components to improve results
- DO: Implement the plan and measure its performance
- CHECK: Assess the measurements and report the results to decision makers
- ACT: Decide on changes needed to improve the process

This model has certain advantages such making the change processes and its learning totally explicit. It makes it possible to test the ideas for customizing change for local situations and evaluating its side-effects. Further to this PDCA MODEL improved the innovative ideas based on learning and it reduces risks to the system and its members. It encourages the reluctant to accept change and reduces the impeding issues. On the other hand, it breaks down change into manageable and time-restricted chunks. It also helps to test small changes without creating chaos to the whole system. It is possible to try different systems for testing while keeping the records of failures. The following part lists the other theories explaining progression models for expertise.

Dreyfus & Dreyfus (1986, 2008)

The progress and improvement of the novices to expertise is described by Dreyfus model which introduces how individuals progress through various levels in their acquisition of skills and illustrates how learners learn. Such a model is being accepted almost without debate from physicians to explain the ‘acquisition’ of clinical skills. The model offered how professional expertise progress through a series of levels such as novice, advanced beginner, competent, proficient and expert. At the novice level teachers follow rules that are context free and he or she feels no responsible for anything except the assigned rules. As the individual gets experience, he develops competence and proficiency indecision making and develop rules by himself to plan. At the expert level, individual is characterized by series of performance which are taken placed unconsciously and doesn’t rely on explicit knowledge. The process of change is gradual and an expert uses the knowledge implicitly with analytical view which doesn’t exist at novice level.

Hoffman Journeyman Model

According to Hoffman (2006) based on the similar model presented by that of Dreyfus a new stage is added known as initiate between novice and advanced beginner. In such a sense, apprentice is similar to advanced beginner while journeyman corresponds to either competent or proficient. The difference is that Hoffman’s model did not account for proficient level distinctly. In his model, 0 refers to the person who is totally ignorant in the studied domain. Therefore, an individual may in the range from 1 to 4 in such an order is considered a novice, and 5 and 6 are experts. Hoffman’s model is known to be grounded in research and cited in several publications.

Alexander Model of Domain Learning (MDL)

This model presented by Alexander (2003) who simplified the model of expert development by introducing the stages of acclimation, competence, and proficiency or expertise. He emphasized that the two terms of proficiency and expertise are similar. Alexander (2003) stated that three parts are involved and interact to help a person progress towards expertise. These parts are the knowledge such as topic and domain, strategic processing such either deep or surface as well as interest including long-term and situational are interacting for such development. The synergy between the domain or topic knowledge through strategic deep or surface processing with either individual interest which are long term interest in a domain or the situational interest which is short-term and associated with immediate situation manage the individual progress towards expertise.

Kim’s Model of Problem-solving

This model focuses on problem solving situations (task level) in the classroom and investigates how short-terms changes can result in an individual’s expertise. Kim (2015) investigated individual’s understanding of a problem situation reflects his level of expertise in solving such a task problem. In fact this model provides a diagnostic model of learning progress.

How Experts Develop in their Professions?

The development in an expert profession is long-life development which occurs at three levels. The first level of development occurs in his personal life. In reality, personal development is a process as long as life. It is a style or a way for a person to evaluate and access his skills and characteristics considers his life goals and sets them for his own realization and maximization of his potential. Personal development deals with enhancement of various aspects of an individual, the emotions a person has about himself and his effectiveness of his life. It deals with the development of positive life skills and his realistic and healthy self-esteem which comes from growth mindset. The growth mind set is necessary for very productive and satisfactory living because it emphasizes the intimacy, family relations, friends, leisure and pleasure an individual can get from job as well as spiritual values which enhance life quality. This means such a mindset would create positive feeling, enhancement of emotional intelligence, mutual respect and feedback, successful goal setting and employing strategic problem solving style. It increases personal growth and helps revamps the relationships. It improves self-esteem, efficiency and self-satisfaction for more enjoyable living. This creates love for three spheres including for family, friends, neighbours (Coleman, 2016). The head, heart and hand integration as Coleman (2016) emphasized is a transformation from within a person. This transformation emanates from self as the inner nucleus of a transformation which comes from three types of intelligences inside an individual teacher reflected in the classroom towards his students. Such a transformation is known as Inside-Out-Effect transformation (Mansouri, and Mhunpiew, 2016). This Inside-Out-Effect pinpoints what has been known as Love of Teaching and Love of Subject (Coleman, 2016) rooted inside the individual expert teacher who has devoted his life to teaching his area of interest. This is totally reflected in workplace development where teachers are working together on the curriculum through collective participation by forming their community of practice. This community of practice would perform successfully if they appreciate the values of core features of effective professional development. The core features of professional development are content focused, active learning, and collective participation of teachers, duration and coherence (Martin and Krangler, 2014). The growth mindset which leads to inside-out-effect transformation can result in a proper In-school climate where teachers can promote their status and develop their capacity through effective involvement with Study Lesson, and Action Research for Solving classroom problems. This climate creates coherence during a specific time span which is known as duration of the professional development of the expert teacher.

The Social community and Entrepreneurship

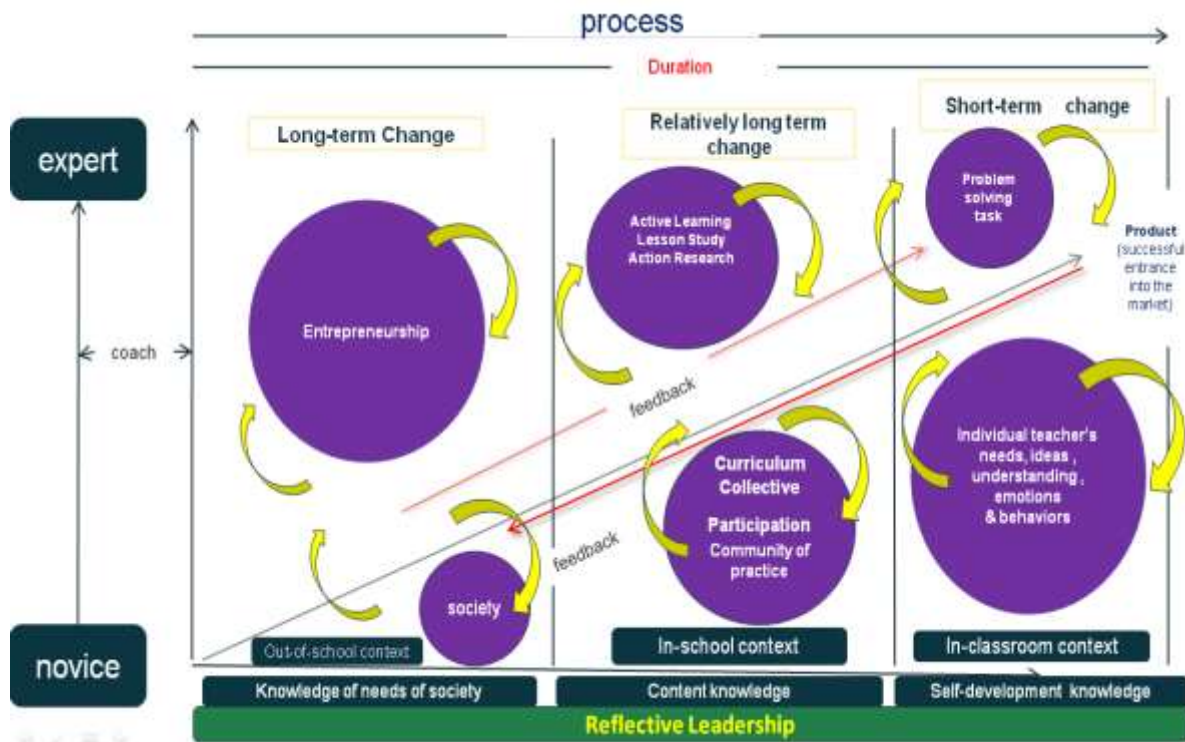
The main objective of education and educational system is creating change. Schools, teachers and educators are expected to transform their communities, create quality and inspire future generations to be the founders of excellence in life based on ethics and economic development with great respect towards natural environment. Teachers seek to deepen understanding in their students for developing knowledge, skills and innovation for solving their problems in life. Innovation is an essential part of an educational system to satisfy the needs of their communities. Entrepreneurship is the main engine igniting innovation. It generates jobs and brings about economic growth because it is growth oriented and opportunity-focused. According to Schumpeter (1950), an entrepreneur is a person who is willing and able to convert a new idea

or invention into a successful innovation. Schumpeter is also famous for the phrase “creative destruction”. Entrepreneurs are independent individuals, intensely committed and determined to persevere and work very hard. They are confident optimists who strive for integrity. They are burnt with the competitive desire to excel and use failure as a learning tool. Entrepreneurs are innovators who observe an opportunity, create new goods and services and improve existing products. In addition to this, entrepreneurs provide choice, add goods and services to the marketplace. They offer variety and design different approaches to familiar problems. Entrepreneurs provide jobs and hire workers for their businesses and consume resources, thus providing jobs in the industries that supply those resources.

Proposed Progressive Model of Reflective Leadership towards Entrepreneurship

Teaching *Subject* content and creating an *Entrepreneurial mindset* both are two important skills of successful career. Therefore, a *collective curriculum* could be implemented for school system through careful contemplation and participation of community of practice through teachers’ dynamic involvement with active learning, action research and lesson study with a special emphasis on creating an entrepreneurial minds. This would occur within duration of change for improvement that would be measured, analyzed, and revised through continuous feedback i.e. Deming’s Model and along with gradual release of responsibility with support of coaching team and techniques. This middle stage of progression done through domain learning of improvement which connects the ethical and professional market-based of entrepreneurship found in the society to satisfy the demands of individuals who try to solve their problems in life. For such a great purpose, teachers need to reshape their professional identity because they are challenged (technology) and teachers no longer have monopoly on knowledge. The good side of this is that it brings for new professional opportunities. These opportunities underscore that fact that *professional identities* are being reshaped. This seems essential since teachers are dynamic, unstable, shifting and strongly related to their context today. They have to understand professionalism (complexity, inconsistency). This means teachers should take risks; as experts they need to feel confident and competent; therefore, they have to review their narratives of their own to find authentic leadership within their values. The progressive model describing this trend is given in Figure 2.

Figure2: The progressive model describing the expert development based on reflective leadership.



Reflective Leadership

As part of being a human, reflection on what has happened and will happen is a normal phenomenon. However, it is essential to understand the difference existing between casual thinking and reflective practice. Reflective practice is an attempt to think consciously on the things happen and develop and leads to insights into them. It is necessary for any individual to use such kind of reflection in order to solve the problems getting the way of their progression either at home or at work. This kind of learning which is known as experiential learning was emphasized by Argyris and Schön (1978) in coining the term double-loop learning which explained the idea of reflection that allows a person to step out of the single loop of experience, reflect, conceptualize and apply them in the other loop to reframe his ideas in order to create change in what he does in his life.

Reflective leadership is the balance to action. A leader should practice reflection regularly: reflection-on-action and reflection-in-action. Reflective leadership is the key to creating a relationship-based organization. It is characterized by three important skills: *self-awareness*, *careful observation*, *flexible response*. Such a leadership reflection increases self-awareness which a main part of emotional intelligence and leads to better understanding of team members and employees through careful observation and develop creative skill thinking and increases engagement in work process and brings up more flexible responses.

A reflective leader knows that there is strength in being observant and introspective. It allows us to challenge ourselves in a process of continuing self-evaluation. Reflective practice engages leaders and teachers in a cycle of thought and action and inquiry process based on professional experience. The reflective leader encourages the reflective teachers to motivate the reflective learner. In real school climate, reflection is at the core of learning and adaptation. Learners don't learn from experience they don't reflect on.

RESULTS

How reflective leadership will be implemented?

Meta-cognitive reflections invite thinking about thinking and help teachers, staff and students make meaning out of events. Teachers can conduct discussions with students about their problem-solving processes. The school leadership can invite teachers to share their meta-cognition—to reveal their intentions, strategies, and plans for solving a problem; to describe their mental maps for monitoring their strategies during the problem-solving process; and to reflect on strategies to determine their adequacy.

Collaborative dialogues held through collaborative participation in community of practice between teachers, between school leadership and teachers, or among students cause participants to share their reflections and reflect their improvement towards the expertise of learning tasks (Lee & Barnett, 1994). Therefore, time is needed to all participants to ask questions about how they have learnt and the way they found learning more effective and enjoyable. The important aspect of this is to express how they can apply their skills or knowledge in similar or future contexts in society.

Portfolios and journals could create more effective opportunities for the school leaders and their staff as well as the teaching experts to thoughtfully look back on the school events and their learning journey toward knowledge and its application in real social context.

Developing effective expertise with continual growth and improvement requires self-reflection. When school leaders, teachers, staff, and their learning organizations reflect on our actions, they obtain more important information about the efficacy of their thinking and actions. Such experiences pave the way for practicing their gained knowledge and skills with continual growth through reflection. Reflective leadership creates meditation, trust, consistent modeling, and practice, consequently, teachers and students learn to listen to the internal and external voices of reflection and contemplation, and in the process, school communities truly learn by doing.

CONCLUSION AND RECOMMENDATION

There is a common inference from students' failure and success in their personal and social life among public understanding. This might be the reason that parents, government officials and even students turn to the teachers and educators for finding solution and leading the young generation towards success in their life. This means they believe teachers as experts in their jobs have the expertise to satisfy the needs of the society and create innovative solutions to their problems. The journey of expertise and experts in their teaching fields requires more practical model for connecting what students learn at school and what they will find in real life out of school. The success of such journey is progressive towards different stages in and out of the school. It has three different but connected life development such as personal development to professional development and social life development. Each part of such continuum can create the opportunities for teachers to move from novice stages of their responsibility to more competent and professionally independent but collaborative expertise in their professional career.

These teachers need to work collectively as community of practice in their domain of specific subject areas to help students learn how to solve and tackle the similar issues in real life context. This will be possible if these school graduates would be able to create their own ways or strategies for solving their problems. For such a great purpose, teachers and teaching expertise development should focus on more positive and growth mind set by applying the characteristics of successful entrepreneurship. The proposed model in the current study tries to connect various areas of specialties and expertise that a successful teaching expert needs to go through based on a reflective leadership given to them by the school leaders. This will create teacher's success in quality if accompanied with meta-cognitive reflections, collaborative dialogs and portfolios and journals recording of the school and teachers progression towards their assigned objectives along with continuous feedback which develops and supports teachers' personal, professional and social success in quality for future generation to enter the job market and achieve better life standards for living.

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105 JASMINE RICE SEED PRODUCTION EFFICIENCY OF FARMERS' GROUP IN KUCHINARAI DISTRICT, KALASIN PROVINCE, THAILAND

by

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ABSTRACT

Rice is not only a staple food for Asian people but also a cash crop for Asians for a long time. Jasmine rice is one of the famous and popular rice for Asian consumers. Kalasin province is one of the main 105 Jasmine rice seed production areas in Thailand. The purpose of this research was to analyze the efficiency of 105 Jasmine rice seeds production of the Hug-Phaeng-Bang-Pun farmers' group in Kuchinarai district, Kalasin province, Thailand. The population consisted of 51 farmers' group members. Purposive sampling technique was applied. It turned out of 40 farmers' group members as sample size. In this research, the questionnaire was the key instrument of data collection. The production function was estimated by the stochastic frontier production function. Also, the production efficiency was calculated by Farrell efficiency measurement. The findings demonstrated that a return to scale was increased through the production function of 105 jasmine rice seeds production. The average production efficiency score was equal to 1.301 which was greater than 1.00 reflected the efficiency of producers with their good management. The government agency should give them academic and marketing support for long-term agricultural development. As a region of original rice production, research results could be made available not only to the producers but also to the consumers of jasmine rice in Asia, in our neighboring Asian countries, such as, among others, Laos, Burma, Cambodia, and Vietnam.

KEY WORDS: Jasmine rice seed, Production efficiency, Farmers' group.

INTRODUCTION

"Hug-Phaeng-Bang-Pun", name of farmer group, is the northeastern dialect. From the hometown of the researcher. It composed of 2 words which are Hug Phaeng which means having loved and giving love to each other and Bang-Pun means sharing and supporting each other with love. The warmth, kindness, and friendliness of the indigenous communities in the northeastern (Isan) society have a long culture reflecting on the friendly and warm lifestyle of a society of Hug-Phaeng-Bang-Pun farmers 'group has established a group since 2003. The group has made a career in the way of agricultural sufficiency guidelines. According to the living conditions of Isan people who live warm and affectionate life members of the group are farmers which is the traditional agriculture and has been passed down from many generations.

Because Kalasin province is a province in the northern part of Thailand that has abundant natural resources especially for rice farming known as Nam Dam town (the Black Water city). Nam Dam town or the city of moist water over time, one day, and members of the group experienced problems sluggish product prices affecting the income and well-being of the members in the group since 2013.

The Master's gentle Buddhist Quirinal on the initiative invited people meeting to speak about the problems at Wat Na Ban Khok Klang. Churching Sub-district, Kuchinarai District, Kalasin province. Therefore, they had consultations within the group on how to increase the price of rice production and where to sell. It was considered as a way to solve problems that everyone participates in and the use of local wisdom. The Kuchinarai Crown Prince Hospital, who works with people with disabilities regarding the delivery of their career is trying to market farmers 'products. They have created cooperation. Therefore, they invited farmers to bring their products to sell at Kuchinarai Crown Prince Hospital.

The group started as a processed grain brown rice cracker on the Friday health product market, which has every Friday at 06:00 to 12:00 hrs at the Crown Prince Hospital, Kuchinarai district, Kalasin province. Members of the farmers 'group at the market. They also brought vegetables and fruits from the members' plots to sell over there. The group received an initial capital budget to market by Osotsa Co., Ltd as initial capital for the first time in the execution of the group later in the year 2013. Members of the group who have brought their products and/or neighbor products went to sell at Kuchinarai Crown Prince Hospital by planting and selling by themselves, such as red jasmine rice, black rice, and selling them at Kuchinarai Crown Prince Hospital.

The idea was born on the farm and sold it without going through the middlemen. Member group of farmers has been discussed in the meeting, the farmers will begin planting rice by group members. They invited people with knowledge of rice production, known as the local philosopher, to give them knowledge as well as created the Alternative Agriculture Network Group. Until the end of the year 2015, a group of farmers has been set up to learn about rice, and established a rice bank to preserve and distribute it. However, the farmer group has established the 3 groups which were to 1) have a revolving fund for the production of good quality of rice seeds for members and the general community. 2) jointly plan and raise funds for the production of rice seeds continuously, and 3) support farmers' groups to manage themselves

or self-reliance. The rice seed production of Hug Phaeng Bang Pun Farmers' Group is currently an important activity in the operation of farmers' groups. Aside from distributing the products of group members, this is an interesting issue that the 105 Jasmine rice seeds production efficiency that the group members have been doing since 2013. The development of 105 Jasmine rice seeds production efficiency has been significant for attaining the local income and employment leading to community strangeness eventually as the goal of community development. Theoretically, rice seeds production efficiency is one way to attain community food security and earning the household income of the community. From the last 10 years, the community sturdiness has been the crucial issue of the Royal Thai government to enhance the standard of living for Thais following the 12th National Economics and Social Development Plan (2017-2021) (The Office of National Economics and Social Development Council, 2020). Besides, there was no research has been done on the efficiency of the 105 Jasmine rice seeds production efficiency. In this research, the researcher was interested in the study of the 105 Jasmine rice seeds production efficiency of the seasonal production year.2018. It is very interesting and challenges to perform this pilot research project to analyze the efficiency of 105 Jasmine rice seed production of the Hug-Phaeng-Bang-Pun farmers' group in Kuchinarai district, Kalasin province, Thailand.

LITERATURE REVIEW

Production Efficiency

Production efficiency is known as a situation in which the economy or an economic system could not produce any more of one good without sacrificing production of another good and without improving the production technology. It occurs when a good or service is produced at the lowest possible cost. In simple terms, the concept is illustrated on a production possibility frontier (PPF), where all points on the curve are points of productive efficiency. An equilibrium may be productively efficient without being allocative efficient. Also, it may result in a distribution of goods where social welfare is not maximized. It is one type of economic efficiency. (Sickles, R., & Zelenyuk, V., 2019:59), (Standish, B., 1997:13-15).

Production efficiency of an industry requires that all firms operate using best-practice technological and managerial processes and that there is no further reallocation that brings more output with the same inputs and the same production technology. By improving these processes, an economy or business can extend its production possibility frontier outward, so that efficient production yields more output than previously (Sickles, R., & Zelenyuk, V., 2019:59), (Standish, B., 1997:13-15).

Many theoretical measures of production efficiency have been proposed in the literature as well as many approaches to estimate them. The most popular measures of efficiency include Farrell's measure (Farrell, M. J., 1957:13-18). This measure is also the reciprocal of the Shephard's distance function (Shephard, R. W., 1953:33-35). These can be defined with either the input orientation of the fix outputs and measure the maximal possible reduction in inputs or the output orientation of fixed inputs and measure maximal possible expansion in outputs.

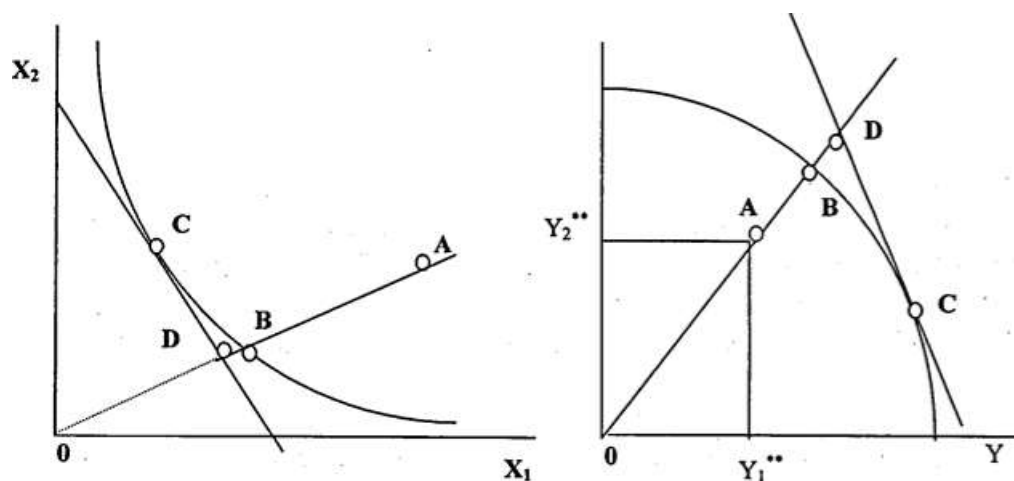
A generalization of these is the so-called Directional Distance Function, where one can select any direction for measuring the production efficiency. The most popular for estimating production efficiency is Data Envelopment Analysis and Stochastic Frontier Analysis among other methods (Charnes, A., Cooper, W., & Rhodes, E., 1978:65-68), (Aigner, D. J., Lovell, C. A. K. & Schmidt, P., 1977:35-37).

The theoretical framework of stochastic frontier analysis efficiency

Two types of production efficiency were defined by Farrell (1957): technical efficiency and allocative efficiency. Technical efficiency evaluates the ability to obtain a higher level of output from a given set of inputs, while allocative efficiency measures the extent to which farmers make efficient decisions by using inputs up to the level at which marginal contribution to production value equal to the factor cost, assuming no risk.

Technical efficiency is just one component of overall economic efficiency. However, to be economically efficient, a farm must be technically efficient. Profit maximization requires a farm to produce the maximum output given a level of inputs employed (i.e. be technically efficient), use the right mix of inputs in light of the relative price of each input (i.e. be input allocative efficient) and produce the right mix of outputs given

Figure 1: Input (a) and output (b) oriented efficiency measure



the set of prices (Kurnbhakar & Lovell, 2000: 34-42). These concepts can be illustrated graphically using a simple example of a set of two inputs, and a set of two outputs in the production process (Figure 1). Efficiency can be considered in terms of the optimal combination of inputs to achieve a given level of output or the optimal output that could be produced given a set of inputs.

In figure 1 (a), the farm is producing a given level of output by using an input combination defined by point A. The same level of output could have been produced by contracting the use of both inputs back to point B, which lies on the isoquant associated with the minimum level of inputs required to produce such output. The input-oriented level of technical efficiency

TE is defined by OB/OA . However, the least-cost combination of inputs that produces the same level of output is given by point C where the marginal rate of technical substitution is equal to the input price ratio. To achieve the same level of cost, the input would need to be further contracted to point D. The cost-efficiency CE is therefore defined by OD/OA . The input allocative efficiency AE is given by CE/TE or OD/OB (Kumbhakar & Lovell, 2000: 34-42).

Figure 1 (b) illustrates the production possibility frontier for a given set of inputs. If the input employed by the farm were used efficiently, the output of the firm can be expanded to point B instead of point A as the present. Here, the output-oriented measure of technical efficiency can be illustrated by OA/OB . Although point B lying in the production possibility frontier indicates the technical efficiency, however, higher revenue could be achieved by producing at point C where the marginal rate of transformation is equal to the price ratio. In this case, more of Y1 should be introduced and less of Y2 to maximize revenue. To achieve the same level of revenue at point C while maintaining the same input and output combination, the output of the farm would need to be expanded to point D. Hence, the revenue efficiency RE is given by OA/OD . Output allocative efficiency AE is given by RE/TE or OB/OD (Kumbhakar & Lovell, 2000: 34-46).

Cobb–Douglas production function

The Cobb–Douglas production function is a particular functional form of the production function, widely used to represent the technological relationship between the amounts of two or more inputs (particularly physical capital and labor) and the amount of output that can be produced by those inputs. (Cobb, C. W.; Douglas, P. H., 1928: 20-22)

Formulation, in its most standard form for production of a single good with two factors (Figure 2.) , the function is

$$Y = A L^{\alpha} K^{\beta}$$

where:

Y = total production

L = labor input

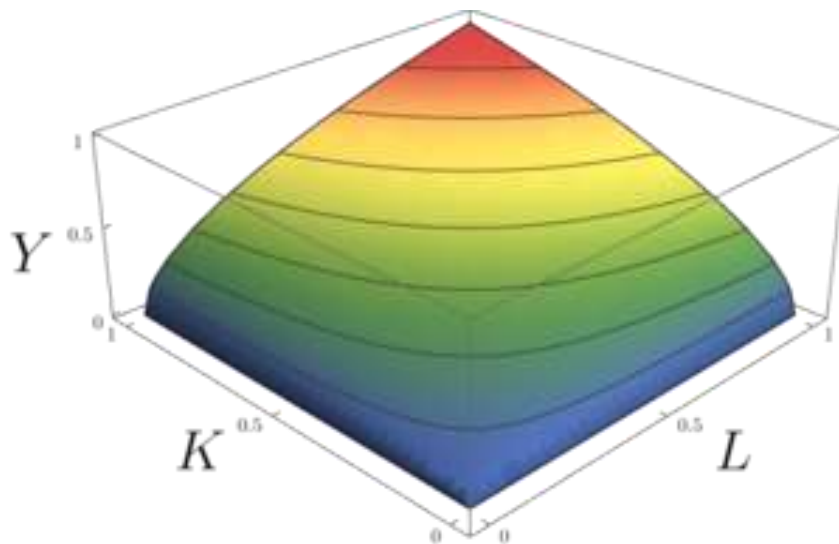
K = capital input

A = total factor productivity

α and β are the output elasticities of capital and labor, respectively.

These values are constants determined by available technology. Sometimes the term has a more restricted meaning, requiring that the function display constant returns to scale, meaning that doubling the usage of capital K and labor L will also double output Y . This holds if $\alpha + \beta = 1$, If $\alpha + \beta < 1$, returns to scale are decreasing, and if $\alpha + \beta > 1$, returns to scale are increasing. Assuming perfect competition and $\alpha + \beta = 1$, α and β can be shown to be capital's and labor's shares of output (Cobb, C. W.; Douglas, P. H., 1928: 34-42)

Figure 2: A two-input Cobb–Douglas production function with isoquants



RESEARCH METHODOLOGY

Terminology

Production efficiency means the ratio between the actual produce and the product obtained from the production $\left(\frac{y}{y^*}\right)$ which were a measurement method performance-based concept.

The Measurement (Farrell, 1957: 18-22) was developed by (Bloom and Canning, 2000:15-32) and (Shanmugam, Atheendar & Venkataramani, 2006:34-36).

Farmers' group means the group of Hug Phaeng Bang Pun farmers' group, Kuchinarai District Kalasin Province, Thailand.

Members mean members of Hug Phaeng Bang Pun farmers' group, Kuchinarai District Kalasin Province, Thailand.

The rice seed production means the 105 jasmine rice seeds in the production season of the year 2018.

Research Procedure

Population and sample

Population:

Members of Hug Phaeng Bang Pun farmers' group, Kuchinarai District, Kalasin Province, Thailand with a total of 51 members who produced the 105 Jasmine rice seeds in the year 2018 production season.

Sample:

Members of Hug Paeng Bang Pun Farmers' Group Kuchinarai District Kalasin Province, Thailand The total number of 40 people who produced the 105 Jasmine rice seeds in the 2018 production season were selected as a sample size. According to the Central Limit Theory, it stated that the minimum numbers of sample sizes were equal or greater than 30 (Ingchaiyaphum & Puripunpinyoo, 2012:45-52), (Damodar G., 2010:65-70). Therefore, the numbers of the sample were reasonable.

The questionnaire was applied for the tool of data collection. The reliability and validity test of the questionnaire are concepts used to evaluate the quality of the questionnaire as the tool for data collection. They indicate how well a method, technique, or measurement performance. Reliability is about the consistency of a measure, and validity is about the accuracy of a measure. According to the validity test, the researcher utilized the Index of Item –Objective Congruence (IOC). It came up with an IOC score of 0.91 which meant this questionnaire met the requirement of validity test. Also, the reliability test was exploited by Cronbach's alpha. It turned out of 0.87 of Cronbach's alpha meaning that this questionnaire also acquired the reliability test (Damodar G., 2010:112-114).

Data Analysis

The researcher made the 105 Jasmine rice seed production function as:

$$Y = f(X_i)$$

Where:

Y is the yield and X_i the inputs in the case of $Y < f(X_i)$. Therefore, production efficiency analysis can be done by $0 \leq Y / f(X_i) \leq 1$. (Farrell, 1957:16-22), (Bloom and Canning, 2000: 14-18) and (Shanmug, Atheendar & Venkataramani, 2006: 67-72). This analysis method is called Farrell efficiency measurement which was the first person who invented efficiency analysis using that method and was continuously developed. For production, functions could be estimated using stochastic frontier production function model by the equation (1) as follows

$$Y_i = f(X_i; \beta) \exp(-u_i) \text{ and } 0 \leq u_i < \infty; i = 1, 2, \dots, n. \quad (1)$$

Whereas:

Y_i , the actual product, X_i is the factor of production, and u_i is the disturbance obtained from the estimation equation (a one-sided, non-negative, residual term) and β is the estimated coefficient. Production efficiency could be calculated by the equation at (2) as follows:

$$TE = Y_i / f(X_i; \beta) = \exp(-u_i) \quad (2)$$

In (2), technical efficiency was known as the non-parametric frontier approach (Shanmug, Atheendar & Venkataramani, 2006:112-114)

RESEARCH FINDINGS

TABLE 1. The estimation of 105 Jasmine rice seed production function of Hug Phaeng Bang Pun Farmers' Group, Kuchinarai District, Kalasin Province, Thailand.

Independent variables	Coefficient	T-statistic	P-value
Labor cost (lnX1)	.190	3.779 **	.001
Seed Value (lnX2)	.271	3.303 **	.002
Fertilizer cost (lnX3)	.460	5.902 **	.000
Fuel cost (ln X4)	.083	2.320 *	.026
R-square	.978		
F statistic	194.045 **		

Dependent Variable: 105 Jasmine rice seed production ln (Y)

**Statistical significance level 0.01

*.Statistical significance level 0.05

From Table 1, it could be written as the production equation of 105 Jasmine rice seed production function by equation (3) as follows

$$\begin{aligned} \ln Y = & 3.102 + .190 (\ln X1) + .271 (\ln X2) + .460 (\ln X3) + .083 (\ln X4) \\ & (12.124)** \quad (3.779)** \quad (3.303)** \quad (5.902)** \quad (2.320)** \end{aligned} \quad (3)$$

$$R^2 = 0.978$$

Also, from equation (3), the production function can be written in the form of an equation of Cobb Douglas production by equation (4). Following Bhanumurthy K.V (2002), he argued that the advantages of Cobb Douglas production function are because it can handle multiple inputs in its generalized form. Even in the face of imperfections in the market, it does not introduce distortions of its own. Also, the unconstrained Cobb Douglas production function further increases its potentialities to handle different scales of production. Various econometric estimation problems, such as serial correlation, heteroscedasticity, and multicollinearity can be handled adequately and easily. It is argued that most of its criticism is focused on its inflexibility and admits that except for one obvious assumption all other assumptions can be relaxed. So, the 105 Jasmine rice seed production function could be written as equation (4) below:

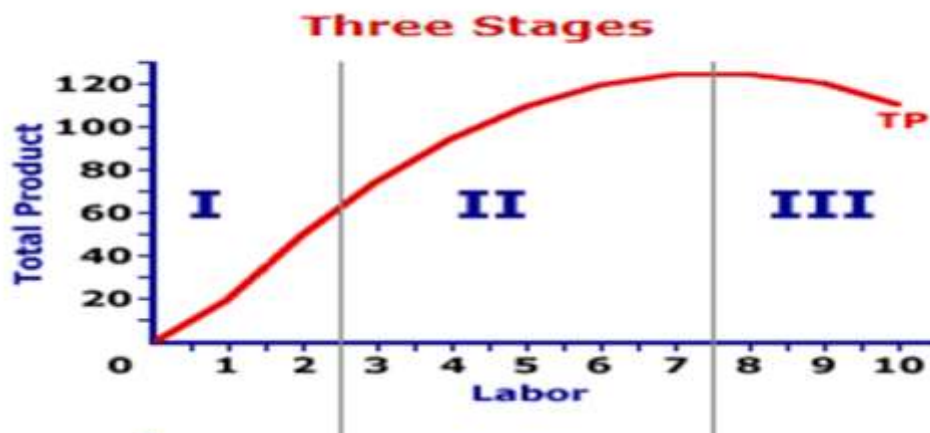
$$y = 3.102 (x_1)^{.190} (x_2)^{.271} (x_3)^{.460} (x_4)^{.083} \quad (4)$$

The symbol of the variables had been explained before.

From the equation (4), it can be calculated to find the state of production function by finding the sum of the inputs power as follows (.190 + .271 + .460 + .083 = 1.004) which is greater

than 1.000, indicating that the status of the function of the 105 Jasmine rice seed production function was in the Increasing Return to Scale (IRS), that is, when the farmers 'group members increase the utilization of production inputs by 1 percent affecting the increase of the yield 105 Jasmine rice seed production by 1.004 percent.

Figure 3: State of Production Functions
Source: Production State <http://www.amosweb.com>



From figure 3, it can be seen that the state of the production function in the production of 105 Jasmine rice seed production function was in Phase 1, which increases the production input by 1 percent, resulting in increased production by 1.004 percent, also known as increased return to scale.

Also, the 105 Jasmine rice seed production efficiency of Hug Phaeng Bang Pun farmers' group results could be explained in Table 2 as follows:

TABLE 2. Analysis results of the 105 Jasmine rice seed production efficiency

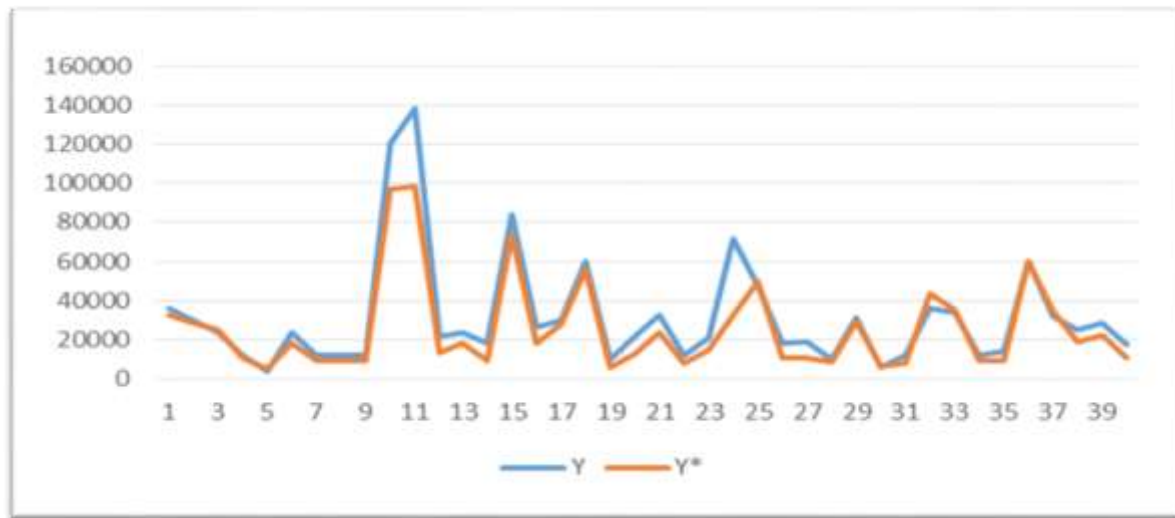
Member order	Performance score	Percentage
1	1.102	110.161
2	1.059	105.886
3	0.945	94.478
4	1.106	110.625
5	0.759	75.851
6	1.340	133.996
7	1.273	127.297
8	1.332	133.189
9	1.295	129.463

TABLE 2. (Continued)

Member order	Performance score	Percentage
10	1.234	123.394
11	1.401	140.051
12	1.633	163.251
13	1.319	131.910
14	1.886	188.605
15	1.135	113.470
16	1.453	145.343
17	1.082	108.238
18	1.077	107.650
19	1.663	166.269
20	1.738	173.758
21	1.380	138.049
22	1.474	147.411
23	1.447	144.734
24	2.196	219.566
25	0.965	96.502
26	1.639	163.853
27	1.750	174.960
28	1.215	121.473
29	1.059	105.926
30	0.937	93.697
31	1.444	144.385
32	0.828	82.775
33	0.968	96.803
34	1.284	128.371
35	1.497	149.668
36	0.995	99.536
37	0.916	91.552
38	1.312	131.160
39	1.300	130.029
40	1.609	160.890
Average	1.301	130.106
Standard Deviation	0.305	30.469

Source: Calculations

Figure 4: The comparison of the actual output (Y) and the standard output (Y*) expressed the production efficiency value.



From Table 2 and Figures 3 and 4, the research results explained the performance analysis of 105 Jasmine rice seed production efficiency of all 40 farmers 'group members, 33 out of 40 members had 105 Jasmine rice seed production efficiency scored greater than 1.00, or 100 percent, while the other 7 members with the efficiency scored close to 1.00. Therefore, it could say that the production efficiency of 105 Jasmine rice seed production produced by farmers' group members had a very good performance expressed by the average efficiency score was equal to 1.301 and its standard deviation was equal to 0.305.

CONCLUSION AND DISCUSSION

From the research results, it could be said that the 105 Jasmine rice seed production efficiency of Hug Phaeng Bang Pun farmers' group, Kuchinarai District, Kalasin province, Thailand which their operation had begun since 2003, operated in a good performance. The findings reflect that the state of the production function expressed in Increasing Return to Scale: (IRS) reflected the true intention of product integration and management of good agricultural groups which expressed the unity in the integration of agriculture with love, kindness, warmth and sharing among members. That was a guideline for good group management. The research results also expressed some production efficiency due to the ability, experience, and intention of members. Also, that was indispensable to having love, warmth, sharing with fellow members as the name of the Hug Phaeng Bang Pun farmers' group.

The integration of farmers in seed production of 105 Jasmine rice of the Hug Phaeng Bang Pun farmers' group, Kuchinarai district, Kalasin province, Thailand was one way of community development especially in the area of abundant natural resource as Kalasin province, Thailand as one of the main 105 Jasmine rice seed production areas in Thailand. However, the role of government sector such and the Department of Agricultural Extension, Ministry of

Agriculture, should support, promote and assist the farmers' group not only mentors but also other academic knowledge as well. Since rice production has been and still be an important agricultural economic activity in the community. Also, rice production has long been involved in the lifestyle of people in the community. Rice farming is not only the source of staple food for people in the rural area but also it is the folkway of people. Rice farming is also classified as the source of income and employment for the community as the tool to lead the community strength, enhancing the standard of living for Thais. In our Asian countries, jasmine rice is a staple food for Asians. It could be the staple food of Asia as well. The research results could be made available not only to the producers but also to the consumers of jasmine rice in Asia, in our neighboring Asian countries, such as, among others, Laos, Burma, Cambodia, and Vietnam.

ACKNOWLEDGMENT

The research was counted as proud as the researchers had the opportunity to research the realm of the homeland, Kuchinarai district, Kalasin province, Thailand. Thank you to my parents, brothers and sisters, uncle, an aunt who gave information in this research willingly, and intended to answer the questions in this time, giving kindness, love, care, and compassion to me all the time making the research accomplished. Thank you to my birthplace, my father, and mother who gave birth to live.

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APPENDIX





Pictures of Hug Phaeng Bang Pun Farmers' Group, Kuchinarai District, Kalasin Province, Thailand.

AN ANALYSIS OF HYBRID CUCUMBER SEED PRODUCTION EFFICIENCY OF FARMERS' GROUP MEMBERS IN KALASIN PROVINCE, THAILAND

by

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ABSTRACT

Hybrid cucumber seed production has been the main income of the farmers' group in Kalasin province. The research objective was to analyze the hybrid cucumber seed production efficiency of farmers' group members in Kalasin Province. The study population was 40 farmers' group members. Purposive sampling technique was applied for sampling with 30 farmers' group members who joined the Good Agricultural Practices (GAP) project. Data analysis was applied t-test, F-test, R-square, Production function analysis, and Bootstrapping regression analysis. The findings found that the hybrid cucumber seed production efficiency of farmers' group members performed in good shape. The production efficiency score ranged from 0.97 to 1.00 reflected the good management of farmers' group members. Also, the good quality of seed production was purchased by private companies. In order to provide local farmers with academic and information resources, seed production would be supported by government agencies, namely the Department of Agriculture and Agricultural Extension. The cultivation of hybrid cucumber seeds was an adapted occupation for local farmers, not only in terms of income but could also improve the local development of their communities, which upheld their standard of living.

KEY WORDS: Hybrid cucumber seed, Production efficiency, Farmers' group.

INTRODUCTION

The CUCT 100 cucumber seed production of farmers' group members of Nong Hang Subdistrict, Kuchinarai district, Kalasin province, Thailand. With a total of 40 members, a group of farmers has been established since 1997, producing seeds for distribution to private companies, formed by the integration of farmers in the form of farmer groups in order to produce good quality seeds and quality for sale to private companies. Basically, members of the farmers' group have been engaged in Jasmine rice and glutinous rice farming which most glutinous rice farmers will consume in the household while Jasmine rice will be sold in both local and central markets.

In the past, farmers' seed production tended to be supplementary jobs, in addition to farming as their main occupation. But at present, seed production is supported by the private sector by purchasing all their seed production as well as promoting academic knowledge of other factors of production. It is considered as a support for the promotion and motivation in the production of seeds produced from the farmers' groups. Farmers' group members are preparing to seed farming by transmission technology utilized to fit the space.

In addition, farmers' group members also have to develop a process by an import of agricultural machinery used in the production of seeds to maximize their potential production. The objective of using equipment and machinery in their farming is reducing seed production costs as well as to tackle the shortage of local labor. Moreover, their seed production can be adopted and applied measures to reduce the seed production cost which applied the effective management of seed production applied the practical ways which were 1) seed production of up to two times per year, 2) produced the seed of good quality, 3) applying bookkeeping farms and financial management. 4) reducing the use of seed for their plantation, 5).reducing the use of chemicals as necessary to include soil samples taken in the breeding station development. To analyze soil quality before fertilizer application to be suitable with the area to reduce production costs, the guidelines for the practical ways were to develop soil structure adjustment by applying hormones and substances to help break down agricultural waste, to increase fertilizer in the expanded plot as well as improving the environment. The seed plot has been adjusted to a suitable level for irrigation and easy drainage. The seeds production management of farmers group members they formulate getting along with an agreement with the seed manufacturing company in Kalasin province, by repurchasing it in accordance with the quality standards set by the private company with the fair price for farmers, and other farmers' group members.

The CUCT 100 cucumber seed breeding of farmers' group members of Nong Hang Subdistrict has operated in the form of large scale farming with the integration of members to produce and distribute together. Farmers 'group members get involved in management decisions. Providing their own opinions on management production. To Allow members of the farmers' group to be able to reduce their production costs, yield and marketing properly

Additionally, government agencies such as the department of agricultural extension, ministry of agriculture provided appropriate technology, technical support and the development of infrastructure and the use of agricultural machinery. The government agencies also set produc-

tion standards that are able to set goals clearly. The farmers 'group allowed their members to share their experiences and expertise for seed quality improvement which generated the community enterprises and the product value chain of seed production and generated community income eventually.

In the production group of hybrid cucumber seeds for quality and sufficient quantity, the seed production system had been developed for the community enterprises to increase product value and generate income for the community. They also developed the farmer group to be a production technology center, an academic center for their members, a packaging process, and also a local distribution center. Farmers who are seed producers have introduced the rules of agricultural production following the department of agricultural extension, ministry of agriculture and cooperative known as Good Agricultural Practices (GAP). The GAP applicants have to strictly follow the agricultural practices and good manufacturing processes which aimed at producing safer. The quality is satisfactory for seed users. The quality is consisting of a clean water supply which is suitable for planting area in order to reduce the use of pesticides. Data recording of seed production is arranging the quality production processes and have post-harvest management. To encourage farmers in the group for recognizing the importance of raising the standard of seed production.

In accordance with the Good Agriculture Standard (GAP), the ministry of agriculture and cooperative has been certified the GAP and has started to use the internal control system for group management. For the process of managing, a group of farmers producing cucumber seeds, breeding, CUCT 100 of Nong Hang Sub-district, Kuchinarai District. Kalasin Province, There are management regulations and board meetings by setting their regulations for seed production activities. However, the farmer group produces cucumber seeds to breed CUCT 100 of Nong Hang Sub-district, Kuchinarai District Kalasin province has been carrying out seed production and systematic group management over the past 20 years. But there is still no systematic analysis of seed production efficiency It is an interesting issue whether the seed production operation is effective or not. In this research, the researcher tried to analyze the production efficiency of CUCT 100 Cucumber Seed production.

From the last 20 years of their own production, production efficiency measurement would be beneficial for farmers, members of private companies and government agencies for promoting, supporting and providing knowledge of farmers' groups to improve their own production efficiency.

RESEARCH OBJECTIVE

To analyze the efficiency of seed production of CUCT 100 cucumber, Nong Hang Sub-district, Kuchinarai district, Kalasin province, Thailand.

TERMINOLOGY

Productivity refers to the capacity requirements at a producer to increase productivity within the resources as the original, or the ability to save resources without attention to productivity.

A farmer group member means a member of a farmer group producing a cucumber seed of CUCT 100, Nong Hang Sub-district, Kuchinarai district. Kalasin Province, Thailand.

RESEARCH METHODOLOGY

Population and sample

The population is farmers who are members. of CUCT 100 cucumber Seed production Group, Nong Hang Sub-district, Kuchinarai District Kalasin province, Thailand. The total numbers of 40 farmers' group members were selected as a study population. Purposive sampling technique was applied as a tool for sampling. It came up with 30 farmers' group members as a sample size to be representative of the entire population. However, the number of samples collected from 30 farmers' group members was sufficient (Gujarati, D., 2009).

The primary data were collected by questionnaire. For the validity, the Index of Item-Objective Congruence (IOC) was applied. The IOC score was examined by 3 expertise, it turned out of 0.89 of the IOC score. In addition, the reliability was expressed by Conbrach's alpha, it came up with 0.91 of Conbrach's alpha. (Gujarati, D., 2009).

Data Analysis

The CUCT 100 cucumber seed production function was estimated by the econometric model. The production function expressed the relationship between physical inputs and output through the production process (Chatchawan, A., 2005, p 13-16). The production function could be expressed in the form of Cobb-Douglas Production Function below:

$$Y = A.X_1^{b1}X_2^{b2}, \dots, X_n^{bn}, \quad (1)$$

Where:

y is an output

A is a coefficient or constant term

X_n^{bn} are inputs

Cobb-Douglas Production Function could be written in form of Linear Double Logarithm below:

$$\ln Y = A + b1.\ln X1 + b2. \ln X2 + \dots + bn \ln xn, \quad (2)$$

The summation of coefficients b_1, \dots, b_n expressed the elasticity of output with respect to inputs, it also expressed the return to scale which expressed as

1. $b_1 + b_2 + b_3 + \dots + b_n > 1$ expressed the Increasing Return to Scale (IRS) which meant an increase of input by 1 percent, then it led to an increase of output greater than 1 percent.
2. $b_1 + b_2 + b_3 + \dots + b_n < 1$ expressed the Decreasing Return to Scale (DRS) which meant an increase of input by 1 percent, then it led to an increase of output smaller than 1 percent.
3. $b_1 + b_2 + b_3 + \dots + b_n = 1$ expressed the Constant Return to Scale (CRS) which meant an increase of input by 1 percent, then it led to an increase of output equal to 1 percent.

The parameters were calculated by Bootstrapping Regression Analysis. Also, The CUCT 100 cucumber seed production efficiency was calculated by Shanmugam, K.R. and Venkata-ramani, A. (2006) which expressed as

$$\text{Production Efficiency} = \left(\frac{y}{y^*} \right) \quad (3)$$

Where:

y is the actual output

y^* is the output from the estimated production function

RESEARCH RESULTS

The Estimated CUCT 100 cucumber seed production function could be expressed as Table 1 below:

TABLE 1. The Estimated CUCT 100 cucumber seed production function

Variable	Production Inputs	Coefficient	T-value	P-value
Intercept		3.054	6.351 **	0.00512
lnX1	Wage	0.647	2.668 **	0.0000
lnX2	Seedling value	1.077	14.619 **	0.00517
lnX3	Fertilizer cost	0.009	1.384 **	0.00706
lnX4	Chemical cost	0.001	0.383	0.69900
lnX5	Chemical pesticide cost	-0.002	-0.392	0.5860
lnX6	Water usage cost	0.010	1.554 **	0.00917
lnX7	Fuel cost	0.001	0.106 *	0.04400
lnX8	Material cost for preparing to convert	0.005	0.332 *	0.0347
lnX9	Equipment cost	0.007	0.965	0.768
lnX10	Consumption cost	-0.001	-0.299	0.512
R-square		0.908		
F statistic		29.820 **		

Y = ln (Y)

Y = CUCT 100 cucumber seed production

**Statistically significant at 0.01 level

*Statistically significant at 0.05 level

Source: Calculation

From Table 1, the estimated CUCT 100 cucumber seed production function could be expressed as

$$\begin{aligned}
 \ln Y = & 3.054 + 0.647*\ln X1 + 1.077*\ln X2 + 0.009*\ln X3 + 0.001*\ln X4 - 0.002*\ln X5 + 0.01*\ln X6 + \\
 & (6.351) ** (2.668) ** (14.619) ** (1.384) ** (0.383) (-0.392) (1.554) ** \\
 & 0.001*\ln X7 + 0.005*\ln X8 + 0.007*\ln X9 - 0.001*\ln X10 \\
 & (0.106)* (0.332)* (0.965) (-0.299)
 \end{aligned}$$

T-statistics is in parenthesis

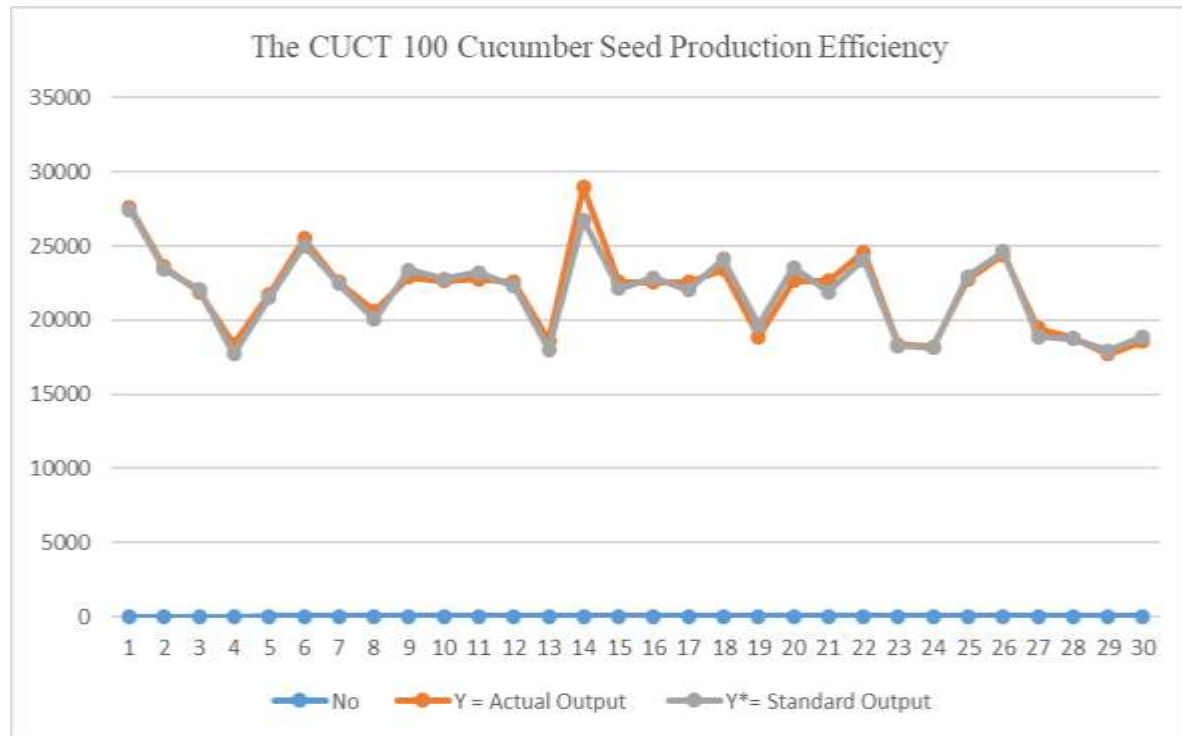
The CUCT 100 cucumber seed production efficiency could be expressed as Table 2 and Figure 2 below:

TABLE 2. The Analysis of CUCT 100 cucumber seed production efficiency

Farmer Member	Technical Efficiency	Percentage
1	1.01	100.64
2	1.01	100.62
3	0.99	99.09
4	1.04	103.79
5	1.01	101.08
6	1.02	102.00
7	1.00	100.31
8	1.03	102.70
9	0.98	97.95
10	0.99	99.36
11	0.98	98.14
12	1.01	101.13
13	1.03	103.26
14	1.08	108.18
15	1.02	101.82
16	0.99	98.68
17	1.02	102.33
18	0.97	97.20
19	0.96	95.97
20	0.96	96.10
21	1.03	103.17
22	1.02	102.11
23	1.01	100.57
24	1.00	100.21
25	0.99	98.98
26	0.99	99.24
27	1.03	103.15
28	1.00	100.22
29	0.99	98.87
30	0.98	98.23
Average	1.01	100.50
Standard Deviation	0.03	2.55

Source: Calculation

Figure 2: The CUCT 100 Cucumber Seed Production Efficiency



According to Table 2 and Figure 1, the research results found that the CUCT 100 cucumber seed production efficiency of 30 farmers' group members as shown. There were 18 out of 30 farmers' group members met the requirement of efficiency which expressed the efficiency score was equal to 1.00 or 100 percent. In addition, there were 12 out of 30 farmers' group members did not achieve the requirement of efficiency. They had their efficiency score of 0.99 or 99 percent which was closed to 100 percent. The research results also expressed that the overall of the CUCT 100 cucumber seed production efficiency score was in good shape. This meant that farmers' group members performed their CUCT 100 cucumber seed production efficiency in a good way.

DISCUSSION

According to the obvious research outcome, the CUCT 100 Cucumber seed production of farmers' group members of Nong Hang Sub-district, Kuchinarai district, Kalasin province, Thailand had been performed their own production in the good shape. It would be great to be supported by both the government and the private sector. The seed company would have the policy to support them for not only the inputs of their products but also the market to buy cucumber seed from farmers' group members. The seed would be met the requirement of the company's standard such as the seed germination percentage, vigor, appearance, and without disease as the important aspects of seed quality.

RECOMMENDATION

According to the research results, the CUCT 100 Cucumber seed production of farmers' group members of Nong Hang Sub-district, Kuchinarai district, Kalasin province, Thailand had the overall seed production efficiency reflecting the good management of seed production of the farmers' group members. The private company had supported the farmers' group by seed buying. For the government sector, the department of agricultural extension should support and encourage them to support their seed production such as academic support and others. In addition, the academic training for farmers' groups would be provided by the department of agricultural extension in order to encourage them to produce their quality seed. Moreover: seed production had been the crucial source of income and employment of farmers' group members. Farmers' group has long been the tool for community empowerment.

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I would like to say thank you to farmers 'group members who provide me the useful raw data for my research. Thanks to my father and mother who give me their endless love which is the greatest love of all. Without my parent's love, I could not stand here. My beloved family---Wittayakorn and Puripunpinyoo.

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ATTITUDINAL DIFFERENCES ACROSS THE URBAN-RURAL DIVIDE IN MYANMAR

by

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ABSTRACT

The Association of Southeast Asian Nations (ASEAN) has been instrumental in bridging gaps between cultures and bringing about better economic conditions throughout Southeast Asia. One particular outcome is an increase in transnational attitudes—that is, attitudes of respect people hold towards others that extend beyond state borders—on a regional scale. In this study, the researcher investigates transnational attitudes across the urban-rural divide in Myanmar, one of the non-founding ASEAN member states, by answering the questions of how do transnational attitudes differ across the economic spectrum and urban-rural divide in Myanmar. Ordered logistical regression is employed using data assembled from the Asian Barometer to test the hypothesis gauging transnational attitudes in Myanmar in this study. The findings indicate statistical significance on higher living standards, in addition to residing in Yangon and the central region. The results have important implications for understanding transnational attitudes in Myanmar and potential opportunities for greater cooperation in Southeast Asia.

KEY WORDS: Economic Development, Modernization, Myanmar, Transnationalism

INTRODUCTION

People in the modern age are more interconnected than ever before. What happens in one part of the world is, at a minimum, known the world over in almost an instant—globalization and the technological revolution are two of the important culprits. This interconnectedness has also led to more conversations, exchanges, interactions, and investments that transcend the traditional state borders, spawning greater amounts of understanding between people and increased cooperation. In some cases, states in a region are codifying this interconnectivity in regional institutional arrangements such as trade blocks, creating a shared sense of existence and purpose, further engraining the interconnectivity of the people across the region. All of this is culminating in the development of transnational attitudes. Transnational attitudes are defined in this study as attitudes of respect and understanding people hold towards those outside state borders (Owen 2018). Transnational attitudes are the product of growing interstate affections between the different peoples across the regions of the world. Perhaps one of the more prominent cases of growing transnationalism is in the context of the European Union, where the sense of shared existence has resulted in peace, prosperity, and unity for the people of Europe (EU Pioneers n.d.). The European Union has effectively spawned the transnational ‘European’ identity that the majority in Europe have embraced since at least 1992 (EU Citizenship n.d.).

Transnational attitudes are forming all across the globe, even across much of the developing world. In Southeast Asia, the Association of Southeast Asian Nations (ASEAN), a regional trade block that formed in 1967, has majority membership of the states in Southeast Asia. While it formed to limit the spread of autocratic political ideology in Southeast Asia, it has since evolved into a regional institution that bonds the people of Southeast Asia together and promotes prosperity amongst the people of the member states. These interactions and engagements between the ASEAN states have yielded transnational attitudes. Transnational attitudes are held by more than half of the people across ASEAN (Owen 2018). While the causes of transnational attitudes across ASEAN likely vary considerably, economic development and prosperity may be quite important.

In this study, the researcher conducts a test of transnational attitudes across the different regions of Myanmar. The researcher seeks to answer the questions of how do transnational attitudes differ across economic spectrum in Myanmar and how do transnational attitudes differ across the urban-rural divide in Myanmar. This is a follow-up to Owen’s study from 2018, though still exploratory in nature. First, the researcher discusses transnational attitudes in Myanmar and the broader region of Southeast Asia. Next, the researcher explains the hypotheses, data, and method. Then, the researcher moves into a discussion of the findings of this study. The findings are that while economic development and residence matter, they hold a complex relationship with transnationalism. The researcher concludes with a discussion of the important implications of this study.

TRANSNATIONAL ATTITUDES IN MYANMAR AND SOUTHEAST ASIA

Transnational attitudes are quite prominent throughout the ASEAN states in Southeast Asia (Owen 2018). ASEAN was established in 1967 by Indonesia, Malaysia, the Philippines, Singapore, and Thailand with the purpose of creating a cooperative environment to tackle strategic threats (Albert and Maizland 2019). ASEAN has been successful in generating not only greater cooperation, but also increased exchanges and understanding, result-

ing in the formation of transnational attitudes amongst the citizenry (Owen 2018). Transnational attitudes amongst the peoples of the ASEAN founding member states range from 36.8 percent in Indonesia to 63 percent in Singapore, with an average of just over half of the population of these states (see Table 1).

TABLE 1. Transnational Attitudes in Founding ASEAN Member States

	Indone- sia	Malay- sia	Philip- pines	Singa- pore	Thai- land
Transnational Attitudes	36.8%	42.3%	57.5%	63.0%	54.9%
Have	338	400	573	646	549
Don't Have	580	545	423	379	451
Total	918	945	996	1025	1000

Source: Asian Barometer: 2006 and 2007 Waves.

Across the non-founding ASEAN member states of Cambodia, Laos, Myanmar, and Vietnam, all joining the ASEAN ranks in the 1990s, transnational attitudes are not only present, but also in some cases, quite prominent. These attitudes range from approximately 40 percent in Myanmar to over double that in Vietnam, which stands at 87 percent (see Table 2). Even though there is a significant amount of variation in these attitudes across these states, transnational attitudes are definitely not a rarity. As a matter of fact, the average across the non-founding ASEAN member states is almost 67 percent, significantly higher than the average across the founding ASEAN member states.

TABLE 2. Transnational Attitudes in Non-founding ASEAN Member States

	Cambodia	Laos	Myanmar	Vietnam
Transnational Attitudes	78.6%	61.3%	39.6%	87.2%
Have	795	605	396	869
Don't Have	216	382	603	128
Total	1011	987	999	997

Source: Asian Barometer: 2006 and 2007 Waves.

Interestingly enough, the founding ASEAN member states are more economically developed than their non-founding ASEAN member state counterparts, but the percentage of the populations with transnational attitudes vary along different lines. In other words, some of the non-founding ASEAN member states possess less developed economies, but have larger populations with transnational attitudes. For instance, Vietnam has the largest transnational population, even though Singapore, with 63 percent of its population having transnational attitudes, is far more developed. Given that transnational attitudes were 24 percent higher in Vietnam, it necessarily causes one to give further consideration to the relationship between transnational attitudes and economic development. Owen (2020) previously found that even though economic development measures like living standards, urbanization, and income levels did not positively correlate with transnational attitudes in Vietnam, education levels did drive transnational attitudes. This paints a picture of how education is leading the Vietnamese people out of poverty, while at the same time it is

likely increasing transnationalism. Therefore, the relationship between economic development and transnational attitudes may be more reflective of the particular economic pathway undertaken at the subnational level rather than the overall comparative rate of development.

Other states in Southeast Asia offer confirmation to this proposition. Thailand has made great economic strides of increased development, improved living standards and educational opportunities, and urbanization, which collectively drive Thai transnationalism (Owen 2020). However, these findings are complicated by an earlier study where living standards and urbanization seemed to both positively and negatively impact transnationalism, depending primarily on the timeframe of data collection (Owen 2019). When controlling for other factors, however, such as having contact with foreigners, none of the economic development measures seemed to matter at all (Owen 2018). In the end, the Thai story of transnationalism may be uniquely Thai.

Lower levels of economic development may not necessarily impede transnationalism either. For example, both Cambodia and Laos have had a very difficult time building their respective infrastructures to encourage more economic development. However, both Cambodia and Laos have extremely large percentages of their overall populations that share transnational attitudes. The percentage of the Cambodian population with transnational attitudes is approaching 80 percent, surpassed by only Vietnam, while in Laos it is just above 60 percent. Why do significant portions of these populations have such progressive attitudes if the economies have not progressed? This is a complicated question to answer, but in Cambodia, both education and income drive transnational attitudes, while only education seems to be in play in Laos (Owen 2020). Thus far, education seems to be an important impetus of transnational attitudes.

Myanmar seems to be an outlier in Southeast Asia. Lower levels of economic development seem to couple with a lower percentage of the overall population sharing transnational attitudes to tell this story. Around 40 percent of the Myanmar population identifies as having transnational attitudes, while the vast majority of Southeast Asian states have larger populations with transnational attitudes. This may lead one to tentatively conclude that Myanmar is somehow different in terms of the relationship between economic development and transnational attitudes from its neighbors. This conclusion would be accurate inasmuch as each of the Southeastern stories is uniquely defined by not only economic development, but also culture, society, and the collective histories that constitute each story. However, this conclusion may also be inaccurate for a few important reasons. First, living standards and education matter a lot in Myanmar when it comes to understanding the causes of transnational attitudes (Owen 2020). This seems to point in the direction of economic development as a potential part of the Myanmar story. Next, Owen's (2020) data was collected under the broader Asian Barometer initiative during a highly autocratic and isolationist period. This isolationist period did not really soften until around 2015, so it should be a little bit of a surprise that economic development was a primary cause of transnational attitudes. Finally, 2015 began the new presidential period which has been followed by economic development and the movement of people (Thawngmung and Robinson 2017). Perhaps the relationship between economic development and transnationalism in Myanmar will continue to look more and more like its more economically developing neighbors as time goes on, though it is hard to say.

Transnational attitudes are quite prominent throughout Southeast Asia to varying degrees. To some degree, the Southeast Asian stories share similarities, but each of these cases are quite unique. While Myanmar may seem at first glance to be the outlier in the region, there are reasons that suggest this is not the case at all. This study attempts to better understand transnational attitudes in the Myanmar case. This not only makes this study interesting, but also timely given the liberation of policies currently unfolding in Myanmar.

HYPOTHESIS, DATA, AND METHOD

Following the discussion above, the hypotheses below are derived and tested:

- H1: People are more likely to have transnational attitudes when they are the beneficiaries of economic development. As beneficiaries of economic development, improved standards of living offer people many benefits, including, but not limited to, better educational and career opportunities, higher incomes, greater amounts of leisure time allowing greater exposure to a wider array of issues, and opportunities to show concern for issues that are important to them. In the era of globalization where people are prospering across the globe, opportunities for interstate interaction can therefore lead to increased transnational attitudes (Owen 2020; Owen 2019; Owen 2018).
- H2: People are more likely to have transnational attitudes when they reside in urban areas. The urban lifestyle is oftentimes quite different from the rural lifestyle as the former typically have greater exposure and access to the things that give rise to transnational attitudes, like a diversity of the population and perspectives. Therefore, residing in an urban center such as Yangon should expose individuals to a plethora of differences that is quite unlike residing in the countryside (Owen 2020; Owen 2019; Owen 2018).

To test this hypothesis, data are assembled from the 2007 wave of the Asian Barometer. The Asian Barometer is the best data for this study for at least two important reasons. First, this data was collected almost a decade after Myanmar's membership in ASEAN as a non-founding member state. The data were therefore collected after the Myanmar people had some opportunities to understand the benefits of membership. Moreover, public opinion surveys indicate that transnational attitudes already exist in Myanmar (Owen 2020; Owen 2018). This barometer also provides important regional identifiers, such as Yangon and specific regional areas, which allows for the controlling of regional identifiers where economic development is more likely and less likely to be present. Logistical regression is the most appropriate regression technique when the dependent variable is a binary response variable.

Dependent Variable

The dependent variable is from a single questionnaire item used to understand respondents' transnational attitudes. The Asian Barometer measures how people report their identity as part of a larger Asian identity that transcends national borders. An Asian identity necessarily means an identity that transcends the state of Myanmar towards a connection to at least a regional level. Their Asian transnational identity is measured on a 2-point scale from no Asian transnational identity to an Asian transnational identity. Even though

measurement error is a concern in any study using survey data, there is no reason to believe any of these measures induced bias.

Independent Variables

The primary research questions explore the causes of transnational attitudes. The first hypothesis proposes a relationship between transnational attitudes and the beneficiaries of economic development—that is, the individual’s standard of living. The Asian Barometer measures how people report their standard of living on a 5-point scale from low to high. Socioeconomic status (SES) is also employed as education and income typically offer additional insight into economic development and the associated attitudes (Chen and Zhong 1999; Shi 2000; Zhong, Chen and Scheb 1998). While individuals with higher education levels tend to have the knowledge needed for upward mobility, in addition to being exposed to differing perspectives and maintaining the capacity to process larger amounts of information than their counterparts, those with higher incomes tend to have a greater stake in economic and political outcomes (Owen 2018). This survey measures how people report their education on a five-point scale from no formal education to a university graduate degree. This survey also measures how people report their income on a fifteen-point scale from up through 100,000 kyat to greater than 9,500,000 kyat.

The second hypothesis proposes a relationship between transnational attitudes and residing in an urban setting. Residing in an urban setting is likely to expose an individual to attitudes that differ significantly from those in the countryside. Oftentimes urban centers are characterized by greater diversity, convenience, greater number of socialization options, and higher levels of domestic and foreign investment (Owen 2020; Owen 2019; Owen 2018; Owen 2015; Owen 2013; Shi 1998; Zhong 2004). This would especially be the case in a larger urban setting like the city of Yangon. This survey measures how people report their location of residence on a major public opinion survey by asking the respondents to state their current residence in one of the following four regions: Yangon, central region, delta region, and hilly region.¹

Control Variables

Several variables are related to political attitudes and it is therefore important to control for them in this study. Oftentimes, political attitudes are differentiated along generational and gender lines (Chen and Zhong 1999; Owen 2018; Shi 2000; Zhong and Kim 2005; Zhong, Chen and Scheb 1998). Therefore, demographics, namely age and gender, may offer some explanatory power when attempting to understand transnational attitudes. The Asian Barometer measures how people report their age in year increments and gender² as female or male.

Controlling for the effect of mass media is also important as mass media routinely influences attitudes (Owen 2018). Moreover, because the type of media used to gain information may differ across respondents, this study controls for the use of the internet, news-

¹ Since the region variable for Myanmar in the Asian Barometer contains four categories, a dummy variable was generated to represent each of these categories: Yangon, central region, delta region, and hilly region. Since the study is interested in urban residence, Yangon is set as the reference category. Establishing Yangon as the reference category allows the researcher to compare transnational attitudes in the central region, delta region, and hilly region directly to Yangon.

² The gender variable maintains a dichotomous outcome of male and female. The researcher follows social science norms and generates a dummy variable to capture the presence of one gender, female, for this analysis (Owen 2020; Owen 2019; Owen 2018).

paper, radio, and television. This survey measures how people report their internet, newspaper, radio, and television usage on a major public opinion survey by asking whether these media influence the respondent's opinion on social and political issues or not.

RESULTS

Table 3 presents the results of this analysis. Even though transnational attitudes are present, the findings paint a complex picture. The findings across the measures of economic development are somewhat contradictory and may not seem to clearly explain how economic development impacts transnational attitudes. On the one hand, improved living standards increased transnational attitudes; living standards increase the likelihood of possessing transnational attitudes by 1.236 times. On the other hand, neither education nor income had a statistically significant effect on transnational attitudes. While these findings may, at first glance, tell a potentially contradictory story, it is important to remember that even though the data collection occurred after a decade of ASEAN membership, it was also several years before the 2015 move towards the presidential system. It may be the case that as the economy liberalizes and the living standards improve, greater access and opportunities for education and income follow, though this remains to be seen.

TABLE 3. Logistical Regression Output of Transnational Attitudes in Myanmar

	2007	
	(S.E.)	Odds Ratio
<i>Beneficiaries of Econ Dev</i>		
Living Standard	0.212*	1.236
	(0.118)	
Education	0.002	1.002
	(0.067)	
Income	0.010	1.010
	(0.037)	
<i>Regions¹</i>		
Hilly region	-1.532***	0.216
	(0.232)	
Delta region	-0.182	0.834
	(0.191)	
Central region	0.887***	2.427
	(0.191)	

TABLE 3. (Continued)

	2007	
	(S.E.)	Odds Ratio
<i>Demographic Factors</i>		
Age	-0.004 (0.006)	0.996
Female	-0.564*** (0.144)	0.569
<i>Media</i>		
Internet	0.012 (0.332)	1.012
Newspaper	0.177 (0.145)	1.194
Radio	0.305** (0.146)	1.356
Television	-0.124 (0.176)	0.883
Log Likelihood	-588.572	
N	999	

Source: 2007 Asian Barometer.

* - .10 statistical significance level.

** - .05 statistical significance level.

*** - .01 statistical significance level.

NOTES:

1. Yangon is the reference category.

The urban center of Yangon is the reference category that each of the regions—that is, the central region, delta region, and hilly region—are compared in the statistical analysis. First, when compared to the Yangon reference category, being from the hilly region depresses transnationalism; being from the hilly region decreases the likelihood of possessing transnational attitudes by 0.216 times. This is likely due to the extremely rural and underdeveloped nature of this region (Er 2016). Conversely, when compared to Yangon, being from the central region increases the likelihood of possessing transnational attitudes by 2.427 times. This finding is likely due to the presence of Mandalay, the second largest city in Myanmar, in this region. It is possible that the respondents in Mandalay are the driving force behind the central region finding, potentially offering further support for the urban residence hypothesis. Finally, being from the delta region was statistically insignificant. While the regional findings may seem inconsistent, they just may be collectively pointing in the direction of support of the urban residence hypothesis.

Interestingly enough, the control variables paint an interesting portrait of Myanmar transnationalism. While transnational attitudes are statistically undifferentiated across the age spectrum, males possess greater transnational attitudes than females; being female de-

creases the likelihood of having transnational attitudes by 0.569 times. On the one hand, gaining necessary information about political and social issues through radio seems quite important; using radio increases the likelihood of transnational attitudes by 1.356 times. On the other hand, however, gaining these types of information through newspaper, television, and the internet are not statistically significant.

So how can these beneficiaries of economic development and urban residence findings be explained? It is somewhat clear that being a beneficiary of economic development and urban residence matter, though it is difficult to ascertain the comprehensive nature of either on transnational attitudes. Collectively these findings may demonstrate an evolving or shifting attitude in Myanmar. It is fair to assume that Myanmar people may be taking a greater interest in the world around them. This may especially be the case in that Myanmar seems to be moving in the direction of democracy, albeit on a slow path complicated with problems, such as the Rohingya killings in the Rakhine state (Anwary 2018).

IMPLICATIONS

Moving back to the original research questions of differentiation of transnational attitudes across the economic spectrum and urban-rural divide in Myanmar, the findings are interesting—that is, both the beneficiaries of economic development and urban residence hypotheses have some support. Regarding the beneficiaries of economic development hypothesis, while higher living standards maintain statistical significance, education and income do not. Perhaps these findings are not all that surprising given the stage, or pathway, of development in Myanmar. In other words, perhaps both education and income will increase over time as Myanmar continues to develop and become more integrated in the ASEAN community. Perhaps higher living standards for some come first, and a broader increase in educational and career opportunities come later. After all, it was not until 2015 that the first modern election occurred, resulting in actual leadership change (Thawngmung and Robinson 2017).

Regarding the urban residence hypothesis, what seems like contradictory findings, may not be contradictory at all. Those from Yangon have higher transnational attitudes than those from the hilly region; lower transnational attitudes than those from the central region; and statistically undifferentiated transnational attitudes to those from the delta region. The hilly region is an underdeveloped region of Myanmar, so according to this hypothesis, this finding is expected. Given that Mandalay, the second largest city in Myanmar, is in the central region, this finding can be reasonably explained. Mandalay is a growing metropolis with a thriving export market of agricultural products, precious gems, precious and semi-precious metals, and petroleum (Pompa and Bissinger 2014). Perhaps a thriving export market, coupled with local industries, allows opportunities for the economically advantaged urban residents of Mandalay.

Both of these hypotheses are important parts of the economic development puzzle in Southeast Asia. While the findings are not conclusive, it is reasonable to assume that further opening up of Myanmar would result in greater exposure to neighboring states and ASEAN, in addition to greater investment. Moreover, it is highly likely that the move towards a more open presidential system will drive Myanmar to further engage the international system. Foreign companies are likely to continue investing in the infrastructure and business opportunities in Myanmar as they are doing in the present (Directorate of Invest-

ment n.d.). It is therefore highly likely that as foreign investment continues, more engagement with foreign entities and foreign individuals will happen and this may positively impact transnational attitudes. Oftentimes with increased foreign investment comes an increase in higher quality jobs and compensation. This likely results in an increased need for education and English language skills. Since ASEAN is the primary impetus for structured agreements in Southeast Asia, it is likely ASEAN will continue to play a significant role in development in Myanmar and across Southeast Asia. All of these facets will likely have a positive impact on economic development and urbanization, in addition to transnational attitudes.

While transnational attitudes are present in Myanmar, this exploratory study demonstrates the complexity in understanding transnationalism at the state level. Perhaps a look at the subnational level in the post 2015 environment would also provide rich findings. Therefore, more work is needed. Now that it is clear that transnationalism matters, it is time to continue this search for the causes of transnational attitudes.

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CHINA'S DIGITAL AND SPACE SILK ROAD: TOWARDS REGIONAL CONNECTIVITY OR GLOBAL TECHNOLOGICAL GIANT?

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ABSTRACT

Since 2013, China has launched the Belt and Road Initiative (BRI—formerly known as the One Belt One Road project), with its two main corridors: the Economic Land Belt and Maritime Silk Road. In 2016, China was indicated to have expanded its third corridor: the Digital Silk Road. President Xi Jinping has declared his vision to set the state as a leader in the technological sector. Since then, China has launched several satellite-based technologies that provide PNT (positioning, navigation, and timing). This paper aims to analyze China's establishment of the digital silk road and its outer-space support instruments. Using the specific approach of the international system levels of foreign policy analysis, this paper concludes that the establishment of the digital silk road is a part of China's grand strategy as a rising power, and create global connectivity for the sake of its national economic development.

KEY WORDS: Digital silk road, Space silk road, Belt and Road Initiative (BRI), Regional Connectivity, China, New Space Race

INTRODUCTION

The Evolving Belt and Road Initiative

In 2013, the President of People's Republic of China Xi Jinping conducted a high-level state visit to Pakistan, where he declared an initiative to establish a multilateral regional project to ensure the connectivity of states throughout Asia, Africa, and Europe through a series of infrastructure connectivity project. About a month later, Xi conducts a similar visit, this time to Indonesia, where he proposed an initiative to revive the long-established Maritime Silk Road in the 21st century. These two moments were noted by Chatzky and McBride (2019) as the starting point of the Belt and Road Initiative (BRI)—China's mega geoeconomic project that seeks to establish global connectivity in three continent—Asia, Africa, Europe—and possibly beyond. The project was initially rooted back to its predecessor, the 'One Belt One Road' (OBOR) initiative that was established in 2013 (Zou, 2018). However, as underlined by Cai (2017), OBOR is still very much oriented to land-based connectivity, while BRI is far more inclusive in regards to its domain. However, the most important thing is that the BRI is analyzed by several academicians (for example see Beeson, 2018) as China's Grand Strategy to revolutionize global and regional order, and put itself in a higher level of hierarchy in its status as a rising power.

Damuri *et al.* (2019) noted that BRI cooperation has included at least sixty states, with about half of the global population and one-third of the world's gross domestic product (GDP). There are two main important elements of the BRI, namely the Land Economic Belt that is composed of three main economic corridors, and the 21st Century Maritime Silk Road, consisting of two main maritime corridors (Damuri *et al.*, 2019). However, China is not planning to merely create an earthly and mainstream connectivity project. China keeps expanding its BRI to new domains. In 2014, Asseff (2014) noted that the Chinese-based Alliance of Satellite Application Services (ASAS) started a discourse in a few conferences to strategically create space-based satellite connectivity around the globe. This discourse was later absorbed into the policy-making process of China's government. The turning point, then, ceased to exist in 2016, when China published a White Paper entitled 'White Paper on China's Space Activity in 2016', where the State Council of the PRC (2016b) first mentioned China's ambition to construct a 'Belt and Road Initiative Space Information Corridor', that includes the projects of: 'earth observation, communications and broadcasting, navigation and positioning, and other types of satellite-related development; ground and application system construction; and application product development.'. This corridor is analyzed to be the third and peak corridor of BRI that combines three different domains—air space, (outer) space, and cyberspace. This corridor would later be operationalized in two distinct yet highly-related instruments, which are the Space and Digital Silk Road. This paper seeks to analyze the creation of this corridor through the lens of international system level of analysis in foreign policy analysis paradigm, which mainly circulated in China's threat perception towards other states in what is called the new Space Race.

Realist Theoretical Foundations of China's Balancing Act

The paradigm of Structural realism has two understandings of the reasons for the state to seek power, namely defensive and offensive realists. Defensive realists realize that too much strength

is strategically not good. The state should seek sufficient power (Waltz, 1979 in Mearsheimer, 2006). If the country becomes too strong, then balancing will be done. Specifically, other great power countries will increase their capabilities and form a coalition balancing (Mearsheimer, 2006). In the case of the post-Cold War space race, then between the US and China. This began with Russia's setback in 2017 after the failure of the Vostok launch, and this reduced Russia's ability to compete at the level of space with the US. Meanwhile, at the close time, China succeeded in launching the Galileo GPS network by developing its system called BeiDou and had passed through its European partners. In 2016 the regional operation constellated with the possibility of working well in 2020. China began to hook domestic and international partners to buy BeiDou. The period 2000 to 2017 became a major development (Moltz, 2019).

Defensive realists see the rise of China as a balancing strategy. It is stated that China does not refer to a strategy to become a hegemony, but seeks to be in a rival position. This is because if China tries to become hegemony, then the US will try to form coalitions or destroy them. China will gain significant power in Asia, but not to maximize its power in the world. China is seen as not that stupid and refers more to cooperative cooperation. China has amazing economic capabilities without a lot of foreign aid, this shows that conquest is not necessary to obtain large wealth. This is in line with the assumption of defensive realists like Kenneth Waltz (1979) who stated that seeking maximum power is an unwise action for a country because the system will punish them if it is too big. Power is based on a country's material capability to influence other countries. It usually focuses on military assets that are owned, but the state also has a second power, namely latent power which refers to the socio-economic needs of the state to build military power. Latent power is based on the country's wealth and the total size of its population. Latent power refers to the raw potential of a country to be able to compete with other countries, such as money, technology, and personnel (Mearsheimer, 2006). It also supports the behavior of China making large investments in space advancement that began to produce in the early 2000s. Their fear of US military space advantages led to support from the government to carry out space missions that could provide high technology developments that were useful for the Chinese economy (Moltz, 2019). Also, the focus of the space race between China and the US is on moon exploration (Hickman, 2019). The moon has mineral resources, water ice can be used as a source of water exploitation. The presence of metal deposits on the moon also makes it possible to exploit lunar mining (Hickman, 2019).

Defensive realist also assumes that the state can establish mutually beneficial cooperative relations without the assistance of international institutions and norms that describe their development, and the use of weapons of mass destruction is epiphenomenal. According to them, structural modifiers have a greater influence on the possibility of conflict or international cooperation. The structural modifiers in question are the relative distribution of capabilities possessed by each country in carrying out diplomatic and military strategies. Cooperation and competition are both risky, but according to international cooperation and less competitive state behavior are more likely to occur. When industrial capacity, strategic depth, or cumulative raw materials, the country will allow expansionist policies (Taliaferro, 2000). China in 2008 formed the Asia Pacific Space Cooperation Organization - APSCO as a media to show them as international space leaders. Also, China's success in deploying a lander to the moon's far side is proof of the capability of the Chinese government to increase sophisticated milestones in space. Not even China's deliberated and comprehensive approach to its program space is supported financially and politi-

cally so that it gets domestic and international prestige legitimacy. With the possibility that in 2025 China will launch, assemble, and operate a long-term space station, they have invited their international partners to participate in utilizing this (Bowe, 2019). This was done in May 2018, that they invited members of the UN to use China's space station for scientific research. Prove their capability to utilize diplomatic potential to realize community needs regarding information from outer space (Bowe, 2019).

China's policy regarding the space race allows the Chinese government to continue to develop military capabilities from their outer space, but publicly declares rejection of the militarization of space. This is evidenced by the existence of white papers from the Chinese government. Specifically in the 2016 document explaining the goals and achievements of China since 1956 is to achieve expectations in the space program and follow the strategic plan and strengthen innovation can encourage China to carry out lunar exploration, space stations, and develop China as a leading space power. As explained earlier, that China is trying to catch up with technology beyond its space, but is more focused on developing stable and reliable infrastructure by increasing the capabilities of its satellite systems and space-ground integrated information network (Bowe, 2019). The Shanghai-based SpaceOK development was used to produce a constellation of 40 satellites which were used to support the Chinese government's OBOR investment in Asia. China's space capability is expected to support their economy rather than their military, this is evidenced by China's efforts to develop its ambitious plans by increasing its presence on the moon, launching large space stations, developing space-based solar power, and the capability to conduct asteroid mining (Moltz, 2019). This also supports China's focus on developing space capabilities on the moon and not elsewhere, because as explained earlier the moon is rich in resources that technology cannot yet find to exploit raw resources there.

China's Multi-Domain Connectivity Strategy: a Geoeconomic Mega Project

Lele and Roy (2019) underlined that China's space program has dated back to its early independence years, in 1958 when the late Chairman Mao Zedong declared China's intention to develop its satellite. The first satellite launch of China was in 1970 when the Dongfanghong I satellite was launched through the advocacy of the Chinese Academic of Sciences (CAS), which was a civil institution. However, the development of the satellite took place at the same time as China's first development plans of a ballistic missile, with the international context at that time being the First Space Race between the United States of America (US) and the Soviet Union taking place. The two Cold War superpowers were engaged in a series of struggles to become a 'first' in outer space, with Soviet Union's first artificial satellite Sputnik I become the first man-made object to fly to outer space. The US would later keep up by becoming the first person on the moon in 1969. Such a context of the international system should be understood, as according to Seedhouse (2010), this became the main driver of China's early space program—one that is very ideologically and realistically built to maintain China's status as a fellow great power to US and Soviet Union. However, back to China, this civil-oriented development didn't last long. However, during the end of the Cold War era and the early 21st Century, China's space program was coming to a little silence.

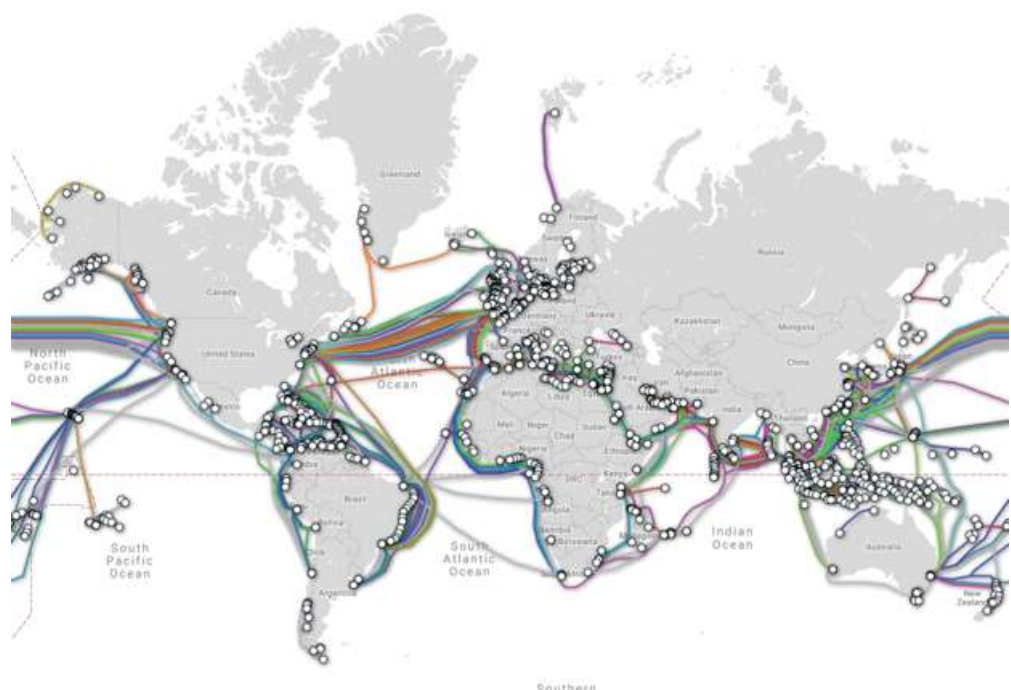
China's information and communication technology (ICT) was started to be developed around the same time, yet didn't develop in the same space as its space technology. This is mainly due

to that ICT was not a mainstream competition instrument during the Cold War. However, Lele and Roy (2019) underlined that the turning point of China's ICT was in 2002 when China is starting to open its economic relations with other countries and acknowledge the importance of creating further connectivity with other parts of the world. ICT was getting a spotlight in China's developmentalism policy (Lele and Roy, 2019). The new plan on digital connectivity is seen as a new frontier for China, yet the enthusiasm and need have pressured China to invest in the sector. This discourse was launched in the same years as 'Rise of China' emerged, bringing China as the world's new rising power, and it was seeking to dominate the global digital race, in which the US has dominated since the 1990s. However, the creation of the Digital Silk Road could be coined out in 2015, when the National Development and Reform (NDRC) of the PRC (2015) issued a White Paper entitled "Vision and Actions on Jointly Building Silk Road Economic Belt and 21st -Century Maritime Silk Road", that mentioned the creation of an information silk road as a part of the BRI.

"We should jointly advance the construction of cross-border optical cables and other trunk line networks, improve international communications connectivity, and create an Information Silk Road. We should build bilateral cross-border optical cable networks at a quicker pace, plan transcontinental submarine optical cable projects, and improve spatial (satellite) information passageways to expand information exchanges and cooperation." (NDRC of the PRC, 2015)

This establishment is then further justified by the 13th Five-Year Plan for Economic and Social Development of the PRC by the Central Committee of the CCP (2015) that underlined the three main instruments of this digital silk road, which are: (1) the construction of land and sea cable infrastructure; (2) an internet silk road; (3) the creation of information harbors between China and partnering states. In sum, this project is aimed to provide a better digital regional connectivity among BRI states through a grassroots level of digital connection access towards society. The most mentioned instrument of this project as analyzed in the publication are through the creation of a fiber optic cable project throughout the silk road. The economic and political vision behind this project is in line with China's vision as the leader of the digital world. Lele and Roy (2019) also noted that president Xi is the Chinese leader that has the vision to transform China's position in cyberspace. This, according to Woetzel *et al.* (2017) is indicated by China's position as the top three among the world's states in terms of venture capital investment in digital technology. One of them is the 5G technology—the newest generation of digital network technology. In this case, Huawei is dominating the 5G business. The 5G generation is considered to be the 'soul' of the Digital Silk Road, while its 'bones' are the global fiber optic cables, and its 'backbone' is the undersea fiber-optic cables, which according to Rapp (2014) compasses about 98% of global digital communication traffick.

Map 1: Global undersea fiber-optic cables
Source: TeleGeography (in Kelkar, 2018)



Graph 1: 5G Standard Technical Contributions by Company Worldwide
Source: Statista (2019)



Both Map 1 and Graph 1 above show how China has strived to become a new power in terms of digital connectivity. As evidenced in Graph 1, Huawei Technologies—a state-backed multinational corporation—is leading the race to develop 5G technology, the newest and most advanced digital data distribution technology in terms of quality and speed. Meanwhile, at the same time, Map 1 shows that China has become a new hub in undersea fiber-optic cables, the backbone and main instrument of the digital silk road, and is the precondition to achieve an optimum 5G connection. In this case, China is betting a part of its economic future on this digital sector. Kelkar (2018) noted that China has prioritized some domestic projects that would relate and benefit from the creation of the digital silk road. Kelkar (2018) also mentioned that China's instrumentalization of the Digital Silk Road appears in two other projects: (1) China's 'Made in China 2025' initiative that focuses on creating China as a major manufacturing power; (2) China's 'Internet Plus' initiative by Premier Li Keqiang that is planning to integrate digital grassroots connection of internet with big data and cloud computing, for the development of e-commerce, industrial networks, internet banking, and other market-based economic activities.

Woetzel *et al.* (2017) mentioned that three types of digitization are being experimented by China to be able to integrate its national economic business to its Digital Silk Road. First, the disintermediation strategy, which are serving consumers directly and positioning digital technology as simply a media between consumer and industries. Second, the disaggregation strategy, which is the strategy when physical assets are being repurposed as services. Third, the dematerialization, which is the strategy of digitizing physical objects, such as music and publication. Woetzel *et al.* (2017) also predicted that this economic digitalization by China could result in an increase in industry revenue between 10% to 45% by 2030. Woetzel *et al.* (2017) analyzed that this revenue would come from four industry sectors that succeed to combine online and offline strategy—named the omnichannel strategy—which are consumer and retail, freight and logistics, automotive, and mobility, and health care.

However, to create even better connectivity towards its silk road and throughout BRI partner countries, China making an even more ambitious project that is mentioned as the Space Silk Road, or the Space Information Silk Road. The travel of data by fiber-optic is often limited by not only its speed but also its coverage of data. Meanwhile, the Space Silk Road offers a wider range of data input and distribution that will be a crucial upgrade towards the Digital Silk Road already established. The Space Silk Road, however, has similar characteristics with the Digital Silk Road: both are abstract in its core, and maps of its connectivity are created solely by the chain of information that is being transmitted. However, both also could be represented by the infrastructure that is being used. When we could trace the presence of the digital silk road by fiber-optic cable infrastructure, the Space Silk Road is being operationalized by a series of the satellite-based network that would provide and distribute information towards its users on earth. According to Khanna (2016), the intensification of Chinese satellites launching during the past few years was an indication of this project. In sum, the concept of the Space Silk Road was to become a provider of Positioning, Navigation, and Timing (PNT) inputs. Therefore, the creation of the Space Silk Road includes a wide range of outer space policies, including the creation of satellites and its launching services, ground infrastructures, and even by cooperating with private corporations (Lele and Roy, 2019).

The turning point of the establishment of the Space Silk Road could be pinned during the publication of China's Space Activities in 2016 White Paper by the State Council of the PRC (2016a) that mentioned a wider vision for China to include outer space as one more domain in its BRI. This is worth noting because such mentions of an ambitious project were not seen in China's White Paper on its space activity back in 2011 (the State Council of the PRC, 2011). While both white papers acknowledge the common paradigm of outer space as a commonwealth of mankind and justify its space activities as an act of "an unremitting pursuit of mankind", China's Space Activities in 2011 White Paper mainly focus on the competitiveness report of China's space industry, and that it is making great progress in it.

TABLE 1. Major Points Comparison between China's 2011 and 2016 Space Activities White Paper

China's Space Activities in 2011 White Paper	China's Space Activities in 2016 White Paper
Principles	
-Scientific Development	-Innovative development
-Independent development	-Coordinated development
-Peaceful development	-Peaceful development
-Innovative development	-Open development
-Open development	
Progress Made (since 2006 and since 2011, 5 years period)	
1. <u>Space Transportation System</u>	1. <u>Space transportation system</u>
-67 successful launches	-86 launch missions
-79 spacecraft into planned orbits	-Over 100 spacecraft into the target orbit
-Improvisation of long march rocket series	-Creation of the Long March 5 (CZ-5) as the newest generation of carrier rockets, with Long March 6 and 7 development underway
2. <u>Man-made satellites</u>	2. <u>Man-made satellites</u>
-Earth observation satellites:	-Earth observation satellites:
- Fengyun (wind and cloud)	- Fengyun (wind and cloud)
- Haiyang (ocean)	- Haiyang (ocean)
- Ziyuan (resources)	- Ziyuan (resources)
- Yaogan (remote-sensing)	- Yaogan (remote-sensing)
- Tianhui (space mapping)	- Tianhui (space mapping)
- Communication & broadcasting:	- Gaofen (high resolution)
Significant increase of performance but preliminary capabilities	- Communication & broadcasting: Comprehensively advanced
	3. <u>Space environment</u>

TABLE 1. (Continued)

China's Space Activities in 2011 White Paper	China's Space Activities in 2016 White Paper
International Exchanges for Cooperation	
<u>1. Bilateral cooperations (actors mentioned):</u> -Russia -Ukraine -European Space Agency (ESA) -Brazil -France -Germany -US National Aeronautical and Space Administration -Venezuela -European Organization for the Exploitation of Meteorological Satellites -United Kingdom -Germany -Other states with minor cooperation	<u>1. Bilateral cooperations (actors mentioned):</u> -Russia -European Space Agency (ESA) -Brazil -France -Italy -United Kingdom -Germany -Netherlands -US (not through NASA, but merely through strategic and economic dialogue) -Other states with minor cooperation
<u>2. Key cooperation areas:</u> Focus on bilateral space technology development	<u>2. Key cooperation areas:</u> Same, but an addition of the creation of BRI Space Information corridor

*the red-colored parts are indications of a significant policy change

Source: the State Council of the PRC (2011, 2016) as processed by authors

Through the analysis above, at least three main major differences are shaping China's current five-year space policy. First, is that there is an intensification of China's space activities. Second, is that there is a reduction of bilateral cooperations with states, except strategic bilateral relations, in exchange for the creation of the multilateral space corridor in the BRI framework. Third, is that there is a decrease in the US-China space cooperation that is currently merely in a form of bilateral economic cooperation forum. This might be due to the increase of China's dependence on its status to become a space great power, or even a hegemonic power in space, showing that China isn't dependent on the US anymore. Moreover, it shows that China is becoming more-outward oriented by planning to cooperate with countries, and possibly changing the global space order.

“Construction of the Belt & Road Initiative Space Information Corridor, including earth observation, communications and broadcasting, navigation and positioning, and other types of satellite-related development, ground and application system construction; and application product development” (the State Council of the PRC, 2016).

In the middle of China's Space Silk Road framework is the BeiDou System—an array of Chinese global navigation system that was first developed by China Academy of Space Technology (Lele, 2014 in Lele and Roy, 2019). The system was a satellite global navigational network technology that will be predicted to have at least 35 units of satellites. Lele and Roy (2019) underlined that this system was started to be developed in 2000, and since then it has experienced a three-phase development, increasing its number of satellites from three to over thirty. Asseff (2018) mentioned that the BeiDou constellation currently has 31 satellites in orbit and that in sum, it will provide a precise position and navigation data towards land-based and sea-based transportation to all partnering states, mainly China. Moreover, the system will provide a timing data towards financial markets, as well as observation and monitoring data towards some other industries, including weather monitoring, earth observation, and casual-commercial as well as emergency communication. Asseff (2018) also observed that the system would later come in two distinct access pattern, which is the open service that is open to users worldwide, while also providing authorized services to certain parties, such as the government and military bodies. Lele and Roy (2019) mentioned that not only in its capability but China Satellite Navigation Office has also mentioned that the BeiDou satellite navigation system has reached its peak by 2020 when it has fulfilled its scope development from limited to China only by 2000 and Asia Pacific coverage by 2012. However, in comparison to its fellow corridors in the BRI, the Space Silk Road still have a lot to accomplish.

CONCLUSION

The Future of China's Global Connectivity

China can be said to implement a balancing strategy due to the urge to balance the power of the US, this is applied in various projects and policies in the new space race. The Space Silk Road project is a major step for China to balance its economic capabilities by developing an information technology base that can provide connectivity and cooperation with partner countries. China's mega geoeconomic project has become an operationalization of its intensifying space program that is a means to boost its capacity as an emerging economic power in Asia and to challenge American hegemony in space. The relations between China's Space Silk Road and Digital Silk Road are the impact of technological development—a new frontier in connectivity technology China is trying to dominate. This is done through the collaboration between the state/public sector and private/state-backed enterprises. However, China's Space programs in this era have encountered a huge shift from its previous paradigm that is more independent. Rather, this framework—also under the BRI—pushes China to build connectivity as a means to achieve its dominance interest. This effort is not to bring down the US, but to be in an equal position. Through the BeiDou system, which has become important in the development of China's capabilities in space, and through China's white papers in 2011 and 2016, there is a sign of China's efforts to focus on improving the effectiveness of connectivity through global networks led by China in their large projects such as BRI, which are increasing in intensity. became the Digital Silk Road, and competed in the realm of outer space through the Space Silk Road.

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EXPLORATORY FACTOR ANALYTIC APPROACH TO NEEDS ASSESSMENT FOR BEGINNING TEACHERS

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ABSTRACT

In an effort to help beginning teachers succeed, a propose Induction Module was created to fight unforeseen problems. The main objectives are environmental in nature: (1) management and organization when dealing with students; (2) teaching strategy; (3) rights of teacher and (4) well-being of a teacher. IM is a formal, systematic effort to provide ongoing assistance to the new teacher during the induction period. The researcher has chosen to adopt a naturally-observed, cross-sectional, exploratory research design. The program relies on the use of mentors and direct needs assessments. Many types of assistance may include providing helpful information about specific responsibilities, the college, the community, policies and procedures and the curriculum Celebrating the beginner's arrival, establishing rapport and providing an orientation are also very helpful. The program also provides for ongoing assistance, ranging from providing moral support to conducting seminars. To assess the overall value of the program and to make necessary changes, an evaluation is suggested.

KEY WORDS: Induction module, Teaching strategy, Rights of a teacher, Well – being of a teacher

INTRODUCTION

Schools worldwide familiarize new instructors in their first years of teaching by way of contributing to their sense of well-being and professional development (Partlow, 2006). As a beginning professional, it is advantageous to know the legal bases of education, its programs and projects. It must be clarified about the rights, responsibilities and accountabilities as instructors. It is important that beginning instructors must internalize their roles, rights, obligations and accountability that must be performed (Nicodemus, 2011).

Though teacher induction has been described and discussed since 1950s (e.g., Amar, 1952), it is only since the 1980s – 1990s that teacher induction has received serious attention in research and the literature. Many researchers began to describe the sudden and sometimes dramatic and traumatic experiences of the transition from being a student to becoming a teacher (e.g., Corcoran, 1981; Rosenholtz, 1989; Veenam, 1984).

Not only in research but also in practice, the attention for teacher induction has increased spectacularly. Smith and Ingersoll (2004) showed the developments in the use of induction programs in the USA from 1990 to 2000; whereas in 1990 about 40% of beginning teachers reported being supported with a formal induction program, in 2000 this number had risen to about 80%.

An important reason to invest in induction programs is to sustain the professional development of beginning teachers not only to help them survive those first years of teaching, but also to challenge them in their development as teachers and provide an impetus for continuous growth (Cole, 1994).

LITERATURE REVIEW

Theories Explaining Progression towards Expertise /Literature Review

Republic Act 10533 or Enhanced Basic Education Act of 2013 Section 7 states that DepEd and the Commission of Higher Education (CHED), in collaboration with relevant partners in government, academe, industry and nongovernment organizations (NGOs), shall conduct teacher education and training programs to ensure that the enhanced basic education curriculum meets the demand for quality teachers and school leaders. Specifically, new teachers shall undergo additional training, upon hiring, to upgrade their skills to the content standards of the K to 12 Basic Education Program (BEP).

The Teacher Education Council (TEC), created by virtue of Republic Act 7784, is mandated to strengthen teacher education in the country. One of its directives, as stipulated in Section 7 – F of the RA, is to design collaboration programs and projects to enhance pre-service and in-service teacher training, orientation and teacher development.

Understanding the needs of the beginning teacher is another area of research that has influenced the development of teacher induction programs. Research has found that beginning teachers have predictable concerns about management, curriculum and assessment practice. They have to build efficacy about their abilities to solve problems and work independently of mentors. And most of all they have a need to communicate with other teach-

ers about teaching in a risk-free environment, and observe other teachers teaching. They need many opportunities to develop proficiency (Burke, Fessler & Chrisensen, 1994; Peterson & Comeaux, 1997; Darling-Hammond, 1997) as cited by Nicodemus (2011).

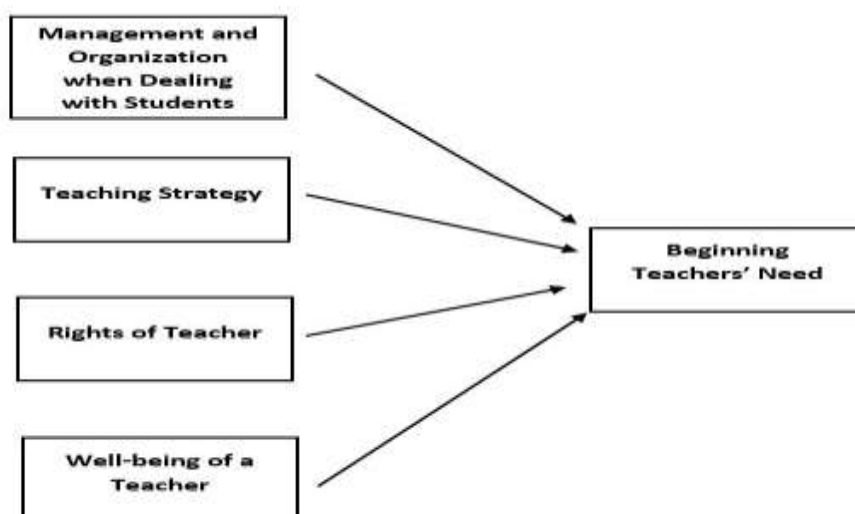
The process through which an employee learns and adapts to a new position in an organization is often referred to as organizational socialization (Chao, O'Leary Kelly, Wolf & Klein, 1994). This process focuses on the ways an employee learns the culture, values, rules, skills, expectations and other information necessary to effectively execute his/her position within an organization (Van Maanen & Schein, 1979).

Support and assistance for newlyhired teachers have positive impacts on three sets of outcomes: first, on teacher commitment and retention; second, on the teachers In the Philippines, Bilbao et. Al. (2013) recommended the need to induct newly hired teachers to orient them on the programs and projects of the Department of Education that contributed positively in enhancing teachers' knowledge, skills, values and commitment to the profession and in improving the student's learning outcomes.

Several studies show positive effects of induction programs on professional development (Althanases & Achinstein, 2003; Achinstein & Barrett, 2004; Luft & Cox, 2001; Napper-Owen & Philips, 1995), but others show very limited influence or even no influence at all (Carver & Katz, 2004; Glazerman et al., 2008; Strong & Baron, 2004).

This study is of particular interest because it is one of the only studies to differentiate new employee orientation training from initial technical or skill training. Klein and Weaver (2000) examined the effect of attending a voluntary orientation program on the learning of socialization information. In particular this study sought to help employees feel more a part of the organization, become more familiar with the organization's culture and goals and to educate them on work place principles.

METHODOLOGY/CONCEPTUAL FRAMEWORK



The framework shown above, the researcher of the study intended to determine the perceived needs of the participants, to do so both descriptive statistics and self-report measure were used through the utilization of the 24-item Beginning Teachers' Needs questionnaire. The responses gathered from the aforementioned questionnaire were then subjected to factorability screening and dimension reduction by way of principal axis factoring which produced 4 factors that are underlying within the Beginning Teachers' Needs questionnaire.

RESULTS

Factor 1 Management and Organization when Dealing with Students

Items which include in this factor are 5, 6, 7, 8, 11, 12, 14 and 15 that shows the respondents management and organization when dealing with students such as organizing and managing classroom, maintaining student discipline, obtaining instructional resources and materials, diagnosing student needs, evaluating progress, motivating students, dealing with the individual difference among students and understanding the curriculum.

Factor 2 Teaching Strategy

Items which include in this factor are 3, 5, 8, 9, 12, 14, 15, 17, 18, 19, 20 and 23 that reveals the respondents strategy in teaching such as communicating with other teachers, organizing and managing classroom, planning instruction, managing time and work, motivating students, dealing with individual difference among students, understanding the curriculum, using variety of teaching method, facilitating group discussions, grouping effective instruction, administering standardized achievements tests and dealing with stress.

Factor 3 Rights of Teacher

Items which include in this factor are 2, 13, 14, 15, 16, 21, 22 and 24 which displays the respondents communication with the superior, assisting students with special needs, dealing with individual difference among students, understanding the curriculum, completing administrative paperworks, understanding the school system's teacher evaluation process, understanding legal rights and responsibilities and becoming aware of special services provided by the college

Factor 4 Well-being of a Teacher

Items which include in this factor are 1, 2, 3, 4, 8, 9, 22 and 23 which presents the respondents finding out what is expected from him, communicating with the superior, communicating with other instructors, communicating with parents, planning for instruction, managing time and work and understanding legal rights and responsibilities.

CONCLUSION AND RECOMMENDATION

According to the results, factor 3 (Rights of Teacher) was shown to have the largest mean and a measure of spread that is close to the mean score. Which implicates that it has the highest level of needs the respondent must overcome during his/her beginning years as an

Instructor. This was followed by factor 1 (Management and Organization when Dealing with Students), factor 4 (Well-being of a Teacher) and factor 2 (Teaching Strategy) respectively, both of which displayed measures of spread that are similar.

Putting great weight on the outcome of the study. It is aptly recommended that beginning instructors shall undergo necessary induction program and follow the suggested manual as propose by the researcher of this study to enhance level of awareness and understanding as an instructor rights when it comes to teaching towards realization of the college's aims and objective.

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APPENDIX

Factorability Screening

Initially, the factorability of the 24 Beginning Teacher's Needs Items was examined. Several well-recognized criteria for factorability of a correlation were used. Firstly, it was observed that all of the items correlated at least 0.4 with at least one other item suggesting reasonable factorability (See Appendix C). Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.661, slightly above the recommended value of 0.6, and Bartlett's test of sphericity was significant ($\chi^2(276) = 2485.089$, $p < .001$) (See Table 1). The diagonals of the anti-image correlation matrix were also all over 0.5 except for item 20 or "Q20: Administering standardized achievement tests", thus the researcher has decided to exclude this item in the factor analysis. (See Appendix C). Finally, the communalities were all above 0.3 (See Table 2), further confirming that each item shared some common variance with other items. Given all these indicators, factor analysis was deemed to be suitable with all 23 items.

TABLE 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.661
Approx. Chi-Square		2485.089
Bartlett's Test of Sphericity	df	276
	Sig.	0.001

TABLE 2. Communalities

	Initial	Extraction
Q1	.968	.718
Q2	.861	.400
Q3	.960	.745
Q4	.871	.397
Q5	.958	.876
Q6	.921	.762
Q7	.952	.687
Q8	.906	.818
Q9	.918	.763
Q10	.964	.778
Q11	.942	.756
Q12	.983	.890
Q13	.819	.401
Q14	.974	.816
Q15	.974	.930
Q16	.958	.731
Q17	.974	.808
Q18	.979	.921
Q19	.986	.895
Q20	.903	.302
Q21	.982	.849
Q22	.987	.936
Q23	.953	.862
Q24	.978	.848

Extraction Method: Principal Axis Factoring.

Principal Axis Factoring

Principal axis factoring was used in this study because the primary purpose was to identify and determine factors underlying the 23 item beginning teachers' needs. Initial eigen values indicated that the first four factors explained 58%, 9.3%, 7.1 % and 4.8 % of the variance respectively. The fifth, six, seventh, eighth and remaining factors yielded eigen values lower than 1 and variances lower than 3%. Solutions for the remaining factors (i.e., fifth, six, seventh and eighth) were each examined using varimax rotations using the factor loading matrix. Results from the varimax rotation yielded a 4 factor solution with factor 1 (Management and Organization when Dealing with Students) explaining 21.9% of the variance, factor 2 (Teaching Strategy) explaining 20.9% of the variance, factor 3 (Rights of a Teacher) explaining 17.9% of the variance and factor 4 (Well-being of a Teacher) explaining 13.7% of the variance. Thus explaining a total of 74.5% of the variance (See Appendix D). Furthermore, in the factor analysis, all the items included in the varimax rotation contributed to a simple factor structure and succeeded in meeting the minimum criteria of

having a primary factor loading of 0.4 or above, and were not cross-loaded 0.3 or above. (See Table 3)

TABLE 3. Rotated Varimax Factor Matrix

Rotated Factor Matrix				
	Factor			
	Management and Organization when Dealing with Stu- dents	Teaching Strategy	Rights of Teacher	Well-being of a Teacher
Q1				.723
Q2			.424	.439
Q3		.441		.667
Q4				.452
Q5	.812	.408		
Q6	.703			
Q7	.750			
Q8		.634		.474
Q9		.621		.435
Q10	.836			
Q11	.749			
Q12	.746	.422		
Q13			.524	
Q14	.436	.516	.583	
Q15	.509	.558	.590	
Q16			.582	
Q17		.742		
Q18		.796		
Q19		.798		
Q21			.723	
Q22			.752	.461
Q23		.634		
Q24			.832	

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

Descriptive Summary of Identified Factors

TABLE 4. Rotated Varimax Factor Matrix

Factors of Beginning Teachers' Needs			
	N	Mean	SD
Factor 1: Management and Organization when Dealing with Students	70	2.07	1.05
Factor 2: Teaching Strategy		1.92	0.94
Factor 3: Rights of Teacher		2.30	1.01
Factor 4: Well-being of a Teacher		1.97	0.89

The table presents the descriptive summary for the mean scores of the participants (N=60) based on the factors created. According to the table, factor 3 (mean=2.30, sd=1.01) was shown to have the largest mean and a measure of spread that is 1.01 standard deviations close to the mean score. This was followed by factor 1 (mean= 2.07, sd=1.05), factor 4 (mean=1.97, sd=0.89) and factor 2 (mean = 1.92, sd = 0.94) respectively, both of which displayed measures of spread that are similar.

THE ACQUISITION ORDER OF ENGLISH GRAMMATICAL MORPHEMES IN THAI EFL LEARNERS: A PRELIMINARY ANALYSIS

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ABSTRACT

The current study was a preliminary study for a framework and a pilot testing, aimed to identify the acquisition order of English grammatical morphemes in Thai EFL learners, and to compare whether the order in Thai EFL learners conforms to the Natural Order Hypothesis (NOH; Krashen, 1977). Two language elicitation tasks (English Written Production Task and English Oral Production Task) were used to collect data on nine grammatical morphemes as performed by 14 Thai EFL college students. Target-Like Use (TLU) was used to identify the order of acquisition, while the Spearman-rank correlation coefficient was used to identify the correlation between the NOH and those of the Thai students. The findings revealed that progressive –ing, copula be, and auxiliary be being the first three earliest morphemes as performed by Thai EFL college students. In addition, there was a positively significant correlation between the NOH order and those of Thai EFL college students ($r_s = .900$, $p < .001$). The findings from this preliminary study suggested an effective framework and instruments for the actual study.

KEY WORDS: Grammatical Morpheme Acquisition, Natural Order Hypothesis, Thai EFL Learners

INTRODUCTION

The studies on grammatical morphemes have shed important light on the grammatical morpheme acquisition and instruction in both English as the first language (L1) and English as the second language (L2). Ellis (2005) described that the tenet of these studies attempts to figure out whether the universal order of grammatical morpheme acquisition exists in L2 learners. In the 1970s, Brown (1973) conducted the pioneering and longitudinal morpheme order study in three young English-native speaking toddlers in the U.S. He discovered an identical morpheme order among the toddlers. Later, a cross-sectional study carried out by De Villiers and de Villiers (1973) claimed that the accuracy order in English L1 children was consistent with Brown's order with the assumption that their accuracy order reflected the order of acquisition.

The investigation of grammatical morpheme acquisition has extended to the second language (L2) acquisition by Dulay and Burt (1974)'s cross-sectional morpheme study. The accuracy order of English grammatical morphemes in their Chinese and Spanish speaking children contradicted Brown's order. However, their accuracy order was consistent with Bailey, Maiden, and Krashen (1974) and succeeding L2 morpheme studies irrespective of learners' first language and age. Based on the assumption that the accuracy orders attained from cross-sectional studies could reflect the acquisition order, those consistent orders were regarded as the universal order for L2 learners. Krashen (1977) reviewed the literature from those studies and placed those morphemes into three ranks based on their similar accuracy, proposed as the Natural Order Hypothesis (NOH)". The so-called natural order paradigm has been advocated and treated as the fundamental assumption in the field of Second Language Acquisition (SLA) (Luk & Shirai, 2009).

However, the natural order notion has been a controversial and much disputed by the other groups of researchers. In the 1980s onwards, numerous studies revealed inconsistent orders of morpheme acquisition in English learners whose L1s are not typologically related to English. Important evidence was reported from Murakami and Alexopoulos's (2016) Corpus-based morpheme study including speakers of seven typologically diverse languages: Japanese, Korean, Spanish, Russian, Turkish, German, and French. They affirmed that the conformation to the natural order is probably a by-product of Spanish speakers whose L1 is typologically similar to English. Noticeably alluded, Japanese and Korean are classified into the agglutinative language which is distinct from English and Spanish that are likely to be more fusional. Their analysis of the Cambridge Learner Corpus (CLC) explicated the order in the Spanish L1 group correlated with the natural order, whilst the orders observed from the other different language typology such as Japanese and Korean manifest inconsistency. This controversial debate, consequently, also needs deeper re-investigation and more attention in the discussion of L2 acquisition especially on the groups of learners whose L1s are typologically different from English or classified in isolating languages such as Thai. The researchers to date have not yet treated morpheme acquisition order in this group of learners in much detail.

Despite the long-standing claim for the natural order, there appears to be considerable ambiguity concerning whether the natural order exists across English L2 learners from different morphological typologies. Aimed to unlock such inconclusive, this study is a preliminary attempt to 1) identify the acquisition order of English grammatical morpheme in Thai

EFL learners and 2) to compare whether the order of the acquisition follows the natural order (Krashen, 1977). The results from this preliminary study are believed to signify the acquisition in Thai EFL learners and offer an insightful suggestion on the effectiveness of the study framework and instruments for the actual study.

LITERATURE REVIEW

This section reviews Natural Order Hypothesis (NOH), the investigation concerning morpheme acquisition in L2 learners from different morphological typologies, and the previous morpheme study in the Thai EFL context.

Natural Order Hypothesis (NOH)

The Natural Order Hypothesis (NOH) was developed by Stephen Krashen (1977) to the group of foundation five hypotheses in SLA called the “Monitor Model”. It states that grammatical rules of languages are acquired (not learned) by L2 learners in a predictable order regardless of their L1s and ages. Krashen and Terrell (1983) contended that the natural order of English morpheme acquisition illustrated in figure 1 is one of the best investigations to manifesting the NOH. The term Natural Order Hypothesis or NOH, therefore, has been interchangeably used with the term “natural order” in morpheme research including this pilot study. The natural order is consequently derived from Krashen’s analysis of manifold empirical morpheme studies in English.

Figure 1: Krashen’s Summary of L2 Grammatical Morpheme Order



The diagram of Krashen’s order portrays that both children and adult learners across different L1 backgrounds will produce the morphemes in the first box with higher accuracy than those in later boxes, but that within the boxes, there no clear pattern of difference (Lightbown & Spada, 2013). Many researchers have claimed the supporting findings to the natural order such as, Fathman (1975), Rosansky (1976), Makino (1979), and Pica (1983). The results collected from the written task in Makino’s (1979) study revealed the correlation between the morpheme order in EFL Japanese learners and the natural order. Moreover, Pica’s morpheme study of three different conditions of exposure to English reported the strong claim that the natural order exists across different learning contexts.

Morpheme Acquisition in L2 Learners from Different Morphological Typologies

The strong consensus of natural order has been treated as a fundamental hypothesis called Natural Order Hypothesis (NOH) in SLA textbooks for decades. The natural order, how-

ever, seems to contradict to cohort works in EFL contexts wherein most research participants' L1s are Japanese, Vietnamese, Korean, Chinese learners of English. The contradicting results from those studies seem to be neglected. To illustrate, EFL Korean learners, as remarked in the studies of Schenck and Choi (2013) and Soeg (2015), were not likely to exhibit a significant correlation with the natural order. The distinction proving was spotted on the acquisition of three morphemes. All of those researchers revealed the early acquisition of possessive -'s, one of the morphemes acquired in the latest in the natural order, in the Korean L1 learners.

In contrast, ESL Korean learners acquired plural -s significantly late. While, progressive -ing, immersed easiest following the natural order, appeared lately ranking fourth and fifth respectively in particularly EFL Korean learners in the last couple of the studies. Likewise, a study in Mandarin or Chinese-speaking learners conducted by Cameron and Lee (1990) displayed the order of acquisition in the single participant was not consistent with the natural order. Given as an example, possessive -'s was early acquired in their study. Similar to Japanese L1 learners, the most dominant discrepancy appears in their order of grammatical morpheme acquisition dominates to the early acquisition of possessive -'s which has been reported in dozen of morpheme studies for over three decades (Hakuta, 1967; Shiharata, 1988; Izumi & Isahara (2004). Moreover, it has been found that Japanese L1 learners in the aforementioned studies customarily acquired plural -s and article later than being reported in the natural order. In the case of Vietnamese EFL learners, their grammatical morpheme order of acquisition deviates from the natural order. The difference worth presenting is the marginally earlier acquisition of auxiliary be, the relatively later acquisition of progressive -ing, and the considerably late acquisition of plural-s (Wadiatmoko, 2008). Since still inconclusively de facto findings, the investigation on the morpheme order of acquisition in L2 learners whose L1s are typologically different from English is needed in SLA on account of the existence of the natural order of grammatical morpheme is English L2 learner is questionable.

Morpheme Acquisition in Thai EFL Context

In Thailand context, the citizen's first language is typologically different from English. In the case of Thai L2 learners, English morphology is one of the most challenging linguistic items they can acquire (Rungrojsuwan, 2015). The first morpheme order study in the Thai EFL context was an investigation of four morphemes in two groups of 80 undergrads through a translation task and grammatical judgment test (GJT). Sridhanyarat (2013) revealed in his study that the acquisition of progressive -ing, plural -s, third person -s, and possessive -'s was incongruous with the NOH. He also reported that the group of the participants with high English proficiency could solely acquire progressive -ing, whilst the four inflectional morphemes are difficult to acquire by the low proficiency group. However, the previous study carried out with a small number of morphemes. No previous studies have investigated the total of nine morphemes reviewed in the natural order in Thai EFL learners. It is anticipated that the design and findings of grammatical morpheme order in Thai EFL learners, to some extent, can explain the grammatical morpheme development in second language acquisition, establish a practical framework, and also offer a promising methodology for the future morpheme studies.

As aforementioned, the evidence from previous studies stated that the natural order has been disputed by some groups of researchers. This controversial debate, consequently,

needs deeper re-investigation. Aimed to unlock such inconclusive issue, this study is a preliminary attempt to explore the acquisition order of English grammatical morphemes in Thai EFL learners Building on Sridhanyarat (2013) investigation, the researcher extends the study to nine morphemes which are progressive –ing, plural-s, copula be, auxiliary, article, irregular past, regular past -ed, third-person singular, and possessive -'s.

Furthermore, some researchers hold the view that to apply different types of instruments in data collection could intervene in acquisition orders; for instance, the oral and the written tasks in the studies conducted by Larsen-Freeman (1976) and Soeg (2015) generated some discrepancies. In hindsight, a massive amount of researchers, including Sridhanyarat (2013), suggested using multiple tasks to collect the data. This current study, therefore, employed a written task and an oral task due to their suspected correlation and extended the entire nine grammatical morphemes ranked in the natural order.

RESEARCH QUESTIONS

In an attempt to clarify and explicate the acquisition of grammatical morpheme order in the Thai ELF context, the following preliminary research questions are summarized below.

1. In what order do Thai EFL learners acquire grammatical morphemes?
2. Does the Thai EFL learners' acquisition order in this study confirm the natural order (Krashen, 1977)?
3. Does the written order correlate to the oral order ?

RESEARCH METHODOLOGY

This investigation is a pilot study, which its main focus is inline the actual study. The pilot study is classified as descriptive quantitative research, which attempted to collect the cross-sectional data to identify the acquisition order of nine grammatical morphemes ranked in the natural order in Thai EFL learners.

Operational Definition

Acquisition order

The acquisition order refers to an accuracy sequence of progressive –ing, plural-s, copula be, auxiliary be, article, irregular past, regular past –ed, third person-s, and possessive -'s acquired and performed by Thai EFL learners. This accuracy order in L2 learners is assumed to reflect the acquisition order as it is defined by the accuracy rate of learners' performance on the target morphemes. It depicts the degree of difficulty a certain morpheme acquisition. The higher accuracy score on the test denotes the less difficult morpheme for EFL learners and the lower accuracy percentage indicates the more difficulty morpheme for the learners.

Participants of the Study

A total of 14 college students regardless of their age, language proficiency, fields of study voluntarily participated in this pilot study based on the convenience sampling method. As a preliminary study, this number of participants is ample to verify the practicality of methodology for the large-scale, actual study phase.

Research Instruments

The researcher developed the two English language elicitation tasks which were specifically designed in the Suppliance in Obligatory Context (SOC) method, elucidated by Brown (1973) and frequency wordlist –based method. The tasks were fashioned with the emphasis on eliciting learners’ actual linguistic performance in the constructed natural communication. The tasks were validated by six different panel experts, three each. The internal consistency reliability was, somehow, operated to certify the quality of the modified tasks.

English Written Production Task (EWPT)

The task is a timed and pen-and-paper based test. The written task comprises of four sections: talking about an individual, describing pictures, describing a family tree, and narrating a holiday trip. The subjects were provided 19 minutes with non-releasable ink to answer 38 questions following Schenck and Choi (2013)’s written task.

English Oral Production Task (EOPT)

This is a series of 36 cartoon pictures with the relevant utterances requiring the subjects to supply appropriate responses based on the obligatory contexts settled in the pictures. Given the limited time of 30 seconds, each participant was requested to orally respond to the prompts: a cartoon picture and a prompted utterance. The participants’ responses were recorded and later on transcribed.

DATA ANALYSIS

The targeted morphemes in the students’ writing samples and oral transcriptions were checked manually and scored according to Pica’s (1983) scoring system: correct, misformed, underused, and overused. The test items, which are left unanswered, were scored incorrectly. The data was analyzed in two following steps;

Accuracy Rate: The study operated Target-like Use (TLU) to investigate learners’ performance for the reason that it does not only portray morphemes in correct suppliance obligatory contexts but also those in Non-Obligatory Contexts (NOC). The TLU entails the underuse and addresses the potential interlanguage (IL) overuse errors that could occur when a learner supplies the morpheme inappropriately in a non-obligatory context (Pica, 1983). The TLU accuracy rate was applied in morpheme studies by several researchers; for example, Soeg’s (2015) and Mohammed and Sanosi (2018).

$$\text{Accuracy Rate} = \frac{n \text{ correct SOC}}{n \text{ obligatory contexts} + n \text{ suppliance NOC}}$$

Figure 2 Pica's (1983) TLU formula

The scores of individual participants from the two tasks were separately determined using the TLU and later were averaged to obtain a final group percentage. The acquisition percentages were ranked and ordered into a final sequence aligning from the highest accuracy percentage to the lowest one. The cut-off acquisition criteria is considered to achieve 90 percent of the accuracy rate (Dulay and Burt, 1974).

Spearman rank order correlation coefficient: the consequential order was statistically compared to the natural order to determine the degree of similarity or difference between two sets of ranks via the Spearman *rho*.

RESULTS

To answer research question 1, Table 1 reveals the sequences of English grammatical morphemes in Thai EFL learners. Progressive-*ing* is the earliest acquired morpheme as the students had the least difficulty acquiring it. Following progressive -*ing*, the free morphemes like copula *be* and axillary *be*, yet, are emerged early appearing in the one-third of the sequence. Plural-*s* and article had the virtually same level of accuracy rate emerging in the two-third of the order as irregular past. In the final third, the inflectional morphemes like possessive-'*s*', regular -*ed*, and third person -*s* are acquired morphemes as the last three lowest accuracy percentages.

TABLE 1. Acquisition Order in Thai EFL Learners

Rank	Morphemes	Acquisition Percentage
1	Progressive - <i>ing</i>	88.10
2	Copula <i>be</i>	79.76
3	Axillary <i>be</i>	73.21
4	Plural - <i>s</i>	47.62
5	Article	47.22
6	Irregular	37.50
7	Possessive ' <i>s</i>	30.95
8	Regular - <i>ed</i>	28.57
9	Third Person - <i>s</i>	22.62

As the second research question aims to determine the correlation between Thai EFL order and the natural order, the empirical analysis displayed a strong relationship between the observed order and the NOH. Table 2 below illustrates that the acquisition order of Thai EFL learners is significantly correlated with Krashen's natural order yielding at values of

$r_s = .900$ ($p < .001$). The finding in this research study conforms to the natural order, albeit, there were distinct disparities as presented in Table 3.

TABLE 2. Spearman rank correlations of Thai EFL acquisition order to Natural Order Hypothesis

	NOH	Thai EFL Order
Correlation Coefficient	1.000	.900**
Sig. (2-tailed)	.	.001
N	9	9

**, Correlation is significant at the 0.01 level (2-tailed).

TABLE 3. The Comparison between the Natural Order and Thai EFL Order

Morphemes	Krashen (1977)	Sadeen and Chanyoo (2020)
Progressive <i>-ing</i>	1	1
Plural <i>-s</i>	1	4
Copula <i>be</i>	1	2
Axillary <i>be</i>	4	3
Article	4	5
Irregular past	6	6
Regular past <i>-ed</i>	7	8
Third person <i>-s</i>	7	9
Possessive <i>'s</i>	7	7

The distinctions between the two orders were the later acquisition of plural *-s* and the early acquisition of auxiliary *be*. In the natural order, plural *-s* emerged in the first three ranks, either prior or later than progressive *-ing* and copula *be*. Whilst, in the Thai EFL group, it was ranked the fourth. By the same token, Thai EFL learners emerged auxiliary *be* earlier than that in the natural order.

In the third research question, the study unlocks the controversial correlation between the orders observed from different methods of data collection and different language modes: writing task and oral task. The study figured out the orders from the two different methods of data collection were slightly correlated ($r_s = .750$, $p = .020$) in Table 4.h

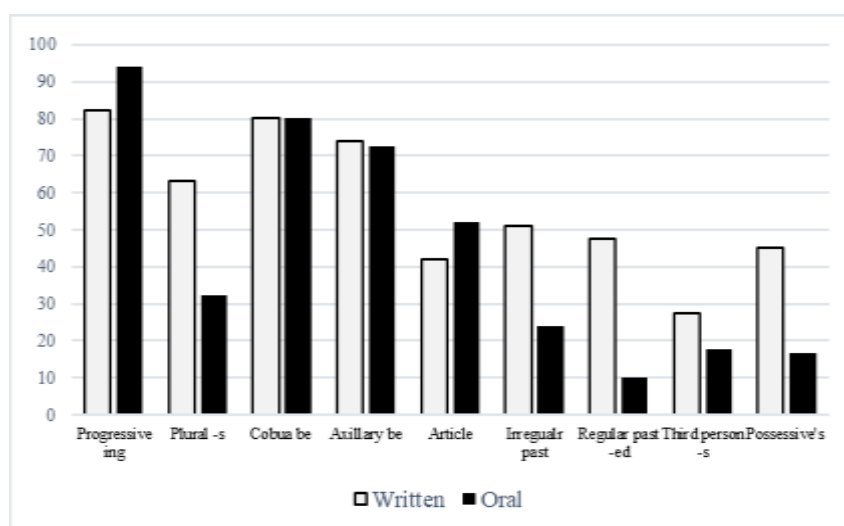
TABLE 4. Spearman rank correlations of Thai EFL acquisition order to Natural Order Hypothesis

	Written Order	Oral Order
Correlation Coefficient	1.000	.750*
Sig. (2-tailed)	.	.020
N	9	9

*. Correlation is significant at the 0.05 level (2-tailed).

Regardless of the high correlation between the accuracy percentages from the two tasks; the findings revealed that participants' scores in the written task were higher than those in the oral task.

Figure 2: The Accuracy Percentage between the Written Task and the oral Task



This finding was similarly reported in Wagner (2003)'s study as she figured that the French EFL learners scored 14 percent and 20 percent higher on the written test than the oral test using 2 scoring systems. Wagner (2005) ascribed the distinctive orders between the two task could have the effects of the teaching methods and the students' habit on the two language performance. Some participants in this current study revealed that they did not receive sufficient speaking practices in the classroom. The teaching of grammatical functors such as regular past -ed needs more emphasis on speaking activities and oral practices.

DISCUSSION

The Putative Determinants of the Acquisition Order

Manifold factors have been discussed in morpheme study such as input frequency, semantic complexity. However, in this study, the three following determinants are believed to influence obtaining orders in Thai EFL learners.

a) *Perceptual Salience*

Having a closer look at the first half morphemes in the first half of the order, they are more salient than the later acquired morphemes. The early acquisition of progressive *-ing*, copula *be*, and auxiliary *be* seem to be influenced by the perceptual salience. The term perceptual salience is generally understood to mean the level of ease in which the language learners can perceive or hear a certain linguistic form. According to the given definition, this term seems to resemble Schenck and Choi's (2013) phonological salience and Steinberg's (2001) ease of observability of referent and sound distinction. Goldschneider and Dekeyser (2001) further explained this term encompasses a) numbers of phones in the functor, b) presence/absence of a vowel in the surface form and c) the total relative seniority of the functors. Progressive *-ing*, copula *be* and Auxiliary *be* are vividly salient morphemes. Even progressive *-ing* is an inflectional morpheme, it sounds more observable than the other inflectional morphemes in the order with the vowel sound of /ɪ/. This is certainly true in the case of progressive morpheme in the sentence "The cat is walking" is more observable than the sentences "the cat walked", and "the cat walks" which /t/ and /s/ sounds attached. The Thai language is considered as an isolating language in which a grammatical meaning comprises of a free morpheme. The more salient morphemes; copula *be* and auxiliary *be* are, therefore, easier to acquire than the inflectional morphemes whereby they are unfamiliar with and less salient.

b) *Morphological typology*

The late acquisition of plural *-s* morpheme and other inflectional morphemes could be dominated by the influence of morphological typology between Thai and English could either affect English L2 morpheme acquisition positively or negatively. In this case, plural-*s* morpheme is absent in Thai, therefore, the learners acquire this morpheme later than the other present morpheme in their L1. This result supported the findings reported by Luk and Sherai (2009), Murakami and Alexopoulou (2016), and Mohammed and Sanosi (2018) that learners' L1 is, somewhat, impervious to the order of grammatical morphemes. This effect occurred in the previous studies wherein the English morphemes are absent in the participant's L1. For example, the absence of morphemes such as plural *-s* and article in both Japanese and Korean is believed to cause their later acquisition. Likely, the presence of the possessives as a free morpheme in Thai causes the earlier acquisition of possessive *'s*. In addition, *regular -ed*, which is present in Arabic, was acquired as the second morpheme in Saudi learners.

c) Frequency

Chenck and Choi (2013) define frequency as the number of times a morphosyntactic functor is presented within input communication to the learners' input frequency. According to its definition, the more frequent morpheme is acquired earlier than the less frequent one. In this regard, the frequency affects the acquisition in the way that the students' performance in the written task was more proficient than that in the oral task due to the design of their classroom activities. The input frequency during classroom instruction is likely to indicate the learners' acquisition sequences.

CONCLUSION AND RECOMMENDATION

In a nutshell, the results from this preliminary study seem to provide further support for the natural order hypothesis with the apparent correlations. However, some influential factors related to the phonological salience, morphological typology, as well as frequency was found to affect the acquisition of grammatical morphemes, to some extent. These influential factors caused deviation of early axillary *be* and later acquisition of plural-*s*, compared to the natural order. In this regard, Thai EFL learners are likely to encounter difficulty in acquiring plural-*s* morpheme. Moreover, this pilot study established a sufficient and assuring framework for future morpheme studies with the sizable group of the participants. Both the English Written Production Task (EWPT) and the English Written Production Task (EOPT) are accessible to examine learners' grammatical morpheme performance in constructed natural communication. This auspicious methodological framework could facilitate the large-scale reinvestigation on morpheme acquisition in the Thai context in which it will exhibit a deeper understanding of grammatical morpheme acquisition. The findings from a large-scale study will provide insightful pedagogical implementations. However, the findings in this study are tentative due to a single limitation on the task design. The main concern is on the design of the tasks, particularly in the article morpheme obligatory context (i.e., the task did not include the zero articles obligatory context). Based on the findings of this study, the zero articles should be included in the actual study. The spontaneous data from natural communication might be able to portray some dimension especially the determinants of the order which elicitation task may not.

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**DISPUTE SETTLEMENT SYSTEM UNDER THE 1982 UNITED NATIONS CON-
VENTION ON THE LAW OF THE SEA: AN APPRAISAL OF THE APPROPRI-
ATENESS OF CONCILIATION FOR SETTLING MARITIME DISPUTES IN SOUTH
EAST ASIA**

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ABSTRACT

Dispute settlement system established under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) is complex and comprehensive in the sense that the parties to UNCLOS have to accept compulsory jurisdiction of the relevant Courts and Tribunals. A wide range of forums to settle maritime disputes are created so as to ensure the integrity of UNCLOS, such as the International Tribunal for the Law of the Sea (ITLOS) and Arbitral Tribunal established under Annex VII of the UNCLOS. Conciliation is one of the forums in which a dispute may be brought. This paper will analyse the appropriateness of this means of dispute settlement for resolving a dispute in South East Asia. This is because a high cultural diversity and political background among South East Asian countries. Therefore, conciliation could provide a better way than any other judicial means since conciliator may take non-legal issues into account when deciding a case. Also, this paper will propose way in which Thailand could benefit from this forum for settling maritime disputes with neighbouring countries.

KEY WORDS: The 1982 United Nations Convention on the Law of the Sea, Conciliation, Dispute Settlement, Maritime Disputes

INTRODUCTION

Disputes form an inevitable part of inter-State relationships. Legally, a dispute can be defined as a “dispute on a point of law or fact, a conflict of legal views or of interests between two persons” (Mavrommatis Palestine Concessions (Greece v. Great Britain), Judgement of 30 August: 11). When a dispute arises States have to settle their dispute by peaceful means. Given that there are a wide variety of third-party dispute settlement mechanisms existing in international law, such as mediation, conciliation, fact-finding, arbitration and adjudication, the question is which mechanism can provide for suitable and effective processes or rules of procedure that could facilitate the resolution of maritime boundary disputes. It should be noted that maritime boundary dispute is normally concerned with the application or interpretation of provisions of UNCLOS so that the dispute settlement clause enshrined in Part XV of UNCLOS would be applied since it contains a panoply of dispute settlement mechanisms. Dispute settlement system established under Part XV of UNCLOS is complex and comprehensive in the sense that the parties to UNCLOS have to accept compulsory jurisdiction of the relevant Courts and Tribunals (Yoshifumi Tanaka, 2015: 417). A wide range of forums to settle maritime disputes are created so as to ensure the integrity of UNCLOS, such as the International Tribunal for the Law of the Sea (ITLOS) and Arbitral Tribunal established under Annex VII of the UNCLOS. Conciliation is one of the forums in which a dispute may be brought. This paper will analyse the appropriateness of this means of dispute settlement for resolving maritime boundary dispute. In this paper, the nature of conciliation will be briefly discussed. Then, the compulsory conciliation procedure under UNCLOS will be explained. The case study used in this research is the conciliation between Timor-Leste and Australia which is the first time that conciliation procedure was triggered. The paper identifies four findings as outcomes of the research and provides a general conclusions.

Conciliation in International Law

Cot defines international conciliation as ‘intervention in the settlement of an international dispute by a body having no political authority of its own, but enjoying the confidence of the parties to the dispute and entrusted with the task of investigating every aspect of the dispute and of proposing a solution which is not binding on the parties’ (Jean-Pierre Cot, 1972: 9; Lassa Oppenheim, 1952: 256; Sven M.G. Koopmans, 2008: 37). The important task of conciliators is to investigate and examine the facts that are in dispute. Conciliators undertake in-depth and impartial investigations or studies of the details of a dispute (Henri Rolin, 1961: 193). The way in which conciliators acquire information is in contrast to the methods of mediators in that mediators usually receive information from the parties rather than from their own investigations. Due to the fact that conciliators have to investigate several aspects of disputes, such as the facts and their historical, political and legal aspects (D.W. Bowett, 1983: 186), conciliators are selected on the basis of their particular fields of expertise (Sven M.G. Koopmans, 2008: 48). The investigation process may include hearing the parties’ claims and objections and examining witnesses and experts. After the investigation process, conciliators will provide solutions to the dispute in the form of non-binding recommendations. However, the parties are free to refuse the proposed report if they see fit.

Compulsory Conciliation under UNCLOS

If the States Parties have a dispute with regard to the interpretation or application of the provision of UNCLOS, they shall exchange their view expeditiously in order to find out the possible means of dispute settlement as enshrined in Article 33 (1) of the UN Charter. Conciliation is one of the means to settle dispute under UNCLOS. The parties can resort to conciliation subject to mutual agreement between disputing parties. In the case where there is no solution is reached, any party can unilaterally submit unresolved dispute to compulsory dispute settlement mechanisms which they have chosen in advance when ratifying UNCLOS including the International Tribunal for the Law of the Sea (ITLOS), the International Court of Justice (ICJ), and Arbitration established under Annex VII or Annex VII.

Nevertheless, UNCLOS provides the limitations and exceptions to the applicability of this compulsory dispute settlement process. In Articles 297, certain kinds of disputes cannot be submitted to compulsory third-party means of dispute settlement, namely disputes relevant to the interpretation or application of the provisions of UNCLOS with regard to coastal State fisheries management and the authorization of marine scientific research in the exclusive economic zone. In addition, Article 298 allows States Parties to make a formal declaration, when signing, ratifying or acceding to UNCLOS or at any time thereafter, to exclude dispute relating to seas boundary delimitation from compulsory adjudication or arbitration provided that (1) the dispute arose subsequent to the entry into force of this Convention (2) the conflicting parties cannot reached solutions within a reasonable period of time (3) the subject matter of the dispute does not necessarily involves the concurrent consideration of any unsettled dispute concerning sovereignty or other rights over continental or insular land territory. When Thailand ratified UNCLOS it made a declaration in order to exclude the disputes concerning the interpretation or application of Articles 15, 74 and 83 relating to sea boundary delimitations, or those involving historic bays or titles.

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Conciliation Procedures under Part XV and Annex V of UNCLOS

Once the conditions of the unilateral referral to compulsory conciliation are satisfied, any party to a dispute may institute the proceedings by written notification addressed to the other party or parties to the dispute according to Article 11 (1) of Annex V of UNCLOS. With regard to the constitution of a conciliation commission (hereinafter “commission”). Five members are normally chosen to be a commission. The party instituting the proceedings is allowed to appoint two conciliators to be chosen preferably from the list referred to in Article 2 of this Annex, one of whom may be its national, unless the parties otherwise agree. The other party are allowed to choose the other two conciliators within 21 days of receipt of the notification. If the appointments are not made within that period, the party instituting the proceedings may, within one week of the expiration of that period the party have two options, namely terminating the proceedings or requesting the Secretary-General of the United Nations to make the appointments. The parties can choose mediators from the List of Conciliator maintained by the UN Secretary General who are a person enjoying the highest reputation for fairness, competence and integrity. Within 30 days after all four conciliators have been appointed, they shall appoint a fifth conciliator chosen from the List of Conciliators who shall be chairman.

In relation to the function of the commission, it shall hear the parties, examine their claims and objections, and make proposals to the parties with a view to reaching an amicable settlement. When the commission have to decide a case it has to take into account several issues which cover not only legal issues but also non-legal considerations as well. This can be seen from the provision set forth in Article 15 of Annex V of UNCLOS which provides that “The commission may draw the attention of the parties to any measures which might facilitate an amicable settlement of the dispute”. The word “any” suggests that the commission may not confine itself to pure legal questions.

Considering the issue of procedure, the commission has a wide discretion to determine its own procedure, unlike adjudication where procedures have been well-established before the a dispute arises. The timeframe that the commission needs to follow is relative short. Within 12 months of its constitution, the commission shall issue a report. The report is to “record any agreements reached and, failing agreement, its conclusions on all questions of fact or law relevant to the matter in dispute and such recommendations as the commission may deem appropriate for an amicable settlement”. Article 298 (1)(a)(ii) further requires the conciliation commission has to present its report, which shall state the reasons on which it is based and the parties shall negotiate an agreement on the basis of that report. The commission have to provide non-binding recommendations containing appropriate reasons for the parties so that they can use such recommendations as a basis for further negotiations. If the parties cannot resolve their dispute by negotiations based on the commission’s report, they can bring the dispute, by mutual consent, to compulsory adjudication (Article 298 UNCLOS). Although the conciliation is compulsory, the parties still retain some control of the process of dispute settlement. This can be seen from the fact that the parties can refuse to accept the report provided by the commission if they see that the conclusions and recommendations will not fit their interests.

With regard to the termination of conciliation proceedings, they are terminated when (a) a settlement has been reached (2) the parties have accepted or one party has rejected the recommendations of the report by written notification addressed to the Secretary-General of the United Nations, or (3) when a period of 3 months has expired from the date of transmission of the report to the parties (Article 8 of Annex V UNCLOS).

Conciliation Procedures in the Dispute between Timor-Leste and Australia

The main purpose for considering the dispute between Timor-Leste and Australia is to draw important lessons for Thailand as one of a State Party to UNCLOS. Compulsory conciliation was invoked for the first time on April 2016 by Timor-Leste against Australia. The dispute was about their undelimited maritime boundary between these two States which had been an issue of conflict since Timor-Leste had gained its independence in 2002. The concerned area contains oil and gas fields in which they agreed to exploit jointly these natural resources by concluding a series of bilateral agreements. Among those agreements, the Timor Sea Treaty and the Treaty on Certain Maritime Arrangements in the Timor Sea (hereinafter CMATS Treaty) are considered as the two most important treaties. The former provided for the exploration and exploitation of a Joint Petroleum Development Area (JPDA) which Australia was allocated only 10 percent of the petroleum production. The latter was concluded with two main purposes which were (1) the establishment of 50-50 revenue sharing regime with regard to the Greater Sunrise field (2) establishment of a moratorium concerning the fixing of a permanent maritime boundary between them for a period of fifty years, or five years after exploration of the Greater Sunrise field ceases, whichever occurs earlier (Article 4 CMATS). This moratorium means that third-party engagement would not be possible.

However, Timor-Leste initiated the proceedings on 11 April 2016 and it sent a notification to Australia. Timor-Leste Judge Abdul G. Koroma and Judge Rüdiger Wolfrum as conciliators. Australia shown its willingness to participate in the proceedings since it sent response to Timor-Leste on 2 May 2016 and appointed Dr Rosalie Balkin and Professor Donald McRae as conciliators. The Conciliation Commission was constituted after Ambassador Taksøe-Jensen was appointed as the fifth conciliator on 25 June 2016, 75 days after Timor-Leste triggered the conciliation proceedings which can be considered as a speedy process. Considering the qualifications of the conciliators what can be clearly seen is that the parties would like their dispute to be resolved by an experienced lawyers, diplomats equipped with negotiation skills to help them breaking impasses. The parties also chose the Permanent Court of Arbitration (PCA) as the Registry for the conciliation proceedings. The PCA was responsible for arranging meetings and hearings with the parties.

With regard to the rules of procedures, the Commission determined the Rules of Procedures applicable specifically to this case which could not be found in an judicial processes. One of the most salient aspects of creating this Rules of Procedures was that the Commission also consulted with the parties so that enabled them to work together from the initial

stages of dispute settlement. According to the Rules of Procedures, the Commission can meet with the parties separately. Information can be sent to the Commission by any party on the condition that it is not to be shared with the other party. In addition, the Chairperson or a delegate of the Commission can meet with either party and report back to the Commission.

The process of dispute settlement in this case could be divided into two phases, firstly, competence phase and secondly, conciliation phase. This paper will focus only on the merit of the dispute which is in the second phase. After the Commission decided on the issue of its competence, the next steps were to build confidence on both parties. Several approaches were employed to this end, such as mapping out and understand the Parties' objectives and interests with a view to exploring with the Parties their ideas as to what the objectives of this process should be. In the Commission's letter on 21 September 2016, the Commission noted that in order to achieve the success of the process the Parties should avoid litigation-style positions and statements (Timor Sea Conciliation, 2018: para 90) In addition, it encouraged the Parties to consider keeping their delegations small in order to facilitate a free-flowing discussion with the Commission (Timor Sea Conciliation, 2018: para 90).

The first round of meetings were held from 10 to 13 October 2016 in Singapore so as to keep the proceedings as informal as possible (Timor Sea Conciliation, 2018: para 288). According to the Rules of Procedure, most of the Commission's meetings with the Parties were held separately so that the Parties did not meet each other directly (Timor Sea Conciliation, 2018: para 57). Neither formal written record was kept nor subsequent meetings so that the Parties could speak freely in their discussions with the Commission without fear of commitment (Timor Sea Conciliation, 2018: para 94). During this session, the Commission discussed with the Parties various steps that could be taken to build confidence between them and lay the groundwork for a productive discussion on maritime boundaries. Consequently, confidence building measures were adopted so as to creating the conditions most conducive to achieving an agreement on permanent maritime boundaries (Timor Sea Conciliation, 2018: para 95). The Commission proposed several steps to remove obstacles. One of which was to remove the CMATS from the equation. In addition, Timor-Leste needed to withdraw pending arbitrations under the Timor Sea Treaty since it, in the Commission's view, "constituted a symbolic barrier to progress and kept the Parties looking backwards" (Timor Sea Conciliation, 2018: para 288).

The confidential proceedings took place in many cities, e.g. Singapore, Washington DC., Copenhagen, the Hague and Kuala Lumpur. One may notice the language used in the proceedings. Rather than using the term "submissions" which is the term normally used in arbitral proceedings, the terms "Working Papers" and "Issues Papers" were used instead signifying an informal process of dispute settlement. Unlike the formal process of dispute settlement, the Commission received relevant information from various channels such as informal contacts through letters, e-mail communications, telephone calls, and text messages as well as social receptions and other unplanned encounters (Timor Sea Conciliation, 2018: para 295). It should also be highlighted that the Commission was of the view that the ongoing process of building trust with and between the Parties could bring about creative

solutions to their disputes (Timor Sea Conciliation, 2018: para 295). In March 2017, the Commission endeavoured to shift the Parties' focus away from seeking to reinforce their legal positions and moving towards a search for a potential settlement (Timor Sea Conciliation, 2018: para 119). During the March 2017 session, the Commission provided the Parties with what is called a "Commission Non-Paper" showing options and ideas for a possible agreement on maritime boundaries in the Timor Sea, including a sketch map of a possible boundary which the Commission asked the Parties to consider this Non-Paper seriously (Timor Sea Conciliation, 2018: para 124). Moreover, in July 2017 meeting, the Commission provided the Parties with two documents which were (1) *Non-Paper on Political Sustainability* and (2) a *Non-Paper on Legal Security* consisting of steps that could be taken and elements that could be included in a potential agreement on maritime boundaries (Timor Sea Conciliation, 2018: para 145). At the close of the meetings, a separate paper containing the *Commission's Inter-Session Guidance* was given to each Party identifying the principal issues that continue to separate the Parties such as The location of the eastern seabed boundary, The legal status of the seabed within a Greater Sunrise Special Regime area and The scope of the broader economic benefits. The Commission also met the Parties' leadership at multiple levels such as the President, Prime Minister and Ministers of Timor-Leste (Timor Sea Conciliation, 2018: para 127). During the course of these meetings, Timor-Leste's political leadership proposed an acceptable solutions with a view to achieving an amicable settlement (Timor Sea Conciliation, 2018: para 153).

On 30 and 31 August 2017, the Commission circulated two important solutions; *Non-Paper on a Comprehensive Package Agreement* and *Commission Non-Paper on Approach on the Greater Sunrise Development Concept* (Timor Sea Conciliation, 2018: para 163). The former was consisting of the elements of a comprehensive package that would be acceptable to both Parties and the latter was concerned with action plan for engagement with the Joint Venture on the development of Greater Sunrise (Timor Sea Conciliation, 2018: para 163). Both Parties agreed with the elements proposed in the 30 August package and decided to finalize an agreed Action Plan for engagement with the Joint Venture and they agreed that the Commission would remain involved to facilitate the Parties' engagement with the Joint Venture (Timor Sea Conciliation, 2018: para 164). It should be noted that the Commission put an emphasis on non-legal interests (Timor Sea Conciliation, 2018: para 291).

As mentioned above that the Parties accepted the proposals of the Commission and they proceeded to engage in bilateral negotiations which were taken place between 13 and 22 September 2017. They negotiated the text of a draft treaty on maritime boundaries and to formalise the content of the 30 August Agreement (Timor Sea Conciliation, 2018: para 174). The negotiations continued until 15 October when the Parties announced that they had finalized the text of a treaty (Timor Sea Conciliation, 2018: para 184). With regard to the Joint Venture, the Commission played an active role in facilitating discussions in technical, financial and social issues. All in all, the Commission could finally help the parties to settle their dispute.

Maritime Disputes in South East Asia and the Potential Disputes between Thailand and Neighbouring Countries

Claims to maritime zones and the issue involving maritime delimitation of those zones are ubiquitous across South East Asia. The South China Sea dispute may be the most famous dispute in the region. However, recent practice seems to suggest that law of the sea disputes have a potential to be brought before third-party dispute settlement mechanism. For example, dispute between Indonesia and Malaysia concerning sovereignty over Pulau Ligitan and Pulau Sipadan in 2002 and dispute between Malaysia and Singapore concerning sovereignty over Pedra Branca/Pulau Batu Puteh, Middle Rocks and South Ledge in 2008 were submitted to the International Court of Justice. Thailand has never brought any legal claims to the third party dispute settlement mechanism although there have been several conflicts have already arisen in respect of Illegal, unreported and unregulated fishing (IUU) and maritime delimitation. With regard to IUU fishing, Thailand has been tacking with the problem of foreign vessels fishing illegally in Thai territorial sea and exclusive economic zone. Recently, the Thai authorities has recently seized a Vietnamese fishing vessel for illegal fishing in the Gulf of Thailand The abovementioned case was not the first case but it has been reported that since October 2019, 27 fishing vessels were seized and 170 crew members were arrested in 14 separate cases. (Bangkok Post 22 AUG 2020). Also, arrests and seizures of Thai vessels by Malaysian authorities can be considered as a long-standing dispute between these two countries as the fishing vessels flying Thai flag encroached Malaysian waters (Ted L. McDorman, 1990: 40-54). Maritime delimitation disputes between Thailand and Cambodia have not yet been resolved. Overlapping claimed maritime zones between Thailand and Cambodia also remains almost unchanged for decade since the two countries have adopted different methodology in drawing straight baseline across Kut Island. All of those incidents could create disputes between Thailand and neighbouring countries (all of which are the parties to UNCLOS except for Cambodia) with regard to the application and interpretation of UNCLOS provisions.

RESEARCH METHODOLOGY

This research used documentary research by collecting and studying various information gleaned from various sources such as text books on the law of the sea and relevant articles. This research adopted qualitative approach. The information will be thoroughly analysed especially the provisions of UNCLOS with regard to dispute settlement. In addition, the proposals made by the Commission will also be considered focusing on the process of dispute settlement before drawing a general conclusion and important lessons that can be learned from the case. Finally, suggestion will be made for the Thai Government if it decides to resort to conciliation.

RESEARCH FINDINGS

After contemplating the nature of conciliation proceedings under UNCLOS and the Timor Sea Conciliation, the principal outcomes of this research project can be summarized as follows:

The Novel Features of Compulsory Conciliation could Facilitate the Process of Dispute Settlement.

Voluntary conciliation is often initiated by mutual agreement to settle a dispute. However, conciliation under UNCLOS is compulsory in the sense that one party can unilaterally submit the dispute to non-binding conciliation subject to certain conditions that have to be satisfied. As in the Timor Sea Conciliation, Timor-Leste unilaterally initiated compulsory conciliation proceedings. A dispute would never have been brought to a conciliation commission if the process of dispute settlement had not been compulsory this is because Australia had insisted to resolve the dispute by resorting to negotiations (Anais Kedgley Laidlaw and Hao Duy Phan, 2019: 153). In the case of Thailand, there is a great potential that conciliation would be the means of dispute settlement since it made a declaration to exclude maritime boundary delimitation from the compulsory jurisdiction of judicial means of dispute settlement established under UNCLOS. If the neighbouring States initiate conciliation proceedings, Thailand can then refuse to participate but the refusal does not bar the conciliation to proceed.

Conciliators Play a Significant Role in Settling a Dispute

Theoretically, conciliation play an active role in finding solutions for easing tensions between disputing parties. Conciliators need to equip with sufficient diplomatic skills so as to bring both parties back to negotiation tables. First of all, conciliator should build trust and create the environment conducive to create a concrete outcome. In the dispute between Timor-Leste and Australia, both parties had confidence in the Commission. The engagement of both parties was very impressive. The Commissioners are equipped with a high skill to manage the process of dispute settlement. Several steps were taken to build trust. Various techniques were employed. The Commission was able to hold 13 rounds of meetings with the parties including formal and informal sessions. In addition, the Commissioners also paid site visits to Timor-Leste and Australia. Finally, the Commission could deal with the issues of within a reasonable time. All of these processes would not have been successful if conciliators consist only of judges and lawyers. Therefore, the selection of the conciliators who have technical skills, experience with UNCLOS and maritime boundary disputes is utmost important.

Non-Legal Issues could be Considered by Conciliators

A dispute between States does not necessarily stem merely from the interpretation or application UNCLOS and relevant international agreements. It may involve complex ques-

tions relating to social, economic and political choices which may differ from country to country depending. This is particularly true in maritime disputes where the utilisation of the oceans and seas relates to social and economic value. Moreover, maritime disputes can involve geological and geomorphologic factors to delimit the line or continental shelf as well (Tara Davenport, 2014: 341). This is because some boundaries are complicated by peculiar geography and geomorphology. What can we learn from the Timor Sea Conciliation is that the Commission took other considerations into account when making the proposal such as economic effects of developing seabed gas deposit in the area. Sometime the disputing parties need to shift their focus from legal dimension to other dimensions. Unlike arbitrators, conciliators may encourage the parties to focus away from legal positions and build the trust of the parties instead.

Flexibility of Procedure have Contributed to the Success of Dispute Settlement

What distinguishes conciliation from judicial means of dispute settlement is that the conciliation commission can determine its own procedure. This issue also link to the timeframe that the commission shall provide final report to the parties. The success of the proceedings in Timor Sea Conciliation was that the Commission set a clear timeframe and managed to follow the Rules of Procedures strictly. This can be seen as one of the benefits if disputing parties decide to initiate conciliation proceedings. In Timor Sea Conciliation, the flexibility can be found from the informal engagement with the parties at various levels which judges are not allowed to do so (Rüdiger Wolfrum, 2017: 171).

CONCLUSION

This paper aimed to provide the analysis of conciliation as one of dispute settlement mechanisms in UNCLOS in settling maritime disputes. Compulsory conciliation under UNCLOS can be considered as a fallback mechanism for certain disputes that the State Parties chose to exclude from compulsory dispute settlement mechanisms. It can be concluded that conciliation can yield a win-win outcome unlike arbitration or adjudication which are too often a win or lose or zero-sum game. Judicial means of dispute settlement might not be a good choice for South-East Asian nations as Lan Ngoc Nguyen notes that “Asia has not traditionally been an active scene of international litigation for sovereignty and maritime issues” (Lan Ngoc Nguyen, 2018: 115). In this paper, the Commission in Timor Sea Conciliation has proven this proposition right since the Commission was able to make a proposal acceptable to both parties and the parties could finally reach an agreement resolving the long-standing dispute. The obvious advantage of conciliation is flexibility. If Thailand would like to settle its dispute without losing control of the outcome of the dispute, conciliation would be the most appropriate means to settle maritime boundary delimitation even though the use of compulsory conciliation is limited. Timor Sea Conciliation is an evidence showing a victory for UNCLOS in securing the interests of the coastal States and the legal order of the oceans.

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JURISPRUDENCE ANALYSIS OF JUVENILE JUSTICE REFORM CASES IN THE CITY OF SAN FERNANDO, LA UNION, PHILIPPINES

by

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ABSTRACT

Children around the world who are arrested and detained for alleged wrongdoing are often not given the protections they are entitled under the Convention on the Rights of the Child (Human Rights Watch, 2018). Based on data provided by the Juvenile Justice Welfare Council (JJWC), there were at least 11,000 (Children in Conflict with the Law (CICL) in 2009. In the City of San Fernando, La Union, several cases were reported for the past three (3) years based from the data given. Basically, it sought to find answers relative to the status of cases of juvenile offenders; leading factors and the different intervention programs which will serve as an avenue to address the issues in the locality.

KEY WORDS: Jurisprudence, Juvenile justice, Intervention program

INTRODUCTION

Children around the world who are arrested and detained for alleged wrongdoing are often not given the protections they are entitled under the Convention on the Rights of the Child. In many countries, children are charged and sentenced for acts that should not be crimes—such as truancy or misbehavior at home. Some states set a minimum age of criminal responsibility lower than the internationally acceptable age of 12. Some states also treat certain children, especially older adolescents or children who are accused of particularly serious crimes, as if they were adults during their trial and sentencing. Sentences of death, life without parole, and corporal punishment are still handed down in some countries, in violation of international law. The international prohibition on detaining children with adults is also often violated (Human Rights Watch, 2018).

The prevalence of juvenile delinquency is primarily due to poverty, according to law enforcers considering that theft is the common offense committed by children. About sixty (60) percent of juvenile crimes fall under crimes against property. These include theft, robbery, malicious mischief and estafa, statistics by the (Philippine National Police)PNP from 2012 to 2015 revealed. On the other hand, crimes against persons—which include rape, attempted rape, acts of lasciviousness, physical injuries, murder, attempted murder, seduction, grave threats, abduction and homicide—constitute 36 percent of the crimes committed by children covering the same period. In addition, 4 percent of the juvenile crimes from 2012 to 2015 involved violations against special laws, such as Republic Act (RA) 9165 (prohibited drugs), Presidential Decree 1866 (illegal possession of firearms) and Presidential Decree 1602 (illegal gambling). Last year theft, physical injury and rape were the top 3 crimes committed by children. Theft cases recorded last year reached 3,715, while physical-injury cases totaled 1,859. Rape cases involving child perpetrators reached 642. The total number of theft cases from 2012 to 2015 reached 13,680. Staggering, too, is the total number of physical-injury cases (6,062), robbery (2,446 cases), rape (1,973 cases reported) and cases involving prohibited drugs (818).

The Juvenile Justice Welfare Council (JJWC) of 2006 was later on amended by RA 10630, which took effect on November 7, 2013. RA 9344 was amended, according to the Juvenile Justice Welfare Council (JJWC), to further strengthen the Juvenile Justice and Welfare System and to ensure that the law is effectively and fully implemented.

The study aimed to determine the Juvenile Justice Reform Cases in the City of San Fernando, La Union, Philippines as basis of formulating intervention. Specifically, it sought to answer the following objectives: the current status of juvenile justice reform cases in the City of San Fernando, La Union; the factors affecting such infringements/violations and intervention programs that could be proposed to improve the social standing of juvenile offenders (children in conflict with the law) in the City of San Fernando, La Union.

FRAMEWORK

The study is in line with the theory of *Parens Patriae* which literally means “the guardian of the nation”. In law, it refers to the public policy power of the state to intervene against an abusive or negligent parent, legal guardian, or informal caretaker, and to act as the parent of any child or individual who is in need of protection. In addition, the principle of “best interest of the child” is always emphasized to rebut any problem arising juvenile delinquency.

METHODOLOGY

The qualitative research method through documentary analysis and focus-group discussion was used in this study. To determine the status of cases of juvenile offenders, the documents (2017-2019) needed upon formal request, were analysed and interpreted. To validate the contents of the documents, a focus-group discussion (FGD) was conducted on the same day. The members of the focus-group discussion were law officers or enforcers having custody of the documents. Guide questions were prepared and one (1) member transcribed and recorded the data gathered. At most, the discussions on the leading factors affecting commissions/violations as well as the intervention programs were based from the results of the focus-group discussions.

DISCUSSION OF RESULTS AND FINDINGS

A. Status of Cases of Juvenile Offenders

Table 1 presents the status of cases of juvenile offenders in the City of San Fernando for the last three years (2017-2019). It can be gleaned from the table that in 2019, there is one (1) case filed in the prosecutor’s office for violation of the Comprehensive Dangerous Drugs Act of 2002; and two (2) cases in 2018. Viewed in this light, cases filed in Office of the Prosecutor is duty bound to conduct inquest, preliminary investigation and prosecution of cases involving a child in conflict with the law. If there is an allegation of torture or ill-treatment of a child in conflict with the law during the arrest or detention, it shall be the duty of the prosecutor to investigate the same.

Be it noted that there are two (2) cases filed in court in 2018 for violation of RA 9165 and two (2) cases of rape in 2017.

RA No. 9344, SEC. 33. Preliminary Investigation and Filing of Information. - The prosecutor shall conduct a preliminary investigation in the following instances: (a) when the child in conflict with the law does not qualify for diversion; (b) when the child, his/her parents or guardian does not agree to diversion as specified in Sections 27 and 28; and (c) when considering the assessment and recommendation of the social worker, the prosecutor determines that diversion is not appropriate for the child in conflict with the law x x x

Moreover, there are only two (2) cases subject to endorsement to City Social Welfare and Development (CSWD), namely: violation of dangerous drug act and rape. Its roles includes: to facilitate the implementation of welfare program for the disabled, elderly, and victims of drug addiction, the rehabilitation of prisoners and paroles, the prevention of juvenile delinquency, and such other activities which would eliminate or minimize the ill-effects of poverty; and to initiate and support youth welfare programs that will enhance the role of the youth in nation-building;

TABLE 1. Status of Cases of Juvenile Justice Offenders

Status of Case	2019	2018	2017
Filed in Prosecutor's Office	Violation of RA 9165 (Comprehensive Dangerous Drug Act of 2002) (1)	Violation of RA 9165 (Comprehensive Dangerous Drug Act of 2002) (2)	N/A
Filed in Court	N/A	Violation of RA 9165 (Comprehensive Dangerous Drug Act of 2002) (2)	Rape (2)
Victims refused to file a complaint	N/A	N/A	N/A
Under- investigation	N/A	N/A	N/A
Endorsed to CSWD	Violation of RA 9165 (Comprehensive Dangerous Drug Act of 2002) (1)	Violation of RA 9165 (Comprehensive Dangerous Drug Act of 2002) (1)	Rape (2)
Total	2	5	4

Youngsters addicted to tobacco, drugs and alcohol are more likely to commit violent crimes such as rape and murder, a medical study has found, underscoring a major concern in a country with likely the highest number of street children in the world. The report submitted to the ministries of health as well as social justice and empowerment found that the greater the involvement in substance abuse, more severe is the violence and criminality. Doctors have noted a growing trend of juveniles committing serious crimes such as rape, murder, attempt to murder and burglary (<https://www.indiatoday.in/mail-today/story/juvenile-crime-drug-abuse-delhi-335571-2016-08-17>).

B. Leading Factors Affecting such Commissions/Violations

B. 1 Poor School Turnout

School is a place where total human formation is molded. It is an avenue where students are engaged in academic activities that tend to develop professional growth as well as co-

curricular activities that reinforce personality development. Undoubtedly, poor school turnout is one of the factors that really contribute delinquency. In this case, there are children who are not encouraged to learn because of unlikely routinary activities that are frequently engaged with. For this reason, even during their free time, they tend to get along with their peers and do unnecessary things they usually used to do. In fact, they cut their classes to that effect. Furthermore, an overcrowded and underfunded school also contribute to the exposure of every youth in creating or committing any form of violence because of disorder, chaos and deterrence.

Declining grades, absenteeism from school and other activities, and increased potential for dropping out of school are problems associated with adolescent substance abuse. Hawkins, Catalano, and Miller (1992) cite research indicating that a low level of commitment to education and higher truancy rates appear to be related to substance use among adolescents. Cognitive and behavioral problems experienced by alcohol- and drug-using youth may interfere with their academic performance and also present obstacles to learning for their classmates (Bureau of Justice Statistics, 1992).

Article 218 of the Family Code of the Philippines, "The school, its administrators and teachers, or the individual, entity or institution engaged in child care shall have special parental authority and responsibility over the minor child while under their supervision, instruction or custody."

Authority and responsibility shall apply to all authorized activities whether inside or outside the premises of the school, entity or institution.

Applying the abovementioned provision, has special parental authority and responsibility over their pupils and students whether inside or outside the institution. In which case, the school, through its teachers, is obliged to monitor the attendance as well as the activities of their pupils. They should provide reasonable school activities to address their academic needs. Innovative learning mechanisms and instructional materials are essential to lessen the untoward poor school turnout of the students.

B.2 Poor Educational Standards

Educational policies and standards serve as a framework in shaping the future of the students. It sets forth the ladder of their success. It defines their role in the community through discipline and order. Poor educational standards tend to corrupt academic engagement as well as it undermines responsible social involvement. This is to consider parental role in school work and school-based activities found to be disincentive. There is indeed a need to revisit educational standards in consonance with the societal norms that geared towards complacency both in school and in the community.

In Article 223 of the Family Code of the Philippines which states that, the person exercising substitute parental authority shall have the same authority over the person of the child as the parents. In no case shall the school administrator, teacher or individual engaged in child care exercising special parental authority inflict corporal punishment upon the child.

Viewed in this light, school administrators and teachers have special parental authority over the pupils, it is incumbent upon them to provide effective educational policies and standards that will really cater to the social, physical, mental, emotional and intellectual well-being of the pupils. In so doing, curriculum should be revisited to include e-learning, virtual lectures and documentary pedagogies especially at this time of COVID19 Pandemic. In which case, commission of violence by the juveniles will be eliminated.

B.3 Homeless Disaster

Our home is considered as the place where love and affection between and among the members of the family unfolds. The sense of belongingness is sometimes shattered because of family problems, dysfunctional personal anathema, corrupt/lack moral guidance and most of the time, the case of financial constraint. When a child is subjected to violence at home, he is most likely exposed to create violence elsewhere. This is indeed a psychological effect on their part because of their exposure and experience of encountering any form of violence.

In addition to personal adversities, the abuse of alcohol and other drugs by youth may result in family crises and jeopardize many aspects of family life, sometimes resulting in family dysfunction. Both siblings and parents are profoundly affected by alcohol- and drug-involved youth (Nowinski, 1990). Substance abuse can drain a family's financial and emotional resources (Bureau of Justice Statistics, 1992).

In line with the Doctrine of Parens Patriae which literally means “the guardian of the nation”. In law, it refers to the public policy power of the state to intervene against an abusive or negligent parent, legal guardian, or informal caretaker, and to act as the parent of any child or individual who is in need of protection. In addition, the principle of “best interest of the child” is always emphasized to rebut any problem arising juvenile delinquency.

Applying the doctrine above, the state plays a vital role in the formation of welfare and development of every child. It is on this point that it provides security and protection to those who were abandoned or even victims of abuse. Apparently, the sense of love and belongingness should begin within the immediate members of the family. This is in fact an effective way to rebut juvenile delinquency.

Moreover, the intervention of the State is merely to protect the juvenile delinquents who are not merely abandoned but most likely to address their best interest under the said doctrine.

B.4 Substance Delinquency

Deterioration of self-worth is an offshoot of substance dependency. Juveniles tend to use substance or drugs because of curiosity, boredom, relaxation, forgetting their problems and to ease their pain. But one common factor that geared towards commission of violence is substance or drug dependence. If a juvenile is exposed to substance or drugs, most likely it will become his or her habit until he or she is already dependent to it. Substance or drug

abuse is concomitant with both violence and income-generating crimes by youth. For this reason, it will create fear from the members of the community and often expose to more growing societal crimes such as theft, homicide and other offenses.

There is an undeniable link between substance abuse and delinquency. Arrest, adjudication, and intervention by the juvenile justice system are eventual consequences for many youth engaged in alcohol and other drug use. It cannot be claimed that substance abuse causes delinquent behavior or delinquency causes alcohol and other drug use. However, the two behaviors are strongly correlated and often bring about school and family problems, involvement with negative peer groups, a lack of neighborhood social controls, and physical or sexual abuse (Hawkins et al., 1987; Wilson and Howell, 1993).

The social and economic costs related to youth substance abuse are high. They result from the financial losses and distress suffered by alcohol- and drug-related crime victims, increased burdens for the support of adolescents and young adults who are not able to become self-supporting, and greater demands for medical and other treatment services for these youth (Gropper, 1985).

C. Intervention Programs

Based from the results of the study, an intervention program is proposed to eradicate, if not to minimize the cases of juvenile delinquency in the vicinity, to wit:

C. 1 Info-advocacy Program

This program deals with information-dissemination in connection with the basic rights of the child/youth under the existing rules and regulations. It includes seminars and trainings in relation to juvenile justice act, child abuse law and juvenile delinquency.

The schools through their administrators and teachers should come up with an info-commercial about the role of youth in the community. Moreover, they can also adopt online platforms in the dissemination of information about articles in relation to the disadvantages of juvenile delinquency.

C.2 Psycho-social Intervention Program

This program deals with different psycho-recreational activities that tend to improve and develop personality and social behavior in the community. In this program, guidance and peer counselling is essential. In which case, the guidance counsellors of the schools will conduct personality test among the pupils to determine their personal and social problems. Series of sessions will be given to the pupils. Thus, this would somehow help the pupils cope with their interpersonal and intrapersonal conflicts.

C.3 Moral-Spiritual Recovery Program

This program deals with the upliftment of spiritual and moral stamina of the youth through ecclesiastical activities like bible study/sharing, catechism, and Eucharistic celebrations.

In this program, the involvement of the youth in different spiritual activities would be of great help since this program requires reflections, introspection and self-medication through prayers and faith.

5. Summary and Conclusions

Based from the findings of the study, the following conclusions were drawn:

- 1.6.1 The low number of cases under CICL clearly indicates that the vicinity is not exposed to juvenile cases.
- 1.6.2 Leading factors really contribute to the possibility of creating emotional neglect among the youth.
- 1.6.3 Intervention programs play a vital role to address the juvenile justice cases in the vicinity to eradicate, if not, to minimize such social problem.

RECOMMENDATIONS

Based on the conclusions of the study, the researcher recommends the following:

- 1. The local officials of the City of San Fernando may draft an ordinance to zero-in the juvenile justice cases in the vicinity by coming up with a monitoring strategy and by increasing the programs intended for the youth.
- 2. At this time, it is imperative that schools should adopt flexible learning and online platforms in the different activities of the pupils.
- 3. The local government unit should strictly implement the curfew of minors to avoid any untoward incidents in the vicinity.

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CYBERSQUATTING THREAT: DEFENSE OF DOMAIN NAMES IN THE DIGITAL AGE

by

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ABSTRACT

This article is intended to investigate the characteristics of web-based infringement mechanisms as cybersquats to profit from a trademark which does not belong to them financially. Moreover, the article discusses the legal process in which conflicts over the domain name can be settled through the provision of remedies and means to expel cybersquatters to trademark owners. This article focuses on comparative legal research, the use of foreign law by lawmakers and courts for examining this legal problem. According to the research findings, the first-to-file Chinese approach to domain name offers an atmosphere in which cybersquatters are constantly looking for successful “squats.” While the US court discloses bad faith when a person has registered or purchased multiple domain names that the individual knows are similar and creating a likelihood of confusion to the marks of others. Consequently, in disputing cybersquatting proceedings, the complainant must claim that he or she has a trademark right, the cybersquatter has no trademark rights, and the domain name has been registered in bad faith. This article concludes that disputes arising from cybersquatting should, by submitting a complaint to the approved dispute resolution service provider, be settled through expedited administrative processes initiating by the trademark owner.

KEY WORDS: Cybersquatting, Domain Names, Trademarks, Dispute, Bad Faith

INTRODUCTION

More and more businesses pursue to maintain their online image, which involves tracking the use of their trademarks and preventing them from using their brand names in malicious activity. Dependent on the status of the cybersquatter, aggrieved companies that launch proceedings against the infringement of trademarks, deceptive, bad faith, and disappointing actions.

The aim to register legally protected words under the domain name is to sell them for a higher transfer fee to the actual rights holders. Cybersquatting is regularly known as brand jacking or title jacking, depending on the structure of the trademark rights. (Natalma & Larry, 2013) When the contentious domain has the name or part of the name of artists, sports figures, TV stars or other prominent individuals, so all practices can overlap. Many of these areas are used for deceptive purposes to place pressure on rights holders.

Another alternative is to request the World Intellectual Property Organization (WIPO) arbitration and mediation service for the purpose of having the domain name revoked or transferred to the complainant, where an infringing domain name contains a generic top level domain (gTLDs). (WIPO, n.d.) The WIPO Arbitration and Mediation Centre, without any judicial litigation necessary, offers time-consuming and cost effective processes for resolving internet domain name disputes. This service provides the Uniform Domain Name Dispute Resolution (UDRP) procedure, which was introduced by WIPO and in which over 49,500 cases were processed by the WIPO Center. (World Intellectual Property Organization, n.d.) Cybersquatting shall be recognized as the unauthorized recording of a domain name in misconceived faith or the recording of a name with a mark or 'some other variation of that mark. In other terms, by eliminating the "likelihood of confusion" of trademark infringement legislation, WIPO provides an alternative cause for action and enhances the protection of trademark holders against cybersquatters. (L.T.C. Harms., 2018) This article therefore significantly revisits the legal process by offering remediation and form to remove cybersquatters of trade names, in which conflicts over a domain name can be resolved.

LITURATURE REVIEW

Nature of Cybersquatting

The phenomenon known as cybersquatting emerged at a time when most businesses were not aware of the business opportunities on the internet. In order to sell their name back to companies when they finally wake up, some creative souls registered the names of well-known corporations as domain names. One of cybersquatter's 'victims' was Panasonic, Fry's Electronics, Hertz and Avon. (Richard, 2017) Cybersquatter prospects are increasingly declining, as most corporations now realize that the registration of domain names is a top priority.

Cybersquatting is an illegal method of making money online. Two goals are purchased by the perpetrators:

- 1.To stop purchasing the domain from others.
- 2.To benefit from reselling and advertisement. (Nolo, 2013)

Benefits from cybersquatters are rendered by inserting domain advertisements. These also contain common search words (such as the ‘goggle’ or the ‘facebppk’). It would be done in the expectation of Internet users landing on their websites and clicking on their advertisements. The recurrent version of cybersquatting happens when the intruder sells the field to the highest offerer. They buy popular and enticing territories, which will later be sold at exorbitant prices. Many users often pick domains from existing websites so the owners do not have an expiration date to use websites until the owner has exceeded them.

Cybersquatting’s main motivations are: (1) making a legal undertaking to purchase usernames, passwords and other personal information or to install malware on an individual’s computer; (2) trafficking directly to the website for trade gains, such as selling falsified goods; and (3) at an inflated sum, seeking to sell the domain name to the trademark holders. (Cardozo Art & Entertainment, 2011)

It leads to fines for the squatter if it is possible to show that a ‘bad faith’ registration was made. There are a few cases of reports of bad faith.

- 1.The registrar declares the name to be registered, leased or eventually transferred.
- 2.The domain is licensed so that the trademark owner or the service does not represent the mark on a similar domain name.
- 3.The registrant purchased the domain in order to threaten a competitor’s business.

The registrant has actively tried to draw Internet users to the website to receive commercial benefits through the use of the domain name. It is done by generating confusion when a brand or business name matches it. (Joanna, 2014)

Intellectual Property Issues Related to Internet Domain Names

The selection of a domain name is a vital choice for businesses. The owner of a corporation owns a domain name so that internet users can locate the link in the company’s website. In any number “top-level domains” known as “TLDs”, business domain names can be registered. The owner can choose from “generic top level domains” (“gTLDs”), like .com, .net, .org and .info, among “gTLDs”. (Janice, 2003) Or, if the owner is eligible (e.g. .aero for air travel and transportation companies and .biz for commercial enterprises) it can choose from specialized and restricted top level domains. The owner can also register his / her domain name under (“ccTLD”), for instance, .bg for Bulgaria, .cn for China, .ch for Switzerland, and so on. (World Intellectual Property Organization, n.d.)

The Internet Corporation for Assigned names and numbers (ICANN) is responsible for the technical management of the Domain Name Network. In gTLD, the registration itself is,

however, handled by a certain number of ICANN approved Internet registrars, which can be found at <http://www.icann.org> on the ICANN website. The owner of the business may even check if a domain name is already registered, by looking for a registrar's homepage or by searching for 'Whois' at <http://www.uwhois.com>, like that provided by UWhois. (World Intellectual Property Organization, 2001) The owner of the business will contact the appointed registry authority for each ccTLD for registration in ccTLDs. The owner of the company can access a ccTLD database developed by WIPO which links to websites with 243 ccTLDs in which information on their registration agreement, Whois service and dispute settlement proceedings can be obtained from the company owner. (World Intellectual Property Organization, 2012)

If the business owners select the domain name of the company, depending on the place in which they are listed, they may choose a generic or common name, and if they choose a specific name, users may remember and search for it easier. Ideally, this may also be sufficiently distinguishable to be protected under trademark law, as domain names in certain countries can be classified as trademarks. If business owners select a very popular name for a domain, it may be difficult for the company to obtain any credibility or good will with that name and it may be difficult to prohibit anyone from using their name. (World Intellectual Property Organization, n.d.)

The owners of companies should choose a domain name, particularly a well-known trademark, which is not the trademark of another company. Most laws recognize registration of a trademark of another entity as a domain name violating a trademark, often referred to as cybersquatting, and their SMEs may be liable for transferring or canceling the domain name and also for paying damages. In addition, all the registered domain names in gTLDs such as .com and others registered on the ccTLDs are subject to dispute resolution that enables an owner of a trademark or a service mark to avoid their trademark cybersquatting. There are many websites the business owners can look up on the web to determine if a registered trademark in a specific country is their choice of domain name. The WIPO has developed a Trademark Database Portal for the purpose of assisting in searching (www.wipo.int/amc/en/trademark/index.html).

The Uniform Domain-Name Dispute-Resolution Policy

The Uniform Domain Name Dispute Resolution Policy (UDRP) was developed to handle the types of domain disputes discussed above. In order to resolve disputes where multiple parties are entitled to a given domain, this policy was developed for the Internet Corporation for Assigned Names and Numbers (ICANN). Bad faith is an important element to assess the outcome of a UDRP process while subjective. It may involve cybersquatting and typosquatting or cases where the holder of the domain appears to attempt to annoy or inconvenience the holder.

The ICANN Policy procedures are cost-effective. While the litigation costs vary from one company to another, fees that exceed the filing fees to the Federal Court in the United States, the overall dispute settlement fees in that case, including the cost of one party's counsel, does not exceed four figures which are considerably more cheap than a contested

federal dispute. (ICANN, n.d.) In addition, in the event of termination of the matter following the appointment of the Arbitration Panel, WIPO shall, pursuant to the WIPO Fee Schema, determine whether a portion of the fee, typically 25 percent of the fees paid, will be refunded to the Party or the Parties. The unique advantage for those interested in the domain name conflict undoubtedly represents one of the most desirable advantages. (World Intellectual Property Organization, n.d.)

In the case of arbitration proceedings using the UDRP, arbitrators chosen appear to be private attorneys and usually are specialists in marks law. This means that anyone who understands the specialist field of trademark law should adjudicate a UDRP proceeding. It may be a major advantage in a state trial, where there might be no expertise of trademark matters from the judge deciding the trial. (World Intellectual Property Organization, n.d.)

While there are certain benefits of using ICANN procedures, this dispute resolution system has some drawbacks. First of all, the complainant can only remedy whether the domain name is canceled or the domain name transferred to the complainant in dispute. However, because the claimant should be free or anonymous in order to meet the monetary decision, the restriction of solutions available cannot be too disadvantageous, in which case the only solution conceivable would be the transfer of a domain name or the cancellation of a domain name by the claimant. (Julia, 2008) It depends on what the complainant needs, whether this restriction is really a drawback, and the opinion of the client eventually determines how disadvantageous this limitation really is or if it is one at all.

Second, in so far as a future or contemporary trial process is not prohibited from making decisions of the arbitration tribunal. Furthermore, the judgment of the arbitration panel by the weight courts is unclear. In one particular case, *The Federal Court of Northern District of Illinois Weber-Stephen Products v. Armitage Hardware* ruled that the result of UDRP proceedings was not binding and that the principle it was to use for review of decisions of the UDRP arbitration tribunal was rejected. (Katherine, n.d.)

The other possible downside of UDRP procedures is that in any future dispute where the registrant or the domain name registrar has been placed, a trademark owner needs to recognize jurisdiction. This may pose a problem if the registrant files a suit as jurisdiction will play a major role in choosing the statute used in the proceedings. (World Intellectual Property Organization, n.d.) This may also be a major problem for a foreign registrant and the owner of a trademark could argue in a foreign court.

Thirdly, it is not possible to discover the ICANN Procedures. In general, if no more information is provided by the arbitration panelist(s), the parties will not be able to apply any more. However, there are times where a party may request additional submissions, such as when a party wishes to submit new information which was not available previously until after the initial submission. (Connie, n.d.) Nevertheless, such an application will not always be approved, so one should be vigilant and ensure that all details one provides. A few problems can occur because of the disadvantage. (Michael, 2002). If, for instance, the registrar has constructive protections, including fair use or agreement, in his reply, the claimant shall not write a rebuttal, unless the arbitration panel so directs.

One related problem with the lack of finding is that the arbitrators cannot easily determine the accuracy of the written submissions, as the information in their respective submissions is correct for the complainant and the respondent. This could lead to an arbitration tribunal rejecting the relief sought and recommending that the allegations be brought to another venue to determine the accuracy of the testimony. (Connie, n.d.) Eventually, a domain name dispute with a trade name may not always succeed under the ICANN Regulation. The UDRP regulations allow a trademark or a service mark to be included in the dispute.

RESULTS

The most common protocol for arbitration for a .us domain name is the .us Uniform Domain Name Dispute Resolution Policy (usDRP), which is similar to ICANN usDRP procedure applicable to .com and other domains and the .us Rapid Suspension procedure (usRS), which is similar to the ICANN Rapid Suspension procedure for .com and other domains. The usRS arbitration mechanism is focused on ICANN's fast suspension protocol for use with new gTLDs since 2012. Forum is the conflict mediation provider for URS proceedings. The plaintiff must show "clear and convincing evidence," in compliance with the rapid suspension procedure which is designed for cases of clear infringement. Moreover, during a usRS procedure the plaintiff must determine that the trademark affirmative is a legitimate domestic or regional registration owned by the plaintiff and has either been validated or otherwise validated in a court procedure or covered under the law or treaty. The only solution is suspension in a rapid suspension process. The usRS proceeding is designed to deal with simple cases of infringing domain name in a reasonably fast and inexpensive way. To be successful, the plaintiff must fulfill its burden of proof with strong and compelling proof that is more than needed in the USDRP process.

Considering prevention of cybersquatting in China, where an important domain is already registered to a third party in question, the holder of the domain name must lodge a complaint or suit under Articles 5 or 15 of the Measures of the China Internet Network Information Center for Resolving Domain Name Disputes to cancel or move the domain name registration process. Disputes occur against the registered party. The domain name holder shall appeal domain registration through a Dispute Resolution Institute authorized by the CNNIC or take a legal action against the owner of the domain name in question (CIETAC and HKIAC are authorized by CNNIC to solve the dispute of .cn domain names). (Cecilia and Yao, 2011) The rights holder must seek redress by lodging a civil lawsuit based on infringement of the trade mark or on unfair competition activities on domain names registered for more than two years. Given the duration and expense of such an operation, a cautious company with a view to targeting the Chinese online market would do well to prioritize registration. (Ellis, 2018)

TABLE 1.

	WIPO	United States	China
Number of Cyber-squatting cases	1,799*	976**	36**
Dispute policy	<p>The ICANN policy lays down a transparent and compulsory administrative litigation framework to deal with bad faith situations, malicious registrations, also known as cyber-squatting. The panels of one or three experts appointed by the Arbitration and Mediation Center of the WIPO will use this mechanism to enact standardized, fast-track and cost-effective processes in order to review claims and remove cases involving simple abuses of the rights of trade mark holders, leaving more complicated cases before the courts.</p>	<p>Uniform Domain Dispute Policy (UDRP). Cases must prove that the domain name is identical or confusingly similar to a trademark or service mark in which the complainant has rights; and the domain owner has no rights or legitimate interest; and the domain name was registered and in bad faith is used.</p>	<p>cn Dispute Resolution Policy (cnDRP). The cnDRP stipulates a twoyear deadline from the date of the domain's registration to initiate the domain name dispute procedure. The plaintiff must file a civil action in order to settle the issue after the two-year timeframe has expired.</p>

* J. Clement, Cybersquatting: WIPO domain name case dispute filings 2000-2020, Jun 15, 2020 <https://www.statista.com/statistics/416159/domain-name-cases-filings-wipo/>

** World Intellectual Property Organization. WIPO Cybersquatting Cases Grow by 12% to Reach New Record in 2018, March 15, 2019, https://www.wipo.int/pressroom/en/articles/2019/article_0003.html

DISCUSSION

Reviewing Anticipatory Cybersquatting under US Legal Measures

The Anti-Cybersquatting Consumer Protection Act (ACPA) was passed in 1999 in order to prevent Internet domain names containing trademarks being registered by cybersquatters for the purpose of selling these domain names back to their trademark proprietor. In particular, the ACPA is an addendum to the Lanham Act, which permits the civil action to be taken against the bad faith registration of domain names that are similar or confuse with (or dilutive of) distinguishing or well-known trademarks.

For the intent of the ACPA relief, the name in question must therefore have been distinctive, famous, or both at the time of the registration of a domain name, and it must have taken place in bad faith. In determining this aspect, the ACPA sends forth nine non-exhaustive considerations, including the prior history of the registrant of selling domain names and the history of registrant registration of names identical or confusingly similar to those of existing marks. (Tamara, 2016). Therefore, while the ACPA envisages the acquisition of domain names for retailing to existing trade mark owners, it does not contemplate current registration activities with low present value, with the expectation that such name will become desirable and therefore more valuable in the future.

However, ironically, although the ACPA is codified under the trademark law, it does not extend one of the core rules of the trademark law to domain names and renders the ACPA a largely inefficient mechanism for tackling expected cybersquatting. In fact, in the United States trademark rights are specifically related to commercial use. Owning a label is the first to be used, not the first to be used. (Tamara, 2016) If a trademark owner does not use a mark in the future without resuming to use it, the mark would be considered left. The non-use of a trademark for a span of three consecutive years, in particular, creates a careless expectation that the mark is abandoned. Therefore, the principle underlying trademark law is that someone who does not use a specific trademark cannot obstruct another party's effective use of that trademark. Likewise, anticipatory cybersquatters refuse to meaningfully use the domain name and at the same time prohibit anyone from using it. This is also totally contradictory to the policy of the public behind existing trademark legislation. Anticipatory cybersquatting Nevertheless, the ACPA remains largely unprepared for cybersquatting.

Indeed, such ACPA limitations represent a greater problem in many approaches to domain name settlement – namely to treat domain name conflicts as merely trademark issues. Although there is undoubtedly a possibility of misunderstanding in domain names conflicts, the key issues in anticipatory cybersquatting frequently include obstructing market possibilities and unfair competition. In several ways, the structure of a domain name controversy is simply an effort to suit a “new” issue within the definition of a “old” law only in the structure of the defined trade-mark law. (Tamara, 2016)

In addition to the points discussed above, further debate and review should also be done on other relevant issues. While the use of ACPA is advantageous to a domain name dispute, other risks are also present. It is not very easy in federal litigation. In fact, it can take months or even years for the federal court to actually resolve a problem. This is not a perfect choice for the claimant who want to get the registrant / defendant domain name quickly.

The ACPA allows the claimant to become competent only if the domain name registrant applicable is in the context of a Federal Court District. (World Intellectual Property Organization, n.d.) In comparison to the provisions of the ACPA, the applicant has the possibility of receiving redundancies under the UDRP with the international domain name registrar as the UDRP Policy can be extended to domain name registers and registrars outside the United States while the ACPA applies only to US registries and registrars. (Connie, n.d.). With these different remedies in place, a complainant would rather use the UDRP proposal instead of the ACPA as a remedy in the case of these two separate provisions.

Pinterest filed a lawsuit against Qian Jin of Nanjing, China, on cyber-pirating, trademark infringement and fraudulent designations of origin, trademark dilution and unfair competition, in late August, in the Northern District of California, in one of the first impressive cases involving the registration of a domain name. Pinterest claims in particular that Quian has purchased and only utilized dozens of ‘infringing’ domain names that are almost identical to pinterest.com. Pinterest also submits Qian has applied for the registration in bad faith of PINTEREST and PINTEREST as trademarks in the United States and has full knowledge of the brand and services of Pinterest. (Stephanie, 2012)

It seems as if Qian was not accused for the first time of violating the rights of a US start-up. Pinterest lawyers actually classified it as a “serial cybersquatter, who has registered and owns hundreds of infringing domain names” in their lawsuit. They point out that in his native China, Qian has also applied for trademarks like FOURSQUARE, TWITTER and INSTAGRAM. Furthermore, Square won arbitration against Qian earlier this year, and the tribunal ruled that a total of 26 domain names had been registered in bad faith. (Stephanie, 2012)

The cybersquatting pattern is not a new phenomenon. ACPA was introduced to prohibit people from buying domain names in bad faith in an attempt to take advantage of the trademark of another. The ACPA forbids the registration, sale or use of a domain name identical to or similar to a popular trademark. Therefore, under the ACPA Qian could be considered liable to show that Pinterest has had a bad faith intention of profiting from the label successfully. However, it is harder to foresee the legal consequences of Qian’s China trademark filings. (Stephanie, 2012)

Examining Domain Name Dispute Resolution in China

After the Domain Name Dispute Resolution Policy (DNDRP) of the China National Network Information Center (CNNIC) came into force in September 2002, a non-litigation procedure was established for domain name dispute resolution, including “.cn” and Chi-

nese Character domain name. (He, 2012) It is more reliable and easier than a civil process for the conflict resolution method. DNDRP was formulated in accordance with and similar to UDRP of ICANN in 1999, which was adopted by ICANN for the resolution of “.com” and “.org” domain name disputes. (He, (2012) An IP right holder is allowed, for a relatively short period of time (usually approximately 2 to 3 months), to file a complaint with every domain name dispute settlement center in mainland China and Hong Kong at a low cost in accordance with DNDRP or UDRP. (He, 2012) By way of review documents submitted by all parties, a panel is appointed by the Mediation Centre. The decisions of the panel shall be executed immediately in the domain name registry unless criminal action is launched after settlement procedures.

Additionally, the Anti-Unfair Competition Act adopted on November 2017, which came into force on 1 January 2018, has undergone major amendments and is of concern in two purposes in relation to the battle against cybersquatting. First, Chapter 2, Article, of the new law states that the following is considered to be confusing and thereby constituting unfair competition: “Unauthorized use of the distinctive part of another’s domain name, website name or webpage which has gained a certain degree of influence.” This indicates that registering a similar or identical domain name as an already existing website is an act of unfair competition. Interestingly, the same applies to using any well-known website feature in a confusing fashion. (Niklas, n.d.)

There has been a significant decrease in domain name dispute lawsuits, given that UDRP and DNDRP provide a cheaper and more efficient way for IP right holders to regain their domain names in most cyber piracy cases. Fewer and fewer right holders are ready to choose civil disputes for settlement of domain name disputes. Normally, the right holders pursue breaches exclusively for the settlement of conflicts over two years decreed by DNDRP or involving other actions than cyber piracy. (He, 2012)

In China, people’s domain names cases have been heard by the Supreme People’s Court for Application of Laws in Civil Dispute Trial over Computer Network Domain Names (“Interpreting”) in conformity with nothing other than civil substantive and procedural laws and interpretation. “Interpretation” is basically identical to DNDRP and its implementation would lead to the same justice as that of the latter, although there are different dispute resolution procedures. (Robert, 2006) Both are used to combat cybersquatting in order to secure IP rights. Different practices were nevertheless established between resolution of administrative and judicial disputes because of the existence of China’s civil procedure, which can be inferred as follows:

First, complainant’s procedural independence is enhanced during criminal trials and, if he prefers the dispute-settling judicial process, can also have more substantive benefits compared with that of DNDRP or UDRP. In these circumstances the complainant may request a uniform hearing of and judgment on a trademark infringement or unfair competition, as opposed to internet, or an unfair contest, in which a case is brought, only for its cause of action in accordance with its “interpretation”. (Robert, 2006)

Secondly, in compliance with other rules of the Supreme People's Court on proof in civil proceedings, grounds for conflict on domain name shall be found. This is somewhat different from the DNDRP or UDRP that characterizes the parties by simplifying methods of finding out facts and proofs. Nevertheless, the panel's evidence was often rejected by courts because of their insufficient compliance with the provisions above. It is also very common for certain complainants (defendants) to be incompetent in civil cases in compliance with DNDRP or UDRP after their success in the administrative litigation process. (Robert, 2006) The reason for this is that there is no judicial verification of evidence adopted by the panel. When parties come to court, they must invest more time to seek to develop their reputation in the sectors involved, including but not limited to presenting original or notarized evidence. They will do so because there is no consideration of facts allowed by the jury under either CNDRP or UDRP for the Chinese courts. (Bin & Lei, 2019)

Finally, the scope of the right of priority adopted by the courts may be broader than the panel agrees. The complexity of the scope depends on the procedures involved. It ranges from the UDRP, civil rights and interests, to early domain names, trademarks, business names and other identifying signs (legal lawsuit). This includes Meyth International Consulting Co. of the abovementioned Firm, Ltd. vs Mercer (US) Inc. (Beijing Higher People's Court No.1196 of Last Resort of Civil Proceedings in 2010).

Recently, WIPO's dispute resolution services for .CN is pursuant to the China ccTLD Dispute Resolution Policy (.CN Policy), the China ccTLD Dispute Resolution Policy Rules (.CN Rules), and the WIPO Supplemental Rules for China ccTLD Dispute Resolution Policy and China ccTLD Dispute Resolution Policy Rules (WIPO Supplemental Rules). First of all, the proprietors of the trademarks must determine how relevant the domain name is. If ownership is secondary and the domain implies infringement of content, a cessation and withdrawal letter to the registrant could theoretically suffice to inform the hosting provider (hosting the site) along with the notification of the registrar. Where the contents of the infringing material are taken offline or have been suspended by the Registrar by either the Registrant or the Hosting Company, this domain should be noted before the expiration of the material. They can then be purchased when they are again eligible on protection for registration or can simply be observed for the reappearance of new infringement content. (Niklas, n.d.)

One more point to conclude of the analysis on this issue is that China's first-to-file system to domain names supports a world in which cybersquatters actively search for good opportunities in "squatting." This is reasonable, because the worst case will possibly consist of the cybersquatter losing access to the domain name and wasting subscription fees (for registrars to register the domain), nothing to deter cybersquatters from badly registering a domain name. (The China IPR SME Helpdesk, 2017) This is contrary to US law, which provides plaintiffs with the right to sue for statutory damages of between US\$ 1,000-\$100,000 by domain name under the Anti-Cybersquatting Consumer Protection Act. Consequently, contrary to China a U.S. cybersquatter (domain name registrant) is often more prepared to cancel registration because of the risk that it will pay damage to the owner of a mark, and in some cases the cybersquatter even returns the domain gratuitously to the

owner. However, because of that, few cybersquatters indicate that in a WHOIS database they are American citizens. (Asia IP magazine, n.d.)

Probing Administrative Process for Domain name Dispute Resolution

The UDRP Administrative Procedure can also be used in the event of a dispute concerning a domain name registered under a ccTLD, provided that the ccTLD registration authority concerned has voluntarily implemented the UDRP Regulation. Procedures are far more informal than lawsuits, and decision-makers are specialists in fields such as international trademark law, domain name problems, e-commerce, the Internet and dispute resolution. In both China and US, the settlement of disputes on domain names currently exists in two types. They are the settlement of domain names within the internet system and the legal settlement procedure. The former is in fact a civil dispute settlement process, also known as a “administrative solution.” The result of the arbitration may only be implemented in the system of Internet domain names but is not legally compulsory. The latter is a “legal procedure,” which can be implemented. (Douglas, 2009)

The civil dispute resolution process has the following benefits in contrast with the judicial procedure. It is very fast. In China, for example, the arbitral award is granted within 14 days after the prefixed formalities have ended and the case is presented to the tribunal. It is convenient and simple. In general, a ‘court hearing’ is not mandatory in a civil dispute settlement process and only the written information and testimony from the parties will be reviewed. The Tribunal will give its judgment. There are no legal issues here as well. By “not involve legal issues”, the following means:

- (1) the tribunal does not take into account the legal rules; it should only judge the domain name conflict resolution practices of the Domain Name Registrar;
- (2) Only whether the contested domain name meets the terms set out in the domain name dispute settlement policies other than the existence, if any, of other legal disputes between parties is considered by this panel; and
- (3) Only the ownership of the contested domain name, denial of complaint, transfer of domain name to the claimant and/or cancelation of the contested domain name, except for other issues, can be determined by the court. (He, 2012),

Finally, it can be remedied. The arbitration award of the settlement of civil disputes is not “final” in law. A dissident party may use a judicial or formal procedure of arbitration. “Speed” can constitute the basis for the generalization and maintenance of the civil domain name settlement procedure, is likely mostly welcomed. (Douglas, 2009) The proliferation of the conflict settlement mechanism for the civil domain name also included bad faith in cybersquatting. With the system constantly being improved, more conflicts are surely resolved by the system. Of course, the right holder must resort to legal action if he not only wants to retrieve his own domain name but to keep the squatter legally accountable.

CONCLUSION

Internet users sometimes believe that a business domain name or its product name refers to a company's domain name. Cybersquatting is the product of this assumption. Nevertheless, the consequences of domain names that are hijacking and ransoming also significantly affect the ability of the public to create companies with viable business online possibilities. It is necessary for the legislation to protect not only holders of existing trademarks but also the right of companies to fully leverage on new trademarks within the online environment to break down the increasing barrier to business arising out of domain name shortages that are generated by cybersquatting.

Despite ICANN's and the federal government's well-intentioned attempts to eliminate cybersquatting, the activity is still thriving in view of the flaws in domain name legislation. The unaddressed practice of cybersquatting is particularly noticeable. In preparation of the introduction of the new TLDs, ICANN developed and introduced the Uniform Rapid Suspension system (URS) trade-mark clearinghouse, providing security and protective services for tradenames owners during and outside the so-called sunrise cycles and a new mechanism for countering cybersquatting using the new TLDs.

The award of the claimant varies between UDRP and URS, both prescribed by ICANN. If a plaintiff is granted UDRP based on the proof of the infringement of a trademark, the domain will be passed to the registrant, while the United States will merely suspend the domain before expiry. URS offers a faster and lower-cost option to the most obvious cases when it is clear that a domain has been registered in bad faith. Because the process of resolving disputes in the domain is an ICANN initiative, it is mandatory for all registrars to comply. If the domain is to be moved or suspended, the registrar is obligated to take reasonable action depending on the result.

The UDRP domain name disputes do not entail any monetary harm, and no redress of injunctions is possible. The registrars of the accredited domain names – who decided to comply with the UDRP – will enforce a decision after ten days, unless a decision is referred before the court at that time. Panel decisions are binding in that accredited registrars must take the required measures to execute a decision, for example the transfer of the name in question. The decision is under the UDRP however, each party remains entitled to take the conflict to an independently decided court of competent jurisdiction. In fact, this happened relatively rarely. In US, the cancellation or transfer of the .us domain name can be carried out through the use of the arbitration process authorized by ICANN or through civil litigation. The fast resolution arbitration process to request suspension of the domain name also exists.

Where the holder of the domain name may claim that he has legal rights to the contested name, the case of the claimant is always fatal. The value of taking a systematic approach to the registration of rights in China is underlined. Proactive and pre-emptive trade mark reg-

istration and registration of the domain name should be carried out as a cooperative process in which one gets another. This means the successful plaintiff may expect the contested domain name to be cancelled or transferred to them if the settlement body finds the registration to have been made in bad faith. The applicant and the holder of the domain name may also attempt to resolve itself.

FURTHER STUDY

Though cybersquatting is a problem in Thailand, the same cannot be said of cybersquatting legislation. At present, Thailand does not have a specific piece of law to combat the issue. In Thailand, this does not indicate a legal solution against cyber-squatters, but due to the secondary existence of the regulations, cyber-squatting is frequently disregarded or disciplined. The criminal code, the Civil Code and the Trade Marks Act of 1991 imported certain of the laws used. Relevant laws must be implemented to eradicate the issue to effectively avoid cyber-squatting. In addition, it should discuss the possibility of promulgating and passing in Thailand the trademark dilution rule. There are currently no regulations concerning commercial mark dilution in Thailand. However, cyber-squatters may be responsible for a trademark dilution act if they do not use a trademark as their domain name for commercial reasons. Finally, we could look at how the domain name holder might be improved by initiating a UDRP procedure that could involve highly qualified unbiased panelists, detailed and expedited management processes and overall impartiality and reputation.

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THE EVOLUTION OF HUMAN RIGHTS IN CRIMINAL PROCEEDINGS UNDER CRIMINAL LAW OF THAILAND

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ABSTRACT

Prior to 1885, criminal law of Thailand (Siam at that time) regarding the criminal proceedings which is known as the “Jareet Nakhonban”, did not recognise the concept of human rights, and many practices including the fact-finding in criminal cases were done in brutal ways. Nonetheless, after the signing of the Treaty of Friendship and Commerce between Great Britain and Siam, which is commonly known as the ‘Bowring Treaty’ in the latter 1885, the paradigm had shifted. Although, the treaty mainly focused on the issues of the commerce and extraterritorial powers between the British Empire and the Kingdom of Siam, the treaty also had its side effect: the introduction of the concept of the recognition of human rights into criminal law of Thailand. Since one of the reasons why Siam loss its extraterritorial powers (via the treaty) is because the subjects of the British Empire did not want to be subjected under the brutal and outdated trial of the “Jareet Nakhonbarn”. Consequently, after the signing of the treaty, Siam began the administrative and legal reforms, which include the abolition of the “Jareet Nakhonbarn” and the introduction of criminal procedure code and for the first time, human rights are recognised under criminal law of Thailand. By using a legal history studying approach, this article will demonstrate that this Bowring Treaty has a significant impact on the evolution of human rights under criminal law of Thailand by critically examining the history of criminal proceedings under the criminal law of Thailand. Thereafter, it will perform a comparative analysis of the law on criminal proceedings prior to the enforcement of the Bowring Treaty and after the adoption of the Treaty, as well as identifying the key content of the treaty which influenced the law reform.

KEY WORDS: Human rights, Criminal Law, Criminal Proceedings, Thailand, Bowring Treaty, Jareet Nakhonbarn, Thai Legal History

INTRODUCTION

Although it is now accepted or even required that human rights must be recognised in law relating to criminal proceedings, however, they have only been recognised under the so-called modern criminal law. As the rights of the accused in criminal proceedings have taken many centuries to be developed as fundamental rights in modern criminal proceedings, which began around the 18th century (Gallanis, 2009).

As for Thailand, law relating to the criminal proceedings of Thailand (or known as Siam at that time) prior to the legal reform of Thailand which began around 1895, was the “Jareet Nakhonbarn”, a system of criminal proceedings which could be traced back to the Kingdom of Ayutthaya (Booncharermvipad, 2011). Remarkably, the “Jareet Nakhonbarn” was the ancient law, which did not recognise any basic human rights nor the rights of the accused in criminal proceedings.

Consequently, when Siam was actively engaging in trading with the westerner countries and being endangered from the imperialism by them in the early Rattanakosin era (around 1840s), the westerner countries, specifically the British and the Americans, began to demand the end of all restrictions on trade. More importantly, they also demand the establishment of a western-style government and immunity for their citizens from Siamese law (known as ‘extra-territoriality’) as they viewed that their subject should not be subjected under Siamese criminal law (Wyatt, 2004). Inevitably, Siam signed some treaties with the westerner countries, which led to the loss of extraterritorial as well as the relaxation and modernising its trading and tax systems to avoid being colonised. Among these signed treaties was the Bowring Treaty, which was signed in 1855 between the Great Britain and Kingdom of Siam.

Although, the Bowring Treaty was officially called a Treaty of Friendship and Commerce, it also contained clauses which allowed the establishment of a British consulate in Bangkok and guaranteed that the British consulate shall have full extraterritorial powers. Notably, this is because one of the British arguments was that its subjects would not be subjected under Siamese’s ancient and brutal “Jareet Nakhonbarn”. Thus, after the signing of the Bowring Treaty, the British subjects were placed under consular jurisdiction rather than Siamese jurisdiction (Ingram, 1971).

Consequently, in order to gain back its sovereignty, Siam began the administrative and later, the legal reforms. Remarkably, some of the highlights of the legal reform were the abolition of the “Jareet Nakhonbarn” and the drafting of the criminal and criminal procedure codes.

By using a legal historical study approach, this article would demonstrate that the Bowring Treaty has a remarkable impact on the evolution of human rights under criminal law of Thailand. To do so, it will begin by examine the general concepts of human rights under the criminal proceedings. Thereafter, it will examine the essence of the Bowring Treaty as well as conducting a comprehensive comparative analysis of the issues of human rights in

law relating to criminal proceedings of Thailand before and after the signing of the Bowring Treaty.

HUMAN RIGHTS AND CRIMINAL PROCEEDING

Before getting into the details, it is essential to examine the basic concept of human rights and rights of the accused in criminal proceedings first.

Human rights are rights, which are inherent to all human beings, regardless of sex, race, nationality, ethnicity, religion, language, or any other status (United Nations, 2020). Human rights are recognised by the Universal Declaration of Human Rights (UDHR), which was the first document of the International Bill of Human Rights project. It was adopted by the United Nations General Assembly (UNGA) on 10 December 1948.¹ Under this Declaration, many significant rights and freedoms, such as freedom from slavery and servitude,² freedom from torture and cruel, inhuman or degrading treatment or punishment³ and freedom from arbitrary interference with privacy, family, home or correspondence,⁴ are recognised as human rights and fundamental freedoms for all peoples of the world. Moreover, this Declaration also describes many rights which are relevant to criminal proceedings, such as the right to recognition everywhere as a person before the law,⁵ the right to an effective judicial remedy,⁶ the right against arbitrary arrest, detention or exile,⁷ the right to a fair trial and public hearing by an independent and impartial tribunal⁸ and the right to be presumed innocent until proved guilty.⁹

In practice, before the UDHR was introduced, the concept of human rights in criminal proceedings or the rights of the accused in criminal proceedings have taken many centuries to be developed as fundamental rights in modern criminal proceedings. In ancient times, people were subjected to trial by ordeal and trial by torture, which were created to extract confessions from the accused. After many centuries of cruelty and bloodshed in criminal trials, people in every part of the world have realised that the use of violent measures in criminal process was inhumane and only capable of producing unjust results (Gallanis, 2009). Since the Enlightenment, in the 18th century, criminal investigation has become a more evidence-based and rational procedure. The use of trial by torture, to obtain confession from the accused, has diminished. Belief in the supernatural, or in witchcraft, had less influence in trials (McCrery, 2013). Furthermore, physical evidence obtained using scientific methods, especially forensic science such as fingerprints, could help law enforcement officers to incriminate the accused more effectively than the traditional accused's confession (Inbau, 1934). The inherent dignity of the individual was widely acknowledged. The ideal of criminal trial has changed. The accused's rights, such as the right to counsel, the notion of the

¹ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A(III) (UDHR)

² Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 4.

³ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 5.

⁴ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 12.

⁵ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 6.

⁶ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 8.

⁷ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 9.

⁸ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 10.

⁹ Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217A (III) (UDHR) art 11.

prosecution's case, and the 'beyond-reasonable-doubt' standard of proof (intimate conviction) were granted to the accused (Gallanis, 2009).

In 1948, as the UDHR was proclaimed by the United Nations General Assembly in Paris on 10 December 1948, for the first time, fundamental human rights to be universally protected (United Nations, 2016). And this includes the protection of the rights of the accused in criminal procedure, which are also considered as the human rights in this document, from Article 5 to Article 11. For instance, the ban on torture is recognised in Article 5 which states that: "*No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment*"¹⁰. The right to fair trial in criminal cases is recognised in Article 10 which states that: "*Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.*"¹¹ The right to the presumption of innocence is recognised in Article 11 which states that:

"1. Everyone charged with a penal offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.

*2. No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offence was committed"*¹²

The UDHR is considered as the backbone of many international human rights conventions of the world, such as the International Covenant on Civil and Political Rights 1966 (ICCPR)¹³, the Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, ECHR)¹⁴ and the association of Southeast Asian Nations Human Rights Declaration (AHRD).¹⁵ The human rights of the UDHR, including the rights of the accused in criminal procedure, are also reaffirmed in these documents.

Nowadays, in democratic countries, there are often said to be two main systems which are used to investigate the facts in criminal cases. Firstly, the adversarial system which has traditionally been used in Common Law countries such as England, most Commonwealth countries and the United States, and the inquisitorial system which has been used in Civil Law countries such as France, Germany and Italy (Vogler, 2016). Even though the two systems lead to different types of criminal proceedings, the presumption of innocence is guaranteed in both. Consequently, under the presumption of innocence, the standard of proof in criminal cases of democratic countries is that the defendant's guilt must be proved, to the intimate conviction of the trier of fact, to be beyond reasonable doubt. This standard of proof provides the greatest protection for the presumption of innocence in

¹⁰ The Universal Declaration of Human Rights 1948 (adopted 10 December 1948 UNGA Res 217A(III)) Art 5

¹¹ The Universal Declaration of Human Rights 1948 (adopted 10 December 1948 UNGA Res 217A(III)) Art 10

¹² The Universal Declaration of Human Rights 1948 (adopted 10 December 1948 UNGA Res 217A(III)) Art 11

¹³ The International Covenant on Civil and Political Rights 1966 (adopted 16 December 1966 UNGA Res 2200 A (XXI))

¹⁴ The Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR)

¹⁵ The ASEAN Human Rights Declaration (adopted 18 November 2012, ASEAN Secretariat: Phnom Penh)

criminal proceedings of all democratic countries (Lawson, 1996). Therefore, the accused is not required to prove innocence but only needs to establish reasonable doubt about their alleged guilt in order to secure discharge (Roberts and Zuckerman, 2010).

THE EVOLUTION OF CRIMINAL PROCEEDING IN THAILAND IN THE PRE-MODERN ERA (PRIOR TO THE BOWRING TREATY)

Trial by ordeal and trial by torture, which were collectively called “Jareet Nakhonban” (the traditional trial of the metropolitan constabulary), were used as instruments to obtain the facts in cases from the litigants or from the accused in Siam (Thailand) for many centuries. The use of trial by ordeal and trial by torture can be traced back to the early of the Ayutthaya kingdom (1350-1767), the second Kingdom of Siam and one of the most glorious kingdoms in the history of Siam (Booncharernvipad, 2011). Politically, the Ayutthaya kingdom did not use the same paternalism as the Sukhothai kingdom, the early Kingdom of Siam in the 13th and 14th Centuries, to govern but imported the “laws of Manus” or “Manava Dharma Shastra”, the ancient Hindu code of conduct, for domestic, social and religious life, from “Khmer” (ancient Cambodia), another colony of the Ayutthaya kingdom, as a legal system with which to administrate the kingdom. The concept of this ancient Hindu code of conduct is the Divine Right of the Ruler. Under this concept, the king has the status of the avatar god, who comes to earth to help the good and to defeat the wicked. Hence, the king has the duty not only to rule the kingdom but also to administer punishment to the wicked, thereby creating a peaceful kingdom (Lingat, 1983). With the influence of the “laws of Manus”, the traditional trial of metropolitan constabulary or the “Jareet Nakhonban”, which involved trial by ordeal and trial by torture, were used as instruments to examine all lawsuits in the kingdom. The evidence of the use of trial by ordeal to find the facts from the litigants in the Ayutthaya era was written in the “law of proof B.E. 2078” (1535) in the reign of King Chairaja, the 13th king of Ayutthaya kingdom from 1534-1546, which consisted of seven kinds of ordeal, such as trial by fire, trial by water and trial by oath (Ingcanart, 1986).

From the information above, it may be noticed that all of the ordeals in this law had the same basis as trial by ordeal in European countries in the medieval period. This system arose from the belief that the God (Buddha) would not allow an innocent person to be convicted and punished. Rather, the God (Buddha) would intervene and declare the truth by creating a miracle at the trial.

In cases of felony crimes such as plunder, murder or treason, which affected people and social security, the trial by torture “Jareet Nakhonban” was used as an instrument to elicit facts from the accused. The procedure of fact-finding of the “Jareet Nakhonban” is considered by Thai legal scholars as an inquisitorial system. In this system, the presumption of guilt was used as a basis to incriminate the accused, thus the accused was the object in the case and must be tortured until he spoke the truth or the confession (Suwanasorn, 1983). Furthermore, the “Jareet Nakhonban” determined not only the inquisitorial methods for law enforcement officers but also determined the punishment for the prisoner. Most of the punishments of the “Jareet Nakhonban” related to the property, body and life of the pris-

oner, such as the forfeiture of property (including servant, wife and children of the prisoner), the amputation of limbs from the prisoner's body (hand, foot or ear) and the death penalty (Srisangthong, 2012).

From the establishment to the fall of the Ayutthaya kingdom, the inquisition of the "Jareet Nakhonban" never changed the concept of trial by torture. Law enforcement officers only created new and horrific methods to torture the accused. For instance, the "elephant's rattan ball" was one of the unique torture methods. To use this torture method, the accused was locked in a small rattan ball, full of sharp nails, then bounced around by an elephant, like a human soccer ball, until he confessed (Petchsiri, 2013).

Although the "Jareet Nakhonban" employed many brutal and violent methods, it was considered an important part of the legal system of the kingdom. It was used continuously in successive kingdoms of Thailand: the Thonburi kingdom (1768-1782) and the early part of the Rattanakosin kingdom (1782-present) (Booncharernvipad, 2011).

THE BOWRING TREATY

As noted, even prior to the signing of the Bowring Treaty, Siam had to confront the influences of colonialism from western countries as western countries wanted Siam to accept a foreign free trade system (Poggati, 2013).

Eventually, in the reign of King Mongkut (King Rama IV 1851-1868), Siam could not resist this pressure from western countries, especially the British Empire, which tried to force Siam to accept the free trade system to the country. On 18 April 1855, the Siamese government decided to sign the Treaty of Friendship and Commerce between Great Britain and Kingdom of Siam or generally known as the "Bowring Treaty" (named after Sir John Bowring, Governor of Hong Kong, which is the Britain's envoy) (Poggati, 2013). This treaty contained two main clauses. Firstly, the Siamese government allowed British merchants to buy and sell goods directly, with individual Siamese, without interference from any third person and, secondly, import tax was fixed at three percent for all goods, with two exceptions: opium was to be free of duty but it had to be sold only to the opium dealer, to control the use of opium in Siam; and bullion was to be free of duty. This clause of the treaty was considered one of the important reasons for the pandemic of opium in Siam. Secondly, the Siamese government granted extraterritorial powers to British subjects. Their lawsuits all took place under consular jurisdiction and British law was applied (Ingram, 1971).

As the result of the "Bowring Treaty" the Siamese government lost not only the power to monopolise foreign trade with British merchants but also lost the power to bring any lawsuits against British subjects. The most important excuse which the British Empire raised to refute the power of the Siamese court was the brutality and obsolescence of Siamese laws (Booncharernvipad, 2011). In fact, although many judicial officials in Siam regarded this treaty as a threat to the judicial power of the Siamese court, some of them regarded the

treaty as a good opportunity to reform the 'brutal and obsolete' laws of the country (Ingram, 1971).

This treaty is considered as the beginning of the loss of sovereignty of Siamese courts to foreigners because, after this incident, Siam was forced to sign other identical treaties with many foreign countries including: France (1856), USA (1856), Denmark (1858), Portugal (1859), the Netherlands (1860), Germany (1862), Sweden (1868), Norway (1868), Belgium (1868), Italy (1868), Austria-Hungary (1869), Spain (1870), Japan (1889) and Russia (1899) (Lingat, 1983).

The extraterritorial powers of the "Bowring Treaty" had great impact on the jurisdiction of Siamese courts because "British subjects" meant not only the British people but also included subjects of the British Empire. Hence, many Siamese people who did not want to be examined by the brutal trial of the "Jareet Nakhonban" in the Siamese court defected, to become subordinates of the British Empire (Ingram, 1971). Consequently, this made the Siamese courts not only losing their sovereignty on their own lands, but also with their own people (the Siamese people who chose to become the British subjects). In this regard, Siam was also losing its administrative power on its own land and people.

Latterly, in the reign of King Chulalongkorn the Great (King Rama V 1868-1910), he and his government were concerned about these unprecedented treaties. Many foreign officers from Belgium, Japan or USA were employed to be legal or legislative advisors to the king. Noticeably, Siam avoided employing British and French officers because at the time, Siam needed to counterbalance the influence of these two most powerful countries (Booncharernvipad, 2011). After the Paknam Incident, a military engagement fought between France and Siam at the mouth of the Chao Phraya River in 1893, which resulted in the defeat of Siam, Siam was forced to pay war reparations (two million Francs) and surrendered Laos to France (Poggati, 2013). Mr. Gustave Rolin-Jacquemyns, the former Minister of Interior of Belgium and the legal advisor to King Chulalongkorn, suggested to the King that the only way for Siam to remain an independent country was to reform itself along western lines. The legislature, executive and judiciary of Siam needed to be reformed urgently to show western countries that Siam was a civilised country. Then western countries could not use the brutality and obsolescence of Siamese laws as a pretext to undermine the sovereignty of the Kingdom of Siam anymore. King Chulalongkorn agreed with his suggestion and started to reform the country (Poggati, 2013).

THE EVOLUTION OF CRIMINAL PROCEEDING IN THAILAND AFTER THE BOWRING TREATY

It could be seen that political pressure, from western countries, on the judicial system of Siam was considered a significant catalyst for the development of criminal proceedings of the country. Especially, the pressure from the losing of sovereignty of Siamese courts to foreigners, which is resulted from the signing of the Bowring Treaty, that had a major contribution to the changes.

Thus, assessing the judicial system, King Chulalongkorn decided to abolish the traditional “Jareet Nakhonban” and to replace it with the more modern civil and commercial code, criminal code, civil procedure code and criminal procedure code, which were adapted from those of many western countries such as England, Germany, France and Italy. However, the process of drafting these codes took many years to complete; the drafting of the criminal code was completed in 1908, the drafting of the civil and commercial codes was completed, in 1925 in the reign of King Vajiravudh (King Rama VI 1910-1925), and the drafting of the civil procedure code and the criminal procedure code were completed in 1935 in the reign of King Ananthamahidon (King Rama VIII 1925-1935) (Poggati, 2013).

During the drafting process of these codes, Siam also used other methods to abolish the extraterritorial powers of foreign consular courts. For example, in 1909, King Chulalongkorn decided to sign the Anglo-Siamese Treaty, or the “Bangkok Treaty”, with the British Empire. As the result of this, Siam agreed to trade Kedah, Perlis, Terengganu and Kelantan, which were south Siamese territories, for a loan of 4 million GBP, with low interest, from the British Empire. In exchange, the British Empire agreed to exercise the extraterritorial powers of the consular courts only for British subjects who were registered as British subjects before this treaty was signed. However, the British Empire reserved the right to have a foreign judge, together with a Siamese judge, in the Siamese Court of Justice and the British consular court had the right to review any cases of the Siamese court (Wongsurawat, 2006).

After the World War I began, in 1914, King Vajiravudh kept an eye on proceedings very closely. Finally, in 1917, he decided to declare war on the Central Powers: Germany, Austria-Hungary, the Ottoman Empire and Bulgaria, and joined the Allied Powers which were led by the British Empire and France. Siamese troops were sent to the battlefields in Europe and fought bravely together with other troops of the Allied Powers. The war came to an end in 1918, the Allied Powers vanquishing the Central Powers. Siam, as one of the Allied Powers, had a good opportunity to oblige member countries of the Central Powers to review the prejudicial treaties which they had signed with Siam. Furthermore, the member countries of the Allied Powers promised Siam that they would review their unequal treaties after the promulgation of the new, modern codes of law in Siam (Wongsurawat, 2006). Noticeably, King Vajiravudh was involved in every detail of this operation. He also decided to change the Siamese national flag from the traditional white elephant on a red background to the new three-coloured flag (red, white and blue) to be used for the first time in this war. He thought that the new national flag would portray the country as a more civilized nation, from the viewpoint of western countries (The Engineering Army Department of Thailand, 2016). Finally, after many years of the fight for the sovereignty of the judicial system, in 1938 extraterritoriality was completely abolished from Siam (Booncharermvipad, 2011).

It could be seen that as the result of legal reform in the reign of King Chulalongkorn, which was influenced by the signing and enforcing of the Bowring Treaty, Thailand developed a new legal system, including criminal proceedings. Nowadays, the rights of the accused in criminal proceedings are considered fundamental rights in the constitution, criminal code and criminal procedure code of Thailand.

For example, general human rights were recognised and protected under Section 25 of the Constitution of Thailand 2017, which comes into force on 6th April 2017, which states:

*‘As regards the rights and liberties of the Thai people, in addition to the rights and liberties as guaranteed specifically by the provisions of the Constitution, a person shall enjoy the rights and liberties to perform any act which is not prohibited or restricted by the Constitution or other laws, and shall be protected by the Constitution, insofar as the exercise of such rights or liberties does not affect or endanger the security of the State or public order or good morals, and does not violate the rights or liberties of other persons ...’*¹⁸

And the use of cruel treatment and torture are prohibited under the constitution of 2017 of Thailand, section 28, which states that:

‘A person shall enjoy the right and liberty in his or her life and person.

Arrest and detention of person shall not be permitted, except by an order or a warrant issued by the Court or on other grounds as provided by law.

Search of person or any act affecting the right or liberty in life or person shall not be permitted except on the grounds as provided by law.’

*Torture, brutal acts or punishment by cruel or inhumane means shall not be permitted’*¹⁹

Furthermore, the prohibition of torture is also reaffirmed in the Criminal Procedure Code of Thailand, section 135, which states that:

*‘The inquiry official shall be prohibited to make or to be made any act as deception or threat or promise or torture to the alleged offender for inducing such person to make any particular statement in the charge against him.’*²⁰

The right to the “no penalty without a law” (*nulla poena sine lege*) and the presumption of innocence are other rights that are guaranteed under the constitution of 2017 of Thailand. Section 29 of this constitution states that:

‘No person shall be subject to a criminal punishment unless he or she has committed an act which the law in force at the time of commission provides to be an offence and prescribe a punishment therefor, and the punishment to be imposed on such person shall not be of greater severity than that provided by law in force at the time of the commission of the offence.

A suspect or defendant in a criminal case shall be presumed innocent, and before the passing of a final judgment convicting a person of having committed an offence, such person shall not be treated as a convict.

¹⁸ Section 25, Constitution of Thailand B.E. 2560 (2017)

¹⁹ Section 28, Constitution of Thailand B.E. 2560 (2017)

²⁰ The Criminal Procedure Code of Thailand section 135 (THA) revised by the Act Amending the Criminal Procedure Code (No.22), B.E.2547, Section 40

Custody or detention of a suspect or a defendant shall only be undertaken as necessary to prevent such person from escaping. In a criminal case, a person shall not be forced to make a statement incriminating himself or herself.

*An application for a bail of a suspect or defendant in a criminal case shall be accepted for consideration, and excessive bail shall not be demanded. The refusal of a bail must be as provided by law.*²¹

It could be seen that section 29 of the constitution of 2017 recognised and protected the following specific rights of the accused in criminal cases: the protection from ex post facto laws (paragraph 1), the principle of no punishment without law (paragraph 2), the presumption of innocence in trials (paragraph 3), the protection from self-incrimination (paragraph 4), and the right to pre-trial release (paragraph 5).

Moreover, the right to “no penalty without a law” (nulla poena sine lege) and the right to the presumption of innocence are also reaffirmed in the Criminal Code of Thailand, section 2, and the Criminal Procedure Code of Thailand, section 227. The Criminal Code of Thailand section 2 states that:

*“A person shall be criminally punished only when the act done by such person is provided to be an offence and the punishment is defined by the law in force at the time of the doing of such act, and the punishment to be inflicted upon the offender shall be that provided by the law...”*²²

The Criminal Procedure Code of Thailand section 227 states that:

“The Court shall exercise its discretion in considering and weighing all the evidence taken. No judgement of conviction shall be delivered unless and until the Court is fully satisfied that an offence has actually been perpetrated and that the accused has committed that offence.

*Where any reasonable doubt exists as to whether or not the accused has committed the offence, the benefit of doubt shall be given to him.”*²³

Consequently, at present, it can be said that the rights of the accused in criminal cases in Thailand meet international human rights standards. The fundamental rights of the accused in criminal cases affirmed by UDHR have been guaranteed not only in the criminal code and the criminal procedure code but also reaffirmed in the constitution, which is the supreme law of the state.

²¹ Section 29, Constitution of Thailand B.E. 2560 (2017)

²² The Criminal Code of Thailand (THA) section 2

²³ The Criminal Procedure Code of Thailand section 227 (THA)

CONCLUSION

It could be said that the evolution of the rights of the accused in criminal cases under the criminal law of Thailand had come a long way, from the ancient “Jareet Nakhonban” which did not recognise of the accused in criminal cases the rights of the accused in criminal cases and contained several brutality methods like a trial by torture and the imposing severe punishment, to the current Criminal Code, Criminal Procedure Code and Constitution which recognise and guarantee the basic human rights as well as the rights of the accused in criminal cases per the UDHR’s standard.

In a way, this evolution happened because the signing of Bowring Treaty. Although, it could be argued that the effect of the signing of the Treaty had done more damage than good, especially since it led to the loss of extraterritorial powers, which took several years and effort to regain, and the loss of monopoly trading by allowing more freedom of trade for the British merchants, which effect the economy of the Siamese government, moreover, the Treaty could be said to be the original culprit for the opium relating problems in Siam later on. The signing of the Bowring Treaty had an unforeseeable effect as it motivated Siam to engage in the administrative and legal reform in order to try to regain its extraterritorial powers as well as trying to reduce/eliminate the foreign influence in Siam. For without a certain push from the signing of the Bowring Treaty, it may take longer time for Siam to begin the reformation and turn the criminal law to be what they are as today: a criminal law, which is compatible with the human rights’ standard of the world.

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HAPPINESS OF GOVERNMENTAL OFFICERS IN NONG KHAI PROVINCE

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ABSTRACT

Happiness in the workplace was long studied and found that it influenced the quality of employees' performance. It was found that people with higher level of happiness performed better. As a result, the discussion of previous studies mainly focused on the factors affecting happiness in organization. This paper, therefore, aimed 1) to study the level of happiness in work of governmental officers in Nong Khai province and 2) to study the factors affecting the happiness in work of public organizations in Nong Khai. This study was done quantitatively. It employed questionnaire as a data collection tool, collecting from the sample group of 400 governmental officers. The data was analyzed using descriptive statistical methods and multiple regression analysis. The findings presented that governmental officers were very happy working in the organization, and the factors that influenced happiness were relationship in the organization and pay and welfare.

KEY WORDS: Work happiness, Governmental officers, Public sector, Nong Khai

INTRODUCTION

In the time that people are facing disruptions in many areas such as economy, politics, technology and other kinds of changes that emerged very quickly which influenced people's feelings and thoughts. Those who cannot handle might face stress and might cause negative effect to their work and their lives.

Human resources are long known to be one of the important resources that drive the organization toward its goals and success. Every organization wants their workers to be happy as many studies have found that happiness affects the quality of work performance (e.g. Proto, 2016; Bellet, De Neve, and Ward 2019). Therefore, happiness becomes one of many interesting areas to investigate its causes in order for the organizations to utilize practices in their organization.

Manion (2003) defined work happiness as the result of self-actions and self-creation that made one delighted which directed to efficient work performance. When employees were delighted, they were engaged and satisfied to work in the organization. They had good relationship and wanted to remain in the organization. Similarly, Kjerulf (2017) stated that happiness at work refers to the feelings and emotions that emerged within a person reacting to situations such as feeling fun while working or proud of their achievement, value their performance, and so on.

Manion's framework (2003) suggested four factors affecting work happiness in nursing sector. They were connections, love of the work, work achievement, and recognition. Connections referred to the perception of relationship in the organization such as good work atmosphere, teamwork, and cooperation. Love of the work referred to the perception of love and engagement with their jobs and organizations, and the desire to work. Work achievement referred to perception of work responsibility, outcome-based, and the work improvement. Recognition referred to perception of self-respect and respect from coworkers.

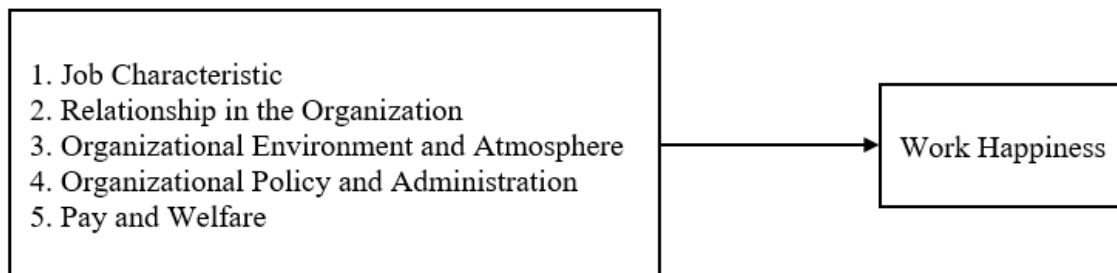
Thai Health Promotion Foundation (2011) created manuals for happy workplace, composed of eight areas, so called 'Happy 8' that described what a person should be happy about in order to create happy workplace. The manual discussed about 1) happy body which referred to good physical and mental health. It was believed that good health helps people to deal with problems and overcome challenges. 2) Happy heart referred to kindness. It was believed that kindness and to be a giver could make people happy. 3) Happy society referred to relationship in the society such as workplace, community. The unity and teamwork in a society was believed to uplift the quality of lives. 4) Happy relax referred to the ability to relax and avoid stress that might affect work performance. 5) Happy brain referred to self-training toward their profession and to become the better worker in their organization. 6) Happy soul referred to faith in life, and to have peace of mind. 7) Happy money referred to personal finance matter that a person should apply theory of sufficiency economy for their living style, and 8) happy family referred to having stable and warm family as personal support.

Pattaradanai Chalongsun (2018) who studied work happiness of officers in the public justice organizations found out that work happiness occurred when a person likes their job, had faith, and satisfied in what they did. Their work was perceived and respected by the organization, as well as they felt that they had opportunities to develop themselves.

Suweena Chaiyasan, Sida Sonsri, and Wasan Luangprapat (2015) who study the happy organization of Sub District Administration Organizations in Kaedam district, Mahasarakham province found out that factors affecting happiness in organizations were relationship in the workplace, work-life quality, love of the job, and the shared-values of the organizations.

Having said this, it can be seen that there are many factors affecting work happiness in public organizations and they can be categorized in two areas – internal and external factors. Internal factors involved personal attitude and feelings toward their work such as satisfaction and relationship in the organization. External factors involved uncontrollable factors that a worker or officer could not control such as organizational policy. Therefore, the current research has combined what were reviewed into five main factors. They were job characteristic, relationship in the organization, organizational environment and atmosphere, organizational policy and administration, and pay and welfare as shown in figure 1.

Figure 1: Conceptual Framework



The target area of this study was Nong Khai province. It is located in the northeast area of Thailand. It has the border province to Laos. Nong Khai was chosen for this study because it was voted to be one of the world's best living place for American Senior Citizen, measuring in 12 major categories. They were weather, cost of living, cultural programs, sanitation, accommodation, transportation, medical services, environment, leisure activities, safety and security, political stability, and access to technology (General News, 2001). It is interesting to investigate the happiness of the workers in Nong Khai province as local people as well as it is believed that the happiness of the workers will affect their work efficiency and this was a part that influence Nong Khai to be one of the best living place in the world. The current study will contribute to the studies of human resource management in governmental sector. Previously many studies focused on governmental sector in Thailand overall and many of them focused in Bangkok. Nong Khai has special aspects that were

different from Bangkok such as people, and lifestyle. Therefore, the findings of this study will contribute to the human resource management studies in particular of Nong Khai area.

OBJECTIVES

1. To study the level of work happiness of governmental officers in Nong Khai province.
2. To study factors affecting work happiness of governmental officers in Nong Khai province.

RESEARCH METHOD

This research took quantitative approach, using questionnaire to collect data. The questionnaire was tried-out with 30 governmental officers. The reliability test using Cronbach alpha presented 0.77 and hence the questionnaire was reliable and was used to collect data. The questionnaire applied 5 levels of Likert scale composing of (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly Agree. The number of samples applied Cochran's technique when the population is unknown (Cochran, 1977) and received the number of 385 individuals at least. To prevent the low return rate or incomplete data, the researchers sent out 420 questionnaires to governmental officers in Nong Khai. There were 153 governmental organizations, categorizing in 26 groups by their affiliation in Nong Khai. The researcher ensured that the sample covered 26 groups by applying stratified sampling method. The target group was first divided by affiliations, then the same ratio was applied to each group. Individual organizations were selected randomly, and 4-6 questionnaires were sent to each random organization. After receiving 420 questionnaires in return, it was found that 400 collected questionnaires could be further analyzed, 12 questionnaires did not return, and 8 questionnaires were incomplete. The analyses involved frequency, percentage, and standard deviation, to describe samples and the level of happiness of governmental officers in Nong Khai. The criteria to describe the level of happiness is as follows (adapted from Srisaad, 2010).

4.21 – 5.00	is described as very high level. In other words, the officers are very happy at work.
3.41 – 4.20	is described as high level. In other words, the officers are happy at work.
2.61 – 3.40	is described as medium level. In other words, the officers are neutral at work.
1.81 – 2.60	is described as low level. In other words, the officers are unhappy at work.
1.00 – 1.80	is described as very low level. In other words, the officers are very unhappy at work.

Apart from this, multiple regression analysis was applied to analyze factors affecting work happiness.

FINFIF AND RESULTS

The collected data was from 400 governmental officers in Nong Khai from 16 public organizations. The descriptive analysis can be presented in three parts as follows.

Part one demonstrated general information of the samples. It composed of gender, age, education, organizations, and work tenure.

TABLE 1. General Information on Gender

Gender	Number	Percent
Male	197	49.25
Female	203	50.75
Total	400	100.00

Table 1 presented that most samples were female with the number of 203 individuals (50.75%) followed by male 197 individuals (49.25%).

TABLE 2. General Information on Age

Age	Number	Percent
Below 31	51	12.75
31 – 40 years old	103	25.75
41 – 50 years old	152	38.00
51 years and above	94	23.50
Total	400	100.00

Table 2 presented that most samples were between 41-50 years old with the number of 152 individuals (38%), followed by 31-40 years old (103 individuals, 25.75%), 51 years and above (94 individuals, 23.50%), and below 31 years old (51 individuals, 12.75%) respectively.

TABLE 3. General Information on Education

Education	Number	Percent
Below Bachelor's Degree	69	17.25
Bachelor's Degree or Equivalence	281	70.25
Above Bachelor's Degree	50	12.50
Total	400	100.00

Table 3 showed that most governmental officers' education was bachelor's degree or equivalence with the number of 281 officers (70.25%), followed by below bachelor's degree (69 officers, 17.25%), and above bachelor's degree (50 officers, 12.50%) respectively.

TABLE 4. General Information on Organizations

Organizations	Number	Percent
Nong Khai Provincial Municipal Office	30	7.50
Nong Khai Provincial Culture Office	27	6.75
Nong Khai Area Revenue Office	26	6.50
Treasury Department, Nong Khai	23	5.75
Department of Probation, Nong Khai	22	5.50
Nong Khai Provincial Livestock Office	23	5.75
Social Security Office, Nong Khai	27	6.75
Nong Khai Provincial Employment Office	18	4.50
Nong Khai Legal Execution Office	27	6.75
Nong Khai Provincial Cooperative Office	22	5.50
Thai Customs, Nong Khai	29	7.25
Nong Khai Immigration	29	7.25
Nong Khai Provincial Office of Education	24	6.00
Nongkhai Provincial Office for Local Administration	30	7.50
Nongkhai Provincial Public Health Office	27	6.78
Office of Nongkhai Province Election Commission	16	4.00
Total	400	100.00

Table 4 demonstrated the organizations that sample governmental officers for this study work for. Many of officers in this study worked for Nong Khai Provincial Municipal Office and Nongkhai Provincial Office for Local Administration (30 officers each organization, 7.50%), followed by Thai Customs, Nong Khai and Nong Khai Immigration with the number of 29 officers each organization (7.25%), Nong Khai Provincial Culture Office, Social Security Office, Nong Khai, Nong Khai Legal Execution Office, and Nongkhai Provincial Public Health Office with the number of 27 officers each organization (6.78%), Nong Khai Area Revenue Office with the number of 26 officers (6.50%), Nong Khai Provincial Office of Education with the number of 24 officers (6%), Treasury Department, Nong Khai, and Nong Khai Provincial Livestock Office with the number of 23 officers each organization (5.75%), Department of Probation, Nong Khai, and Nong Khai Provincial Cooperative Office with the number of 22 officers each organization (5.50%), Nong Khai Provincial Employment Office with the number of 18 officers (4.50%) and Office of Nongkhai Province Election Commission with th number of 16 officers (4%) respectively.

TABLE 5. General Information on Work Tenure

Work Tenure	Number	Percent
Below 6 years	9	2.25
6 – 10 years	62	15.50
11 – 15 years	124	31.00
16 – 20 years	118	29.50
21 years and above	87	21.75
Total	400	100.00

Table 5 presented that most samples had worked for their current organization between 11-15 years (124 officers, 31%) followed by 16-20 years (118 officers, 29.50%), 21 years and above (87 officers, 21.75%), 6-10 years (62 officers, 15.50%), and below 6 years (9 officers, 2.25%) respectively.

Part two presented the level of work happiness of the samples. There were nine questions in total. The details are shown in table 6 below.

TABLE 6. Work Happiness of Governmental Officers in Nong Khai

Details	\bar{x}	S.D.	Level
1) Do you feel positive with your assigned jobs and position?	4.28	0.678	Very High
2) Your working life is as what you wish to be.	4.27	0.744	Very High
3) Do you feel positive for working on the jobs that match your ability?	4.31	0.622	Very High
4) Do you feel positive to be able to communicate with your colleagues sympathetically?	4.34	0.614	Very High
5) Do you feel positive to be respected and recognized from your colleagues and clients?	4.32	0.691	Very High
6) Do you feel positive to receive higher pay?	4.62	0.642	Very High
7) Do you feel positive to have an opportunity to develop yourself as you wish?	4.41	0.577	Very High
8) Do you feel positive toward your organizational rules and regulations?	4.36	0.612	Very High
9) Do you feel positive to be able to focus on your job and receive the right amount of assigned work?	4.40	0.574	Very High
Total	4.37	0.639	Very High

Table 6 demonstrated that governmental officers in Nong Khai were very happy at work (\bar{x} =4.37, S.D.=0.639). Each item presented at very high level. The highest area of happiness was to receive higher pay (\bar{x} =4.62, S.D.=0.642), followed by to have an opportunity

to develop themselves ($\bar{x}=4.41$, S.D.=0.577), to be able to focus on the job and receive the right amount of assigned work ($\bar{x}=4.40$, S.D.=0.574), organizational rules and regulations ($\bar{x}=4.36$, S.D.=0.612), to be able to communicate with colleagues sympathetically ($\bar{x}=4.34$, S.D.=0.614), to be respected and recognized from colleagues and clients ($\bar{x}=4.32$, S.D.=0.691), working on the jobs that match their ability ($\bar{x}=4.31$, S.D.=0.622), to feel positive with your assigned jobs and position ($\bar{x}=4.28$, S.D.=0.678), and working life is as their wish ($\bar{x}=4.27$, S.D.=0.744) respectively.

Part three presented factors affecting work happiness of governmental officers. The factors investigated were job characteristic, relationship in the organization, organizational environment and atmosphere, organizational policy and administration, and pay and welfare.

TABLE 7. Factors Affecting Work Happiness

Factors	B	S.E.	Beta	Sig
Job characteristic	0.138	0.075	0.112	0.059
Relationship in the organization	0.194	0.059	0.121	0.004
Organizational environment and atmosphere	0.173	0.067	0.196	0.078
Organizational policy and administration	-0.028	0.065	-0.032	0.593
Pay and welfare	0.306	0.044	0.401	0.001

Table 7 demonstrated that there were two factors affecting work happiness which were pay and welfare (sig=0.001) followed by relationship in the organization (sig=0.004). Pay and welfare referred to salary, compensation and other monetary reward that an organization gives to its employees. Welfare referred to other non-monetary pay such as health care, residences. It can be said that pay and welfare increases whenever happiness is added 0.401. Relationship in the organization which included the relationship between supervisors, colleagues and subordinates, increases whenever happiness is added 0.121. Job characteristic (sig=0.059) which referred the job descriptions, the work an employee was assigned; organizational environment and atmosphere (sig=0.078) which included work location, equipment, and support from the organization; and organizational policy and administration (sig=0.593) which referred to the organizational rules, regulation as well as administrating style, did not affect work happiness at the significance level of 0.05.

DISCUSSION

From the findings stated in seven tables and descriptions above, it can be discussed in line with the research objectives twofold as follows.

Objective 1 was to study the level of work happiness of governmental officers in Nong Khai province. The findings presented that governmental officers in Nong Khai province were very happy at work. This can be described that the governmental organizations in Nong Khai were the places that the officers felt comfortable working for. They had posi-

tive feelings toward their organizations, their jobs, as well as their colleagues. Apart from that, they satisfied with the salary and welfare that they received as well as they felt comfortable with the organizational rules and regulation. The findings were supported by Fisher (2010) who stated that work happiness was a consequence of many factors – both internally and externally. The author presented that there was not one ideal type of the factors that fits all employees. The happiness occurred when an employee responded positively with the particular factors. The author described in three levels. First, the organizational level included the practices and policy in the organization. Second, job level included the job types, properties and details of the job that match the individual's personal style. Third, event level referred to 'affective events – momentary happenings that provoke concurrent moods or emotions' (Fisher, 2010: 396).

Objective 2 was to study factors affecting work happiness of governmental officers in Nong Khai province. The finding presented that two factors affecting work happiness were pay and welfare and relationship in the organization. This was supported by many scholars who found out that income affect their work happiness such as the study of Angner et al (2011) and Knabe and Rätzl (2010). Apart from this, relationship in the workplace referred to positive feelings and collaboration among colleagues in the organization. Some scholars defined this as friendship in the organization. This factor was also found to be one of the important factors affecting work happiness such as found in the work of Snow (2013) whose findings presented that friendship satisfaction of older adult females affect work happiness, as well as Naff (2012) had also pointed out the good relationship in the workplace affect work happiness.

Having said this, it can be concluded that governmental officers in Nong Khai were very happy working in their governmental organizations and the factors and influenced their work happiness were that they received satisfactory pay and welfare and they had positive relationship with their colleagues in the organization. At this point, it can be said that in Nong Khai, governmental officers were happy working in the organization because they received satisfactory pay and welfare. Secondly, they had good relationship with their colleagues, supervisors, and subordinates which affect their work happiness. The results implied that in order to create happiness in the workplace for governmental officers, the organization should focus on pay and welfare as well as relationship in the organization. Even though pay and welfare might not be able to change easily due to the central rules of the government, details of payment and compensation can be utilized. For example, even though the rate of salary and welfare were fixed, the organization should utilize justice and fairness in terms of promotion. Apart from this, the relationship of the people in the organization was also important. Administrator and human resource department should be aware of conflict in the organization that might cause negative relationship of the people in the organization. The organization should facilitate positive relationship in the organization, create friendly working atmosphere in order to increase happiness in the organization. However, the current research was done by investigating from the samples from 16 organizations in Nong Khai. It might be difficult to conclude that this can infer to the all governmental officers in the province because there were other organizations excluded from this research that the organizational types or job characteristics might differ and that might influence the results of the study.

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SPORT PARTICIPATION OF THAI PEOPLE “WHEN, WHAT AND WHY?”

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ABSTRACT

Obesity is more and more becoming a problem in many Asian countries, also in Thailand. Next to eating and drinking behavior and habits, another reason for obesity is that participation in physical activities and sports is decreasing, in every age group. The percentage of Thai people doing sports on a regular basis went down from 33 % in 2004 to 23% in 2015. There are however differences: men sport more than women; participation declines by age, Thais in urban areas sport more than Thais in rural areas. Not only personal factors might influence participation, but also external factors (like school, weather, parents and peers, perception of gender roles and looks, performance of Thai sport teams on an international level, sport facilities in school or attention of sports in Thai media) and situational factors. A situational factor influencing sports participation is the availability of others to play sports with. This seems to be more a problem on a higher age. The differences in sports participation among Thai people are mainly a consequence of the societal and economic inequality in Thailand, not so much of demographic differences. The differences start in childhood and seem to continue during lifetime.

KEY WORDS: Sports participation, Thailand, Personal, External and situational factors, Sport lifecycle

INTRODUCTION

With just more than 32 percent of population of Thailand being obese (Karaman, 2018), and many more being overweight at a continuous rate, it has never been more important to participate in any form of sports or exercise. But according to research, participation in physical activities by Thai children is very low (Amornsriwatanakul, 2016). And the number of Thai people active in sports is going down. Sedentary behavior prevails. Sports can be defined as an activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment. The benefits of participating in sports are very obvious, researched and confirmed time and time again:

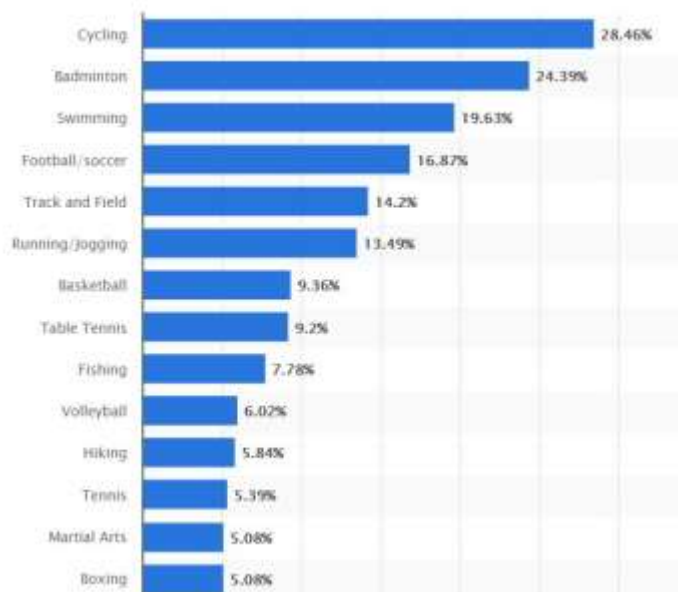
- a.enhancing an individual's mental and physical health;
- b.less lethargy;
- c.character building;
- d.strength and agility;
- e.enhancing physical skills as well as social skills;
- f.balancing physical, emotional and social well-being;
- g.developing leadership skills.

In this article, we will try to gain more knowledge and insight in the factors influencing sports participation of the Thais in particular. We will look at the data first and then explore theories.

SPORT PARTICIPATION IN THAILAND TODAY

Figure 1: Sports Thais participate in, 2016, more sports possible (in %)

Source: Statista Portal, 2017



Thai youth and adults actively take more part in cycling than in any other sports (with 28,5 %), followed by badminton (24,4 %) and swimming (19,6 %). Although Thailand is internationally well known for boxing, it is one of the smallest sports with only 5,1 %. Football/soccer/futsal scores 16.9 % participants and running and jogging 13.5 %.

3 out of 4 active Thai people are doing active sports and exercises more than 7 months, men 77.2% and women 69.0% consecutively. The remaining people sport and exercise less than 6 months, separated into 1-3 months and 4-6 months at 13.5% and 12.1% consecutively.

Figure 2: Time Thais spent on sports per week (in %)

Source: Statista Portal, 2017

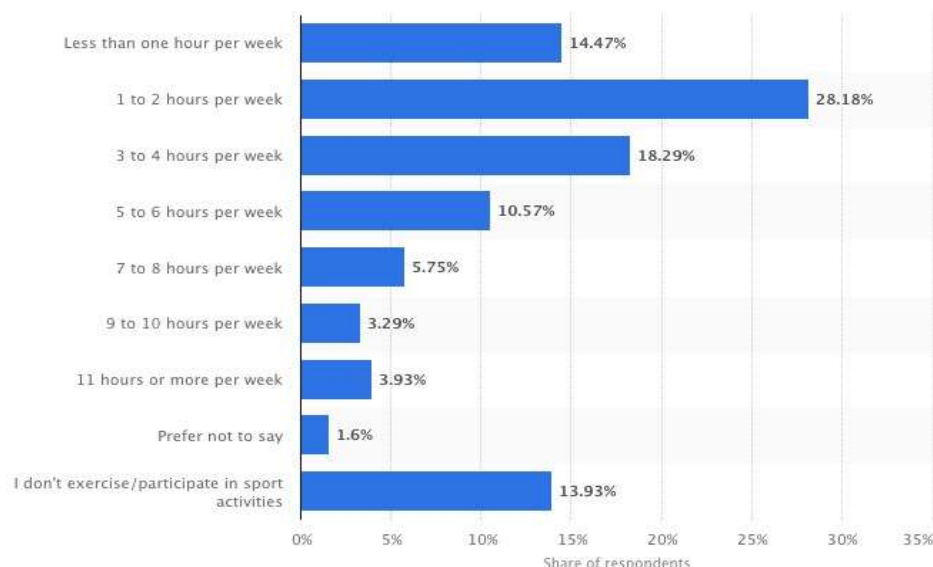
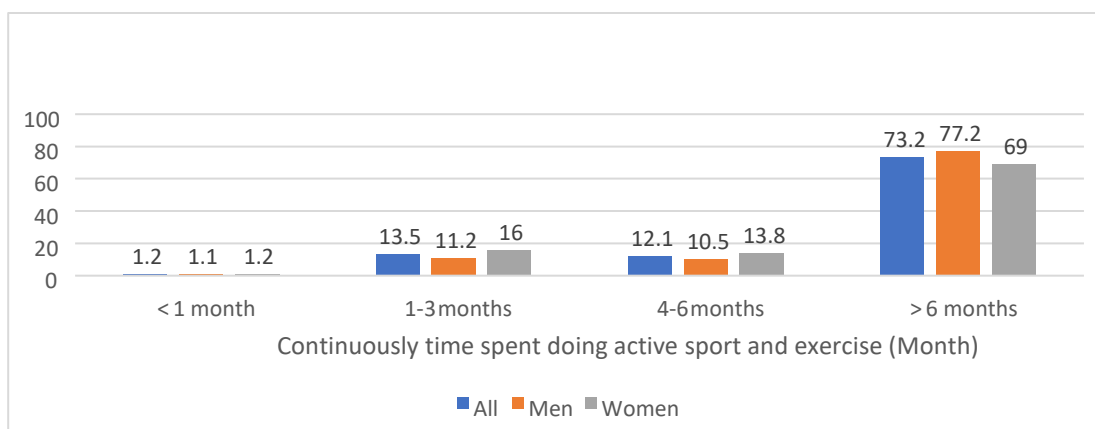


Figure 3: Thai population in active sport/exercise, according to duration, in %

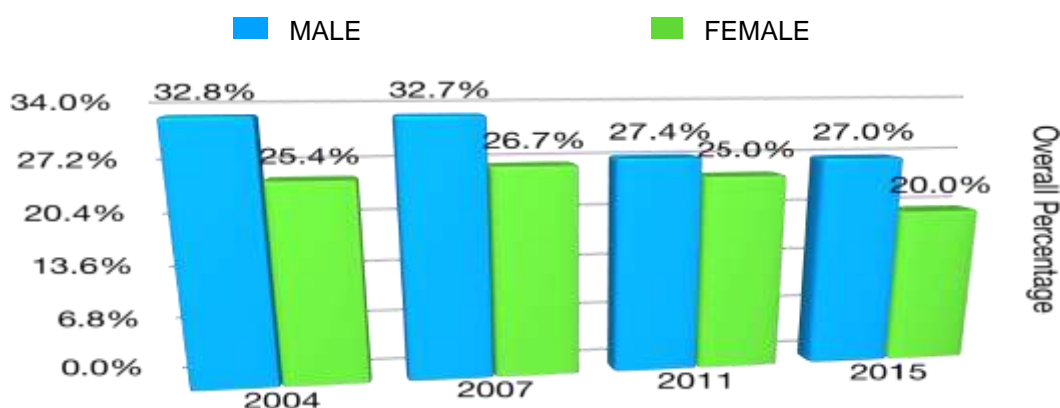
Source: National Statistical Office of Thailand, 2011



Since 2004, data about active activities by Thai citizens (11 years and older) are collected every three years. Thai citizens perform active activities on a low level and since 2004, the

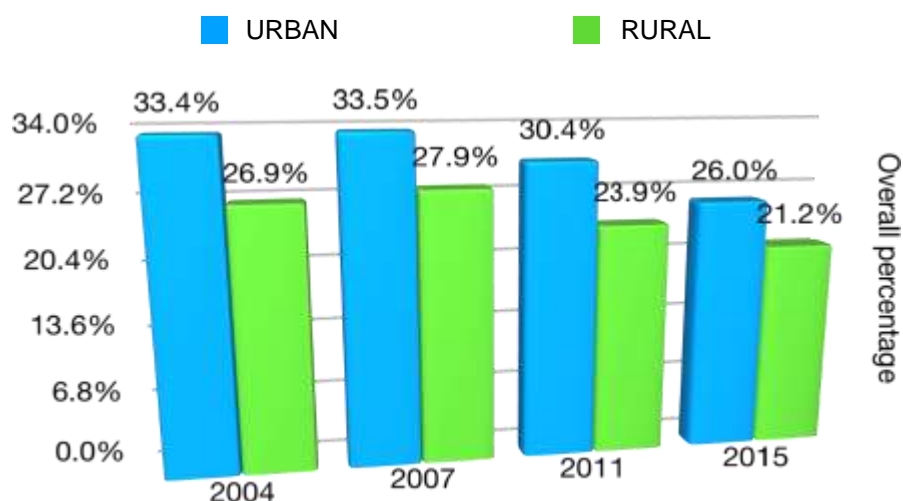
number is decreasing according to the Survey of Health and Welfare (National Statistical Office of Thailand, 2016).

Figure 4: Sports participation Thailand, according to gender, 2004-2015
Source: National Statistical Office of Thailand, 2016



In all years, 2004, 2007, 2011 and 2015, the percentage of males performing sports is higher than the percentage females. For both, the percentage active people decreased 5-6% from 2004 to 2015 steadily. The decline in 2011 might be due to the major flooding in Thailand as many Thai citizens were unable to do any sport activities or unable to find any places to perform their sport for many weeks. However, the trend of declining participation is evident.

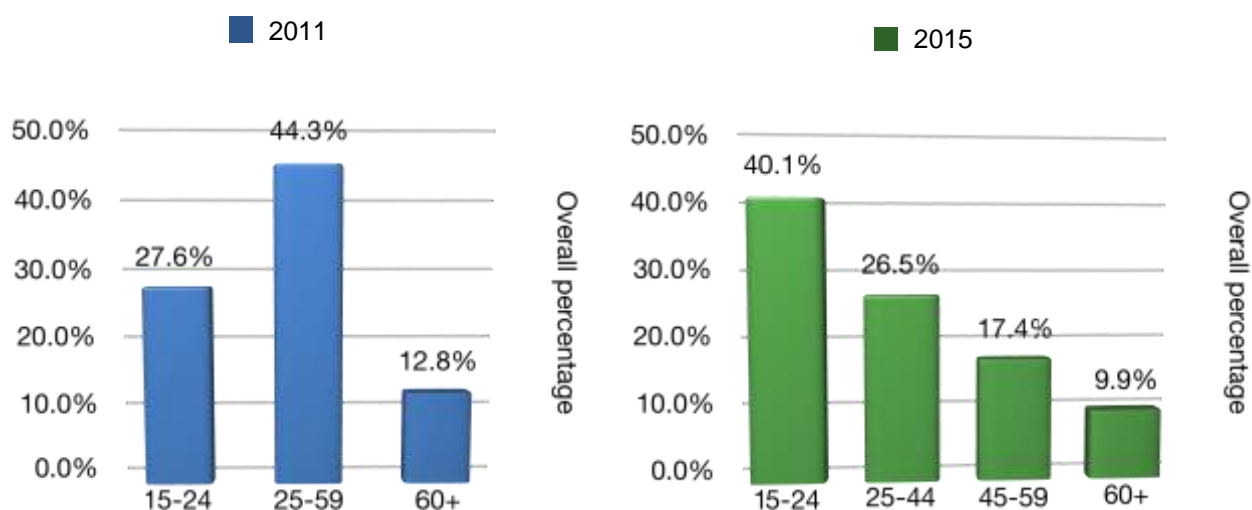
Figure 5: Sports participation Thailand, according to rural-urban area, 2004-2015.
Source: National Statistical Office of Thailand, 2016



The chart shows that the decreasing participation also counts for Thais in rural and urban environments. Citizens who live in an urban area show a slightly higher participation rate; about 7 % more than Thais in rural areas. This might be due to several factors like budget and available facilities. Next to gender and region, the analysis is also done for age.

Figure 6: Sports participation Thailand, according to age, 2011 and 2015.

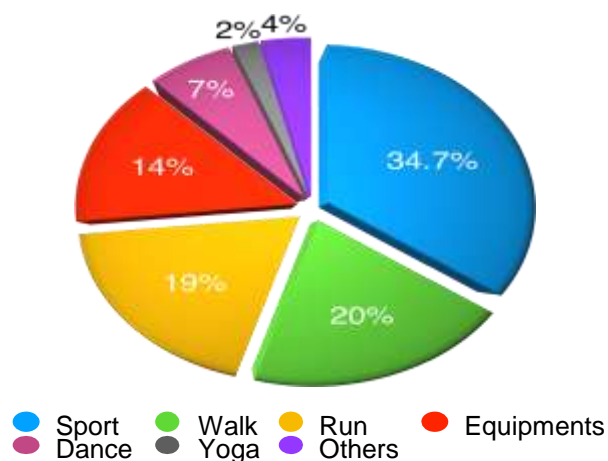
Source: National Statistical Office of Thailand, 2016



The graph shows that the percentage of Thais, aged 15 to 24, participating in sports significantly increased from 27.6% to 40.1% in 4 years, while the percentage of citizens at the age of 25 to 59 had slightly decreased. The decrease is highest among the Thais, aged 60 and above: from 12.8% to 9.9%. In an ageing society like Thailand, this is an alarming trend.

Figure 7: Type of sports by Thais (2017).

Source: National Statistical Office of Thailand, 2016



A pie chart displays that 34.7% of Thais performing any kind of sport activities, 20% walk, 19% run, 14% exercising with equipment, 7% dance and 2% do yoga.

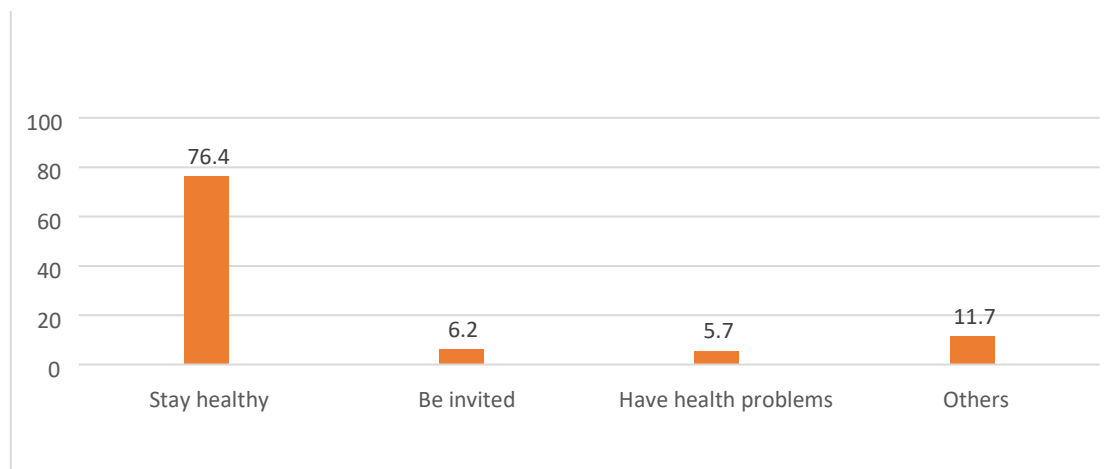
Only 23.4% of Thai children and youth meet the recommended levels of physical activity (PA) and there are large gender and regional differences (Amornsriwatanakul, A., Lester, L., Bull, F. C., & Rosenberg, M., 2017). PA levels generally decline with age, although the level observed in the 10 - 13 year group was slightly higher than in other year categories. Sex, age, BMI (Body Mass Index), geographical regions, organized sports, participation in sport and recreational activities were significant predictors of meeting the global PA standards, whereas participation in physical education, active transport, and the number of screen time activities had no predictable value. Girls were less likely to achieve sufficient PA levels.

FACTORS INFLUENCING SPORT PARTICIPATION

3 out of 4 Thai people are doing active sports and exercises because they want to stay healthy. Next to that, Thais are invited by their friends to sports, either have health problems or other reasons like wanting to lose weight.

37% of respondents claim that they know well how to take care of health (National Statistical Office of Thailand, 2011) This is the lowest number compared to other countries. The global average is 51%. 98% know that doing sport can make them healthier, but only 48% are actually doing sports. In addition, 74% of respondents consider taking vitamin supplements to help them to stay healthy.

Figure 8: Reasons Thai population for doing sports (in %)
Source: National Statistical Office of Thailand, 2016



All information and statistics demonstrate that the percentage of Thai citizens performing sportive activities is decreasing. Yet, knowing the negative impact of such inactivity, like the increase of diseases, Thai citizens remain relatively inactive.

Individual and personal factors

a. Demographics: age and gender

Different age groups face different concerns and barriers to do sports (National Statistical Office of Thailand, 2011). Participation of young children was found to be more enjoyable when children were not forced to compete and win, but encouraged to experiment with, participate in various activities. Participation depends on support from parents and availability of sport and physical activity facilities. The main factor for the participation of young children in active sports is recommendation of their parents. Another factor for participation is a safe environment. From the teenager's perspective, the main factor is their personal concerns about body shape and weight management, especially for females. Among females, sports participation also depends on the pressure to conform themselves to the beauty ideals of Thai society. Apart from the societal expectation, participation among teenagers is essential in developing new skills, increase self-esteem, fitness and social networks among their sport companions. Another factor is family and friends who play an essential role in maintaining participation at the transitional phases such as changing school. Adults prefer participating in sport for a sense of achievement, developing skills and spend time on themselves away from their routine responsibilities. One of the main factors in non-continuation is negative school experiences.

b. Costs of doing active sport activities vs. the available budget (economic situation)

The expenses and costs for active sport activities consist of sport garments (clothes, shoes), transportation (to the sports venue), sport equipment (bikes, balls, rackets, sticks) and lesson or club fees. Not all Thai people have the budget to afford all these things which make them possible barriers for participating or choosing cheaper sports than they prefer to do. The differences in sports participation between urban and rural Thailand might be an indication for this. Some sports are relatively cheap, some other are expensive under the condition that the distance to the facility/venue is the same.

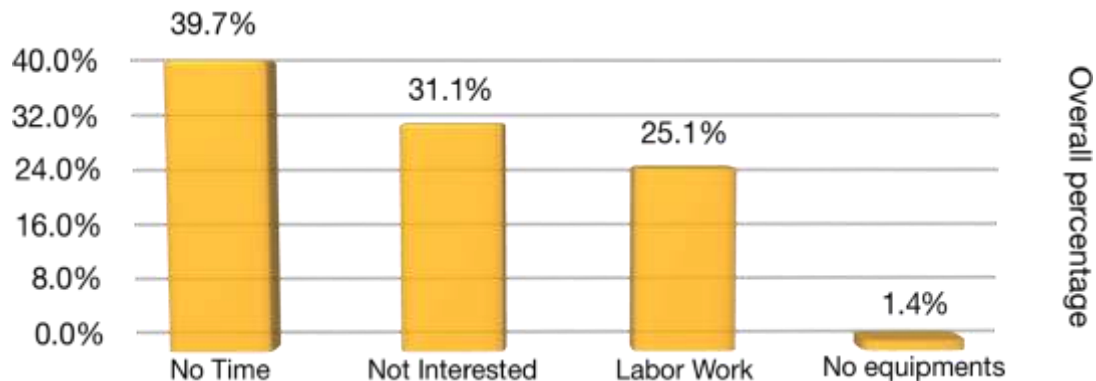
c. Support from parents/family and motivation

When Thai youth are encouraged to focus more on spending time on education and homework and getting positive performances in education, Thai parents probably underestimate the importance of doing sports. They might think that doing sports distracts children from school. When parents do not support their children to do sports, these kids do not feel motivated to do active sport activities. They would not consider doing active sport activities important to their lives. 85.6% of Thai children, aged 6 to 17 years, indicated that their parents encouraged them to play sports or exercise (Amornsriwatanakul, A. a.o. ,2016). Only 32.8% reported that their parents were physically active with them. A similar proportion (85.5%) indicated that their peers in turn encouraged them to sport actively.

d. Spare time vs. priorities

The reasons citizens give for not doing active activities are given in figure 9.

Figure 9: Reasons Thai population for not participating in sports (in %).
Source: National Statistical Office of Thailand, 2016



The chart indicates that many Thai citizens say that they have no time for any other personal activities as sports or exercising: 39.7%. Not interested are 31.1%, and labor work prevents 25.1% to do sports. They state that work already consumes lots of energy, while the rest mentioned the lack of equipment as the reason.

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25 % of Thais say that working prevents them from doing sports. It might be not restricted to the working hours themselves but also include the hours which are needed to travel to and from the working place. Of course, also here there are big differences per region. In the bigger cities, commuting takes more time.

External factors

a. The weather and climate in Thailand

Thailand is a tropical country with high humidity (in rainy season about 80%). The weather is usually hot throughout the year. In 2015, the average temperature varied in the summer from 28 to 30 degrees Celsius for the different regions. For the winter period the average temperature varied from 23 to 27 Degrees C. (TMD, 2015). The average temperature in Thailand is rising every year. This can lead people not to feel like doing any physical activities outside, simply because the weather is not convenient and they want to avoid sweating and health problems. During daytime it is often too hot to be active in sport, so sport activities often take (or have to take) place in the early morning or in the evening hours. This also counts for the weekend days.

b. Thai perception of gender roles and looks

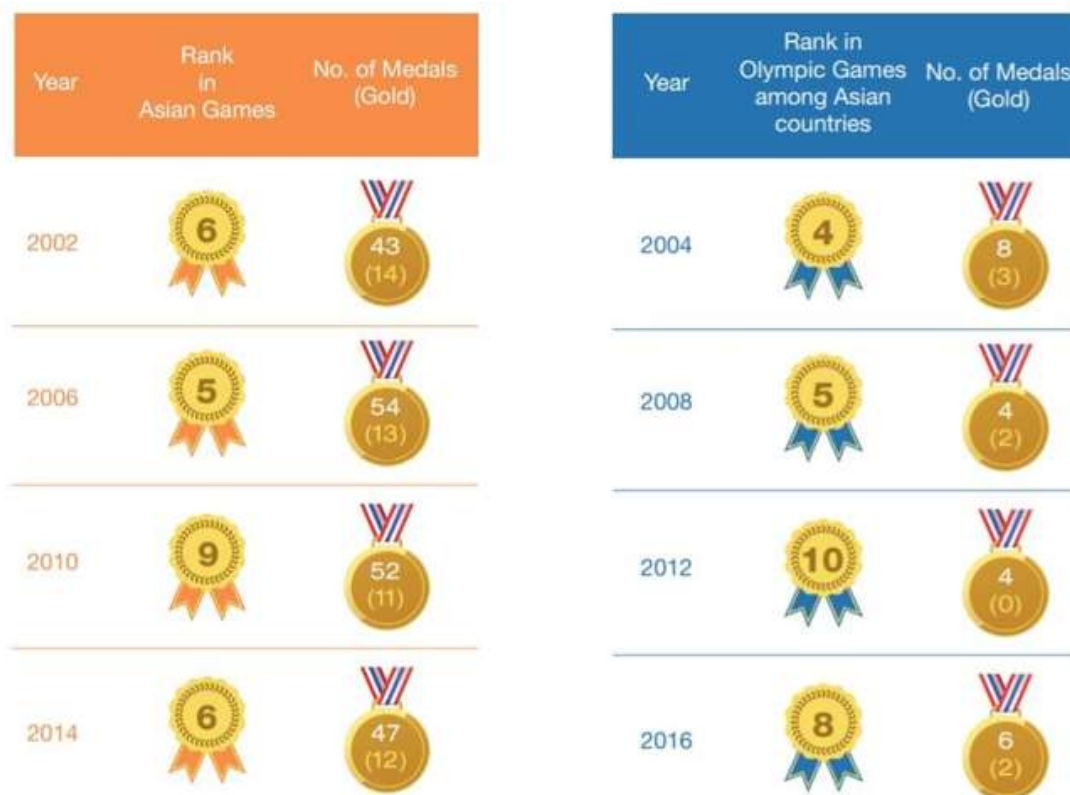
As mentioned before, 30.1% of Thai boys meet the PA guideline of 60 minutes per day while only 16.8% of girls do. The fact that girls are less active than boys could be an effect of the general gender role and image in Thailand. Boys are considered to be more suitable to do active sport activities while girls should rather be playing with dolls or learning to cook instead.

Apart from that, being ‘light-skinned’ or ‘not having dark skin color’ is one of Thailand’s standards of beauty, especially for Thai females. Skin-whitening products and treatment courses are often advertised on different media in Thailand. Television and social media sites have put the mindset on Thai children and youth to value this kind of beauty standards. Thai people, especially girls, try to avoid doing outdoor activities, including doing different active sport activities such as swimming, tennis and football. (Salvá, 2017)

c. Performance of Thai sporters / sportteams on international level

Thai athletes have held recognition by participating in active sports at competition held at international levels. Excellent performances (medals) in various sports such as badminton, shooting, boxing, weight lifting, volleyball, taekwondo and others. Sometimes more Asian sports like sepak takraw have brought pride to the nation as a whole. Figure 10 describes Thailand's historical performance at the past Asian Games as well as Olympic Games.

Figure 10: Achievements of Thai sporters on international level, 2002-2016



However, ‘the correlation between the degree of sport participation and top sport success primarily depends on the intensity, competitiveness and the degree of organization in sporting practice.we find no correlation between participation in sport and elite sport success.’ (Bottenburg, 2002, pg 20).

International success of Thai top sporters (like the national women volleyball team or badminton player Ratchanok Intanon) are important for the media, the commercial businesses linked to them and for national pride but do not have an influence on the level of participation for that particular sport.

d. School

Most Thai schools (93%) organize extracurricular activities outside school hours and parents are invited to join these activities. However, schools indicate that 54.9% of the parents joined the activities. Almost all schools (95.9%) had their in/outdoor PA (physical activities) facilities and equipment available to students for use outside school hours.

27.7% of the schools had policies specifically promoting PA and that 60% of physical education (PE) classes were taught. Almost all schools (95.9%) had their in/outdoor PA facilities and equipment available to students for use outside school hours. The grade results from multiple metrics ranging from A to F made the final grade a C.

e. Private and/or public sector (sports) facilities

The supply of sport facilities and services has increased the range of opportunities for Thais to participate in sports and exercise. In the case of Thailand, profit oriented businesses are much more important than governmental facilities or facilities and services free of charge. Also the more professional sport facilities and service providers make use of marketing and promotion which have an effect on demand. Research shows that (urban) public parks are important as locations for active behavior. That does not count only for the availability (incl. proximity) as such, but also for aspects like safety, aesthetics, amenities and maintenance. (McCormack e.o., 2010; Bedimo-Rung e.o. , 2005). However, active sporters in public parks may cause conflicts with users who use the public park for other reasons (Chandasiri and Arifwidodo, 2016) so the design of public parks is important.

f. Sports in the media

Some sports have a great commercial value in the sense of attracting millions of spectators worldwide and therefor are interesting sports and sport events for advertisers. Broadcasting these sports (e.g. soccer and tennis) on a regular basis enables the media to connect advertisers with their (potential) customers. Research shows that there is a positive correlation between participation in a particular sport and looking at matches. There is not such a correlation between watching and as a consequence, participating. (Bottenburg, 2002).

Situational factors

a . Having no sports partner or team

Most type of active sport activities such as football, volleyball, tennis, sepak takraw and badminton cannot be played individually. You always need to form a team (or even 2 teams to play against each other) or you need to have a partner to do some of those active sport activities. This is considered a situational cause, whereby people wouldn't play these sports without a partner or a team.

b. The advancement of technology and digital life

Probably one of the most significant factors influencing sport participation – but then in a negative way – is contemporary technology. The rise of (computer) games and social media leads to addictive and sedentary behavior. In average, Thai youth spend 10.5 hours per day online in 2016 (9TANA Tech channel, 2016). Thai baby boomers (50+) around 8,2 hours per day. While such time involvement has a beneficial effect on the development of technological skills, it might have a negative influence on participation in sports and therefore on health and fitness, certainly for Thai youth.

The digital era and the technology advancement cause humans to sit down too much and make them less physically active. Apart from going online or watching television, Thai children and youth also spent time playing video games. 'eSports' are becoming more popular, and some of the Thai children and youth are claiming that this is one of the forms of doing active sport activities. Although this matter is still being debated, some of the other Thai children and youth are convinced that 'eSports' can replace doing the actual active sport activities in real life.

The life cycle of sports participation

In the previous paragraphs, we saw that sports participation reflects the societal and social differences. Women sport less than men, people with high education sport more than people with lower education: "sports participation is actually linked to socialization and the values acquired during the socialization process, as well as to the habitus acquired throughout life...." (Puig, 2016, pg 10). This inequality lasts during a lifetime.

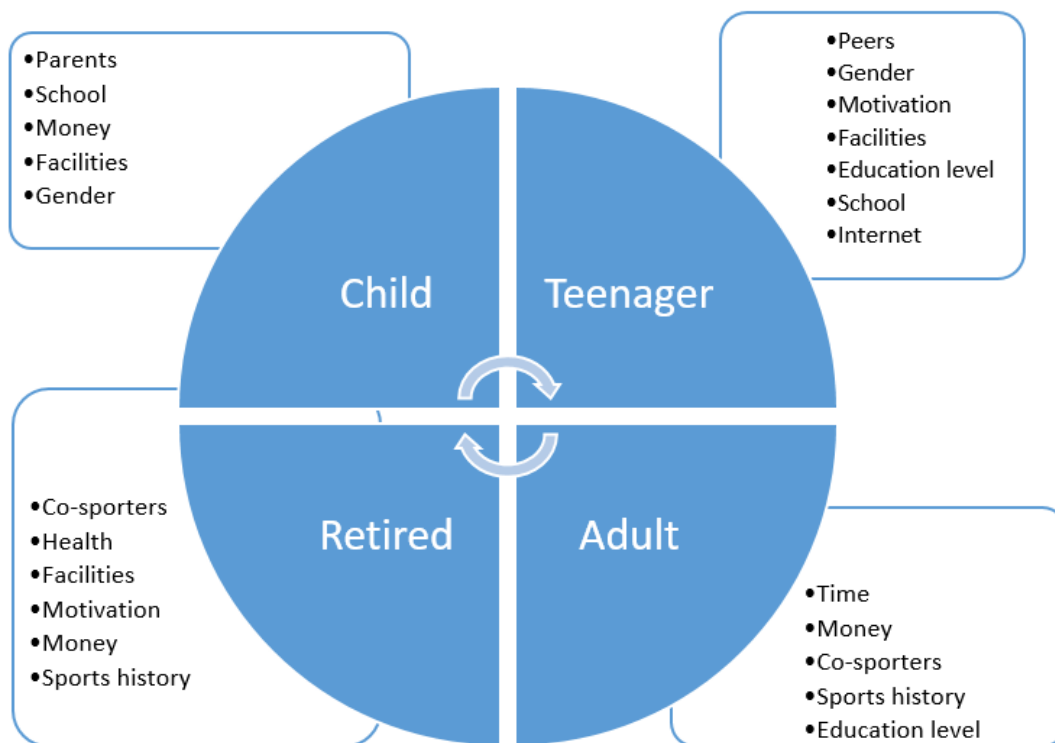
Literature shows that there might be something like a life-cycle of sports participation. And in every stage of the life cycle, other factors influence the participation in or return to sports and/or continuation of it. Researches do not pay so much attention to this lifetime, process aspect. Either, they concentrate on sports activities for a particular group (mainly youngsters), or the research should be representative for a large population, e.g. the inhabitants of one country. In the last case, the significance of a specific factor in a stage of life might be overruled by a smaller or non-existing significance for a whole population.

Given the social and economic inequalities, transition from one life phase to the next seems to offer possibilities for new or renewed participation in sports activities (Hirvensalo and Lintunen, 2011).

When at a young age, parents and school are important influencers. In sports, active parents are role models for the children. At the age of teenagers, peers become more influential in doing sports (or not) and also, for participating in the type of sports. Adults are in a position with growing responsibilities like working and taking care of a family. There is less time for sports unless the sport can be executed alone and/or on a moment the sporter can more or less decide himself, like running, swimming or cycling. In a later stage of life, sporters have more time, get involved in sports of the children or sometimes return to a sport activity they did before. And in this phase, more motivation is derived from staying healthy and/or losing weight. At an older age, availability of a sport partner and/or sufficient (and good and affordable) facilities seem to become more important. Team sports become less the norm.

Based on the available literature about sport activities in different stages of life (Hirvensalo and Lintunen, 2011; Hall a.o, 2016; Haycock and Smith, 2018), we made the following graph.

Figure 11: Factors influencing sports participation of Thai population according to phase in the person's life cycle.



CONCLUSION

The Thai population is not very active when sport and physical activities are concerned. There are, however, big differences in participation based on age, gender, living in a rural or urban area and other factors. Most research focuses on one or more of these factors which might explain the differences in participation. But the differences in sports participation (and the differences in the consequences like more or less health) are mainly a consequence of the societal and economic inequality in Thailand. And these differences often start in childhood and last for a life time, certainly when social mobility to more affluent strata of society are limited. Future research on sports participation should focus more on these inequalities and their persistence in a person's life.

***Note:** this article would not have been written without the support of several 4th years student of Silpakorn University International College (SUIC) who wrote an assignment on this topic within the framework of the course Strategic Management. I specially have to name Kitti Sandhu, Wittawit Thanatavee and Sirimarath Mittako. However, the content of this article is completely my responsibility.*

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THE CAPACITY IN FLOOD DISASTER MANAGEMENT OF COMMUNITY IN THAILAND

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ABSTRACT

This research aimed to 1) investigate the capacity in flood disaster management of Ta Bon Mung community, and 2) to recommend the capacity building guidelines in flood disaster management of Ta Bon Mung community. The data were gathered by an in-depth interview with the leader and vice leader; a focus group with a community committee; and an observation of flood disaster management of community.

The results revealed that the community is capable of managing flood disaster, particularly before disaster, villagers in the community are self-reliant and mutual support before public sector assistance. During and after flood disaster on the other hand, community must rely more on the public than on self-assistance management because the community have inadequate resources and budgets, such as engine boats, saving bags, and drinking water. The concept of community-based disaster risk management should therefore be applied to flood disaster management before, during, and after disaster by the community.

KEY WORDS: Flood disaster management, Capacity building, Community based disaster risk management, Thailand

INTRODUCTION

The flood is the one of natural disaster related to water and climate (United States Agency International Development: USAID, 2011: 26). It effects to human life and properties, livelihood, agriculture, and economic depression (Carter, 1991: 10). The flood disaster is trend to increasing as a result of climate change, risk areas settlement and urbanization. Thailand is a country which has been located in the vulnerable area to natural disasters. Thailand faced with various disasters, for instance, Gay typhoon in 1989, tsunami in 2004, and severe flood in 2011. The Ta Bon Mung is a one community in Warinchamrab district, Ubon Ratchathani province, Thailand. The community has a population of 203 households, which accounts for a total of 987 people, 410 of whom are males and 577 are females. The community is situated in a basin adjacent to the Mun River, and therefore it is affected by floods every year. The villagers are accepted for this fact and have learned to live with water. They focus on helping themselves before receiving the assistance from outside organizations.

In 2019, the community suffered a big flood event, causing great damage to every household in the community. Before flood disaster; villagers prepared to carry their assets to higher areas, water level warning within community by themselves, and evacuation preparation to temporary evacuation center. During the flood disaster, transportation within the community was difficult. The villagers had to get around by boats. Most of the villagers evacuated to a temporary evacuation center and asking the assistance from the public organizations, such as engine boats and saving bags. After disaster, villagers repaired houses by themselves and returned to their houses. Although, Ta Bon Mung community depend on asking the assistance from the outside organizations, but community has a high participation in flood disaster management in before, during, and after disaster and can cope with flood disaster every year. Therefore, it is interesting that how Ta Bon Mung community deal with flood disaster and can stay in risk area for a long time. Researchers established the research question as the following; how is the flood disaster management capacity of Ta Bon Mung community and how should Ta Bon Mung community have capacity building guidelines in flood disaster management.

RESEARCH OBJECTIVES

The objectives of this research as the follows.

1. To investigate the capacity in flood disaster management of Ta Bon Mung community.
2. To recommend the capacity building guidelines in flood disaster management of Ta Bon Mung community.

LITERATURE REVIEW

The concept of disaster management, capacity building, and community based disaster risk management was extremely considered in this study. The disaster management should be complete and comprehension, it is not only management during disaster but it is also management both before and after disaster (Sukhothai Thammathirat Open University: STOU, 2001: 12). Moreover, Coppola (2007: 9) concluded the complete process of disaster management as follows.

1.Mitigation relates to decreasing or eliminating the possibility or the effect of a hazard.Mitigation can operate in before, during, and after disaster. Therefore, mitigation can overlap with all steps in the disaster management process (Hossain, 2013: 160).

2.Preparedness concerns with providing tools and knowledge for people who risk to a disaster to enhance the survival opportunity and to reduce the losses of life and assets.The knowledge, awareness, resources, and efficiency framework are the most important component of community preparation to natural disaster (Khan, 2008: 663). This step included disaster plan, training to officials and people in risk areas, human resources, materials and finances maintenance, raising of education and public data, and forecasting and early prepare to happening threats (Kadel, 2011: 45; Kreps et al, 2006: 19). The preparation for disaster management should operate by participation and if possibility should begin by activities of awareness, education, and risk analysis increasing (Jahangiri, Izadkhah &Tabibi, 2011: 92).

3.Response involves to action to reduce or eliminate the impact of disaster which occur in the present and to prevent the danger to both life and assets. This stage is emergency and express management during disaster. The disaster management of the most countries, especially developing countries focuses on the response in emergency state which is active disaster management rather than the give precedence to prevention and mitigation of disaster which is proactive disaster management.

4.Recovery relates to returning the victims to an ordinal situation after the disaster impacts. The recovery has both physical recovery, for example building and accommodation reconstruction and mind recovery, for example medical guidance to victims. Moreover, it also involves disaster education to victim, and revision and improvement the disaster prevention plan of community for can cope with disaster in the future.

The capacity is defined as competency of individual, organization and system to action efficiently, effectively and sustainable (United Nations Educational, Scientific and Cultural Organization: UNESCO, 2006: 1). The meaning of capacity includes physical, institutional, social and economic as well as the definition of personal skill or collective attributes such as leadership and management.The capacity also means the respond of individual and groups to cope with the external pressure or livelihoods recovery (Kelly & Adger, 2000: 325). Furthermore, the capacity is appropriate competency of working for achieve the need efficiently, effectively, and sustainable in individual, group, community, and organization or government (Antwi & Analoui, 2008: 507). The capacity building is important for dis-

aster management because of it relates to the development of disaster management system which composite of the local, province, regional, national, and international levels. Moreover, the capacity building to cope with disaster and reduce damages caused by disaster need the adequate capacity to operate in the disaster prevention phase (mitigation and preparation), response, and recovery and reconstruction (Japan International Cooperation Agency: JICA, 2008: 62). Especially, the capacity building for flood disaster management must take action in various models, for example simulation, training, and education.

The community based disaster risk management or CBDRM approach emphasizes the active involvement of community in all stages of disaster risk management due to community is the important sector in before, during, and after disaster. In addition, the CBDRM is process which community relates to identify, analyze, maintain, monitor, and evaluate of disaster risk for reduce the weakness and enhance capacity of community (Center for International Studies and Cooperation, n.d.: 14). Furthermore, this process is empowerment to community for disaster risk management by community participate in the risk assessment, mitigation planning, capacity building, implementation participation, and system development for monitoring which will increase the capacity of people in respond to emergency event. Therefore, according to the CBDRM approach, people are not only a part of planning and decision, but also are the key actors in implementation (Pandey & Okazaki, 2005: 4). The CBDRM approach is expected that will strengthen community for the disaster preparation and mitigation and the situation estimation of community which based on its experience in initiate stage (Jahangiri, Izadkhah & Tabibi, 2011: 83). This approach is adapted to the disaster risk reduction by the public participation and enhance the empowerment to people for vulnerability resolve (Luna, 2007: 9). Moreover, it ensures that people in community can cope and survive and can also respond to emergency situation before the assistance from government or non-governmental organization (Iglesias, 2011: 48).

The abovementioned concepts, researchers concluded that the CBDRM concept should be adapted to flood disaster management of community, because of this concept focus on management by community based which will increase knowledge and skill of community and lead to the capacity building in before, during, and after flood disaster management.

RESEARCH METHODOLOGY

Researchers selected Ta Bon Mung community is area study especially, because of Ta Bon Mung community risk to flood disaster every year and community focus on the flood disaster management by community based. The qualitative methodology was applied for this research, therefore researchers selected key informants especially; leader, vice leader, and committee of community. The data were gathered by in-depth interview with the leader and vice leader of community and focus group with community committees. The key questions for interview and focus group are how community does manage the flood disaster and how should community build capacity in flood disaster management. Moreover, researchers observed the flood disaster management of community during September – October 2019. These tools were used for searching the strength, weakness, opportunity, and

threat (SWOT) in flood disaster management of Ta Bon Mung community. Afterwards, these data were analyzed, synthesized, and classified for investigate the capacity in the flood disaster management and for recommend the capacity building guidelines in flood disaster management by community-based of Ta Bon Mung community.

RESULTS

The researchers divided results of the capacity inflood disaster management of Ta Bon Mung community into three phrases.

1. Before flood disaster, found that villagers in community was warned through community broadcast tower and spread widely for evacuation preparedness. The community leader held a meeting with the community committee in order to plan disaster response procedures, determine evacuation routes, and assign disaster management tasks to the community committee. Villagers prepared by watching the water level, kept the assets and food to higher areas, evacuated the cattle to safety zones, beforehand cultivated rice and crop, many houses were higher lifted for flood disaster prevention and boats were prepared for transportation. Moreover, villagers used local wisdom for forecasting the flood disaster, for example, observation ants transferred eggs to higher areas, it means that flood will happen. Furthermore, children were educated and raised awareness about flood disaster management.

The community formulated the disaster evacuation and prevention plan, practiced follow plan for reducing the damages from flood disaster. Furthermore, community created risk and safety maps for evacuate and established the center of disaster preparedness and prevention for warning villagers and coordination with outside organizations for ask the assistance. Moreover, the disaster preparedness committees of Ta Bon Mung community were established for disaster early warning, emergency relief, coordinating with public sector organizations for ask the assistance and rehabilitation. These committees compose of the various sub-committees, for example, facilitation and public relation, disaster watching and warning, nursing and relief, and security sub-committees.

The observation was also found that the community committees prepared for coping with disaster before the assistance from public sectors. It indicated that the concept of community based disaster risk management was adapted to Ta Bon Mung community. Furthermore, document survey, found that the community watch and prepare always for coping with flood disaster, for example, plan for coping with disaster and water level observation everyday.

2. During flood disaster, found that villagers responded to flood by evacuation to higher areas and safety zones, built the temporary accommodation by themselves and the leader and community committees coordinated with the outside organizations and provided saving bags for villagers, resulting in less disaster damage to the community. Moreover, villagers adapted livelihood, for example spent a little money, operated the extra work, used boat substitute car, and set up security team for looked after villagers at evacuation zones.

However, the most management during flood disaster has to depend on the assistance from outside organizations, for example, Warinchamrab Town Municipality provided engine boats, temporary accommodations, drinking water, and saving bags; Sapphasitthiprasong Fort Hospital provided medicine and nurse to victims; and gas stations and department stores provided mobile toilets to victims.

3.After flood disaster, found that villagers repaired and cleaned houses by themselves and together cleaned roads, temples, school, and community hall. Moreover, Warinchamrab Town Municipality together cleaned with community and estimated compensation for damaged houses. Sapphasitthiprasong Fort Hospital remedied the victims mind, and UbonRatchathani Red Cross trained and developed the knowledge and skill about the disaster management to victims.

Moreover, researchers found that the capacity building guidelines in flood disaster management of Ta Bon Mung community are planning for prevention the flood disaster in the future, the evacuation rehearsing in every year, awareness building for cope with flood disaster to next generations, and network building with other communities and public organizations for strength increasing of the flood disaster management resources.

DISCUSSION

Aforementioned the results, researchers discuss that Ta Bon Mung community has a good preparation for coping with flood disaster, especially before disaster. As a result of, community has the disaster watching and warning by community based and the planning for evacuation. These patterns consist with the key principle of disaster management before disaster which stress on prevention, mitigation, and preparedness for reducing damage from disaster and consist with the complete process of disaster management (Coppola, 2007: 9) in first and second stages; mitigation and preparedness. Moreover, villagers used to with flood disaster for a long time and engage with present settlement, hence can stay in risk areas normally and happily.

On the contrary, during flood, Ta Bon Mung community has to depend on the assistance from outside organizations. Because of, the most alleviation during flood disaster has to depend on many resources and budgets, for example, engine boats, saving bags, drinking water, and toilets which villagers in community cannot provide by themselves. After flood disaster, villagers in community clean and fix houses by themselves and together clean the important building of community, for example, school, temple, and community hall. These activities conform to the recovery pattern after disaster and consist with the complete process of disaster management (Coppola, 2007: 9) in fourth stage; recovery. However, community has not the development after flood disaster, such as have not improvement the disaster prevention plan and evaluation the previous disaster management. Furthermore, community must depend on the compensation from public sector, for example, Warinchamrab Town Municipality estimate damaged houses and pay compensation.

The strengths of Ta Bon Mung community are the leader and community committees who have a knowledge and experience in flood disaster management for a long time and villagers have the awareness in flood disaster management which consist with the CBDRM approach; people are not only a part of planning and decision, but also are the key actors in implementation (Pandey & Okazaki, 2005: 4). However, Ta Bon Mung community has the weakness is the lack of important resources in during flood, for example, engine boat, saving bag, and toilet which have to ask the assistance from Warinchamrab Town Municipality every year. Therefore, in this period, the flood disaster management of Ta Bon Mung community depends on the outside organizations. Moreover, the opportunity of Ta Bon Mung community is receiving the more assistance from public and private organizations. The threat of Ta Bon Mung community is the climate change which affect to the flood increasing in Ta Bon Mung community.

Therefore, researchers propose guidelines for the capacity building in flood disaster management of Ta Bon Mung community as follow figure 1.

Figure 1: The capacity building guidelines in flood disaster management

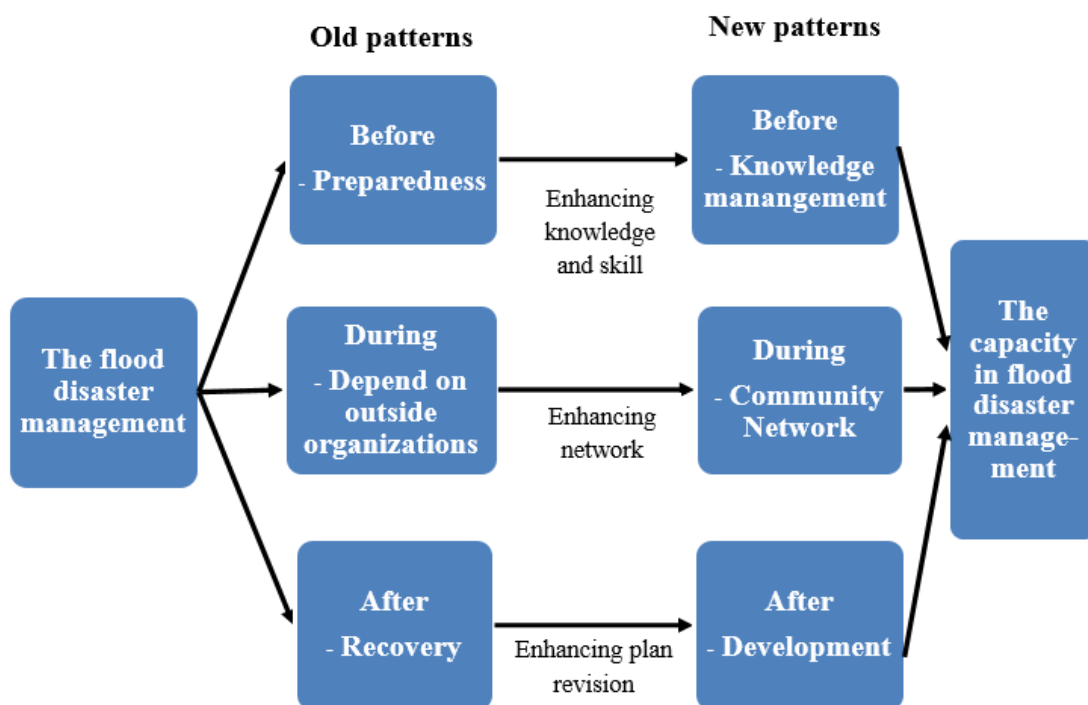


Figure1 show that the guidelines for changing the flood disaster management capacity from old patterns to new patterns which were categorized to three periods.

1. Before flood disaster, old pattern is the preparedness of leader and villagers in community and adaptation the previous experience to flood disaster management in every year. However, the issue which more important than experience is reservation the knowledge and skill in flood disaster management in before, during, and after disaster. Therefore, new

pattern should to focus on knowledge management for retain and disseminate the knowledge about flood disasters, contextual background of the community, and disaster preparedness to next generations by various means, for example, education, practice, and handbook. In this period, Warinchamrab Town Municipality should to assist community, such as budget supporting for handbook production.

2. During flood disaster, old pattern is dependent on the assistance from the outside organizations, for example Warinchamrab Town Municipality and Sapphasitthiprasong Fort Hospital. Because of, Ta Bon Mung community has not plenty resources and budgets for flood disaster management such as engine boat, saving bag, drinking water, and toilet. Therefore, new pattern should to focus on the network building of communities which face with flood disaster for knowledge and skill exchanging and learning between communities and resources sharing which will lead to the strength in flood disaster management and do not wait the only assistance from outside organizations. However, in this period, community still receiving assistance from outside organizations, such as Warinchamrab Town Municipality and Sapphasitthiprasong Fort Hospital.

3. After flood disaster, old pattern stress on the recovery both physical and mind. Villagers cleaned and fixed house by themselves. Warinchamrab Town Municipality evaluated the damaged houses in community and soldiers operated the recreation activities for villagers. However, these patterns were only short term recovery. Therefore, new pattern should to focus on the disaster prevention plan revision and evaluation of community for lead to more improved and strategic plan. Furthermore, community should always practice follow the disaster prevention plan for capacity building in flood disaster management and lead to long term development. In this period, community should to ask the assistance from the Provincial Offices of Disaster Prevention and Mitigation of Ubon Ratchathani province for training and implementation follow plan.

CONCLUSION

Ta Bon Mung community has been settled in the risk area for a long time and risk to flood disaster every year, but villagers have been survived from flood disaster and can stay with this crisis happily. Because of, they have capacity in the flood disaster management, especially before disaster, community depend on self-assistance and assist each other before the assistance from public organizations. Moreover, community has strengths are the capacity and experience of the leader and committees. On the contrary, during and after flood disaster, community must depend on the public organizations due to community has insufficient resources and budgets for flood disaster management. Whether before, during, and after flood disaster, community must deal with flood disaster by community based, if wait the only assistance from public organizations, it will cannot cope with flood disaster in time. Therefore, community capacity building through the community based disaster risk management (CBDRM) is important approach. The community participation through CBDRM in before flood disaster is flood disaster knowledge management by dissemination the knowledge to next generations for knowledge retaining. During flood disaster is

network building or cooperation with other communities and public organizations for increasing the resources in flood disaster management. After flood disaster is flood disaster prevention plan revision for lead to update plan and awareness building of community in flood disaster management.

SUGGESTIONS

Suggestions are proposed based on the discussion as the follows.

1. Suggestion for policy level.

The policymakers should to determine the flood disaster management capacity building that can serve the needs and solves the problems of the community. Moreover, there should be a policy that places importance on all processes of the disaster management cycle; prevention, mitigation, preparedness, response, and recovery. Furthermore, there should be fair policy for controlling the allocation of donations during the flood disaster management.

2. Suggestion for practical level.

Ta Bon Mung community should to create a specific flood disaster prevention plan on a yearly basis and regularly review and rehearse the plan. This plan will make the community disaster management more systematic. The flood disaster management tasks will be clearly divided and assigned to each group of committee such as disaster monitoring and warning, search and rescue, and disaster relief. Moreover, community should to build more networks and collaboration with other communities in the same or different sub-districts and with the government agencies such as local administrative organizations and Provincial Offices of Disaster Prevention and Mitigation. This will lead to the exchange of resources, including budgets, materials, and equipment and knowledge, contributing to better flood disaster management.

3. Suggestion for future research.

This research focus on only one community, therefore, should to study the capacity building in other communities for comparison between communities which face with similar flood disaster. Moreover, should to study the comparative losses between before and after the capacity building through the project of Community Based Disaster Risk Management (CBDRM) for knowing that the CBDRM project help to how many reduce the quantitative losses from flood disaster.

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TRANSPLANTING ASIAN MOBILE GAME CONSUMER VALUES ONTO WESTERN AUDIENCES: THE CASE OF FATE/GRAND ORDER

by

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ABSTRACT

The proliferation of Asian values in its various forms has certainly been greatly amplified during current networked era. In this case, one of the commonly known derivative form of Asian values are Asian cultural products, evolving in its deliverance and media following the advent of technology. Asian cultural products are usually represented in the medium of popular entertainment, such as mobile games. Fate/Grand Order in this case is one of such products with a case of success in Western audiences despite primarily rooted in Asian values. The researchers shall analyse its success in transplanting Asian consumer values onto Western audiences through both digitalization and cultural appeal. In particular, researchers noted that, despite differences in cultural composition and monetization options, Fate/Grand Order still thrives due to cultural translation and shifting consumer consumption pattern driven by digital globalization. In conclusion, the process of Asianization through transplanting Asian mobile game consumer values onto Western audiences with the case of Fate/Grand Order can be considered as a success.

KEY WORDS: Asian Values, Cultural Industries, Cultural Translation, Digital era, Digital Prosumption, Fate/Grand Order

INTRODUCTION

Fate/Grand Order is an online Japanese mobile game. Based on the “Fate” franchise owned by Type-Moon, Fate/Grand Order is developed by Delightworks and published by Aniplex, the android version released in 30th July 2015, while the iOS version released in 12th August 2015. After the release, it becomes a quite big hit in the Japanese mobile game circles, and standing side by side with other mobile games from bigger franchise such as Pokémon GO, which is quite popular in Japan (Nakamura & Amano, 2016). It is then followed by the release of North American and Korean version respectively, which is also handled by Aniplex (or Aniplex of America for the North American version) in 25th June 2017 and 21st November 2017.

Upon five years of release, the Japanese server now reaching it’s 200 million downloads on all platform according to official source (Fate/Grand Order JP, 2020), meanwhile the North American server reaching it’s 9 million downloads on all platform in the same interim (Fate/Grand Order US, 2020). The steadily increasing download data, shown by the in-game campaign they held, is one of the signs that the game is still actively being played and downloaded by its player all over the world. Moreover, thanks to the third-party store application, even people outside Japan can also download and play the Japanese server version, thus explaining the sheer amounts of downloads. Despite their two years content gap, the North American server still gaining quite amount of hype and downloads, specifically for people outside Japan simply because the North American server is using English language, which is favourable to them.

Data compiled by an online market insight and intelligence provider, Sensor Tower, shows that Fate/Grand Order is still counted as a popular and top grossing with a massive revenue of user spending in the end of Q3 of 2019, Fate/Grand Order positioned on number two with approximate \$265 million of user spending on that representing 2 percent year-over-year growth from Q3 2018 (Epstein & Inada, 2018). Over the course of five years, Fate/Grand Order has been one of the most successful mobile game, both in Japan or worldwide, surpassing the big amount of \$4 billion of player spending by early 2020(). The numbers gradually increase since the release of the game by 2015, while the expansion of the games also helps the sales spread across the worlds, thus makes Fate/Grand Order one of an example of successful mobile video games in the world.

By the sheer amount of revenues, Fate/Grand Order then became quite the hot topic in mainstream medias in much surprise, and the coverage is one of the key indicators of how well Fate/Grand Order were known outside Japan. In 2018 there is a coverage for Fate/Grand Order is the infamous Wall Street Journal interview of Daigo, a 31 years old Japanese who is claiming to spent approximately 70.000 USD to purchase the game’s currency (Epstein & Inada, 2018). This interview then drew a wide public attention towards Fate/Grand Order, a feat which is hard to achieve by its Japanese mobile game brethren outside Japan, while also highlighting Fate/Grand Order as one of the most prominent sources of income for Aniplex of America, the mobile game’s US publisher.

Twitter, one of the most prominent social media platforms in the world, also became a place where many gaming environments are gathering around, starting from the publisher, teams, players, and commentators interact. By the data from Twitter itself, in 2018, there were approximately 1 billion tweets about gaming globally. Fate/Grand Order, which goes by username *@fgoproject* in Twitter also become the most-tweeted games in 2019 (Chadha, 2019). The statistics shows that there's an intense amount of interaction recorded regarding Fate/Grand Order between the twitter users, such as discussions, which reflected towards the game's image and popularity in the social media.

Fate/Grand Order has now become one of the most intriguing mobile game phenomena in the world. Starting from the revenue, and how willing the markets accept this game and the thick 'Japanese cultural values' embedded inside the game system and trying to cope with it. Countless website and groups are served as a fan gathering resource such as translation, or game data, which is one of the most helpful community-project in gaming environments. By utilizing those sources, even the non-Japanese speakers can also enjoy or even plays the game in Japanese server without overcoming the language barrier. This is the main focus of the topic, on how well this game to be an example of a cultural translation done from a special culture towards a general or mainstream public. The very fact that difficult or exclusive words such as *gacha*, has finally reached and became a common creole in west is the proof of the existence of the cultural translation. On the further chapter, we will go deeper on how the culture is being translated and how much is it covers while taking account on how it is linked towards the current pattern of digital consumerism by the case of Fate/Grand Order.

RESEARCH PURPOSE

This body of research is intended as a preliminary research towards the topics of Asianization through the scope of video game (specifically mobile games) as a case for study. The authors aim to contribute this research as foundation of future researches regarding Asianization through the lens of Asian cultural products, particularly video games.

LITERATURE REVIEW

The success of proliferation and wide appeal or acceptance of Fate/Grand Order (FGO) in the digital Western demographic landscape must be attributed to the process of cultural translation and how such commodity transfer values from one civilization (in this case, Asia) to the other (West). As a cultural product as well as an economic commodity, Fate/Grand Order mobile game represent a cross-section output between culture and economy, a commercial and industrial undertaking of inherent civilizational values. This equates FGO into what is known as cultural industry, that of activities with primary aim to communicate to audience and create text in commercial applications (Hesmondhalgh, 2002 in Markusen et.al, 2008: 27).

The emergence of cultural industries of East Asian in 1990s onward in international market marked the development of various form and kind of cultural goods that rivals Western cultural products that had been dominating the world before. As observed by Jin and Ot-mazgin (2014: 43-51), the countries of East Asia have their distinct cultural products that developed systematically through cultural policy and intended to be made and exported as global cultural products. While it was the movies, drama, and animation industries that had been highlighted as the notable cultural products in East Asian countries, it is mentioned that the development of cultural industries had grown to include broader sector of industries, including broadcasting, music, fashion, game, internet, and other related entertainment and fine arts.

In their examination of American movies market in the world as global cultural products, Moon et al. (2016: 78-97) measured and pointed out the influence of economic and cultural factors at consumer level in diffusion of cultural products in international market. Their research show that in economic factors, consumer capabilities to buy cultural goods and domestic market competition with other cultural goods become the driving force of customer preferences. In cultural factors, smaller and higher value of cultural distance or similarities between cultural goods and native cultural value held high amount of cultural goods consumption; Presence of cultural incompatibility brought smaller amount of cultural goods consumer, but high amount of said cultural incompatibility gave rise to cultural novelty as appeal to foreign culture. Applied in the distinctiveness of Asian cultural industries in global market, cultural distance became an important factor in its competition with other cultural products, especially western cultural products as it has closer cultural relation with other cultural market through westernization and more common understanding of English as global language and its main way of deliverance.

Being that a media product from cultural industry intends to communicate through text, such products from one jurisdiction requires a bridging attempt so it could be properly understood by consumers from another jurisdiction. One method to do so is cultural translation, defined as a hermeneutic attempt to understand and interpret foreign source texts that aim to impact specific audiences in specific ways (Maitland, 2017: 49-53). From cultural translation perspective, the act of translation between languages isn't necessarily just making an arrangement of words with similar or equivalent meaning in another language, but also to convey it in a way that is fit to the needs, knowledges, and expectation of its audience. This act of interpretative deliverance of meaning then involve the purposeful intention of translator to shape the meaning of a particular text for the audience. For cultural industries, the act of translation then isn't just about providing accessibility for its customer in foreign market, but also as a bridge the gap in cultural distance through more and better understanding of its cultural aspect.

RESEARCH METHODOLOGY

This research uses qualitative analysis method, which is defined as cause-of-effect approach by examining a particular case and its outcome followed by working backward to

its cause (Mahoney & Goertz, 2006:230). In this case, we analyse the case of Fate/Grand Order and its apparent success in Western audiences despite being primarily an Asian cultural product. We determined the cause of this success by analysing it to the concept of cultural translation as well as digital presumption.

RESULTS

In regards to the apparent success of acceptance for Fate/Grand Order in Western audiences, that can be attributed to two primary means of deliverance. First is cultural translation and the status of cultural media product being a form of imagined commodity. Being a commercial product, mobile games such as Fate/Grand Order have its texts and values translated in order to sell the actual mobile game rather than other agendas. However, the cultural translation attempted isn't meant to produce a simple consumer attraction. Such 'static' impact fails to materialize due to the translated medium being that the global cultural-economy landscape being predisposed as an order that is overlapping, disjunctive and complex (Appadurai, 2006: 588). The landscape of global cultural-economy landscape is a fluid, perspectival construct that differs from one actor's perception to another. In this case, one cultural media from Japan to gain a mass appeal in the Western sense isn't simply due to a textual translation of its source material. Rather, its inherent values are being negotiated in a specific landscape called mediascape, of which its components and elements can construe imagined lives and helps the constituting narratives of its recipients (Appadurai, 2006: 591). This meant that by translating itself to a wider audience (in this case Western audience), Fate/Grand Order becomes entangled in the negotiating process of its inherent values in order to accepted in the wider foreign audiences.

It also helps to see cultural products such as FGO from its categorical foundation of being an electronic software of video game in mobile forms. Appadurai (1996 in Carlson & Corliss, 2011: 62-63) sees that massively distributed electronic media that is consumed by individuals and society forms (or become a part thereof) their imaginations and identities. Both individuals and society become the static entities affected by the circulation of text and electronic culture values, from which the newly-imagined identity emerges. The imagination run on course within a negotiated mediascape, in which transnational video game's inherent cultural content are being localized and adapted (Carlson & Corliss, 2011: 64). The process runs congruently so that translated values retains their original intended meaning and thus affected foreign recipient's imagined identities. In the case of Fate/Grand Order mobile game, such process not only nets consumer attraction, but also loyal fanbase within the context of imagined identities of one that ascribes to/fervently entered the mediascape of Fate/Grand Order itself.

Second is the globalization of information and the rise of digital prosumer culture. The era of globalization has led to the fading geographical boundaries and increasingly intermingled socio-cultural phenomena in our daily lives. Both information and goods products are become easily mobilized. Scholte (2001: 14) stated that globalization has five possible meanings, there are internationalisation, liberalisation, universalisation, westernisation/modernisation and deterritorialization. Globalization often used to describe each and all of

these phenomena. The fact that westernization became one of the terms that closely related to the meaning of globalization shows how significant and dominant Western influence is. Yet as the phenomena develop, studies regarding Asianization comes up. It may imply that Asian cultures become more influential and significant for being part of the globalization.

In this manner, some might say Asian culture emerge as the Western culture dominancy challengers. But before that, we should first comprehend both Western or Asian have chances and possibilities to exercise their power and share their influence. Globalization could be account as platform which offered many things to utilize. Technological advancement and shift on production-consumption patterns are few of from many that globalization could offer. Technological advancement led to fastness and broadness of information distribution. It makes information being more accessible and multi-platform. Globalization also brings the rise of the presumption that implies shift on production-consumption patterns.

Prosumption refers to the activities carried out by prosumer, while the word “prosumer” originally coined by American futurologist Alvin Toffler in his writings “The Third Wave” (1980). Toffler examined that the development of new technology seemed to blur the line between makers and users, he later argued that the roles of producer and consumer would soon fuse into one. Prosumption involves both production and consumption. It could happen when costumer not only consumes but also participate in the creation of products in an active way (Tapscott & Williams, 2008; 126). The “pro-” in “prosumer” can be understood as both professional and productive consumer. Being a professional consumer means consumers wishing to contribute to the production process that may be required them to invest their knowledge, time and money in order to contribute to the production of new consumer goods. Aside, being productive consumer means that they are willing to make a productive contribution to industrial and commercial processes (Bruns, 2016: 1).

The early conceptions of prosumption that focused mainly on prosumer concern in physical form has shifted since the late 20th century. The substantial shift indicated by the change on prosumers success in the production on non-traditional content. The prosumers are now able to make greater contributions. It was driven by the popularization of Web 2.0 as the new wave of Web-based platforms and services that allowed for user customization, interactivity, and participation (Bruns, 2016: 2). Along with its development, the definitions of prosumption become more broadened and blurred. Many scholars try to make their own alternative.

Bruns (2016: 2) later proposed the terms produsages that emphasize on user-led content creations. Produsage realizes that participants are relatively active users, not merely passive consumer. Their role being influential and greater, thus later they are even considered as on par with original producers or makers rather than simply being prosumers. Regarding to our research topics, produsage is a common process occurred in the landscape of mobile game users or fans. Mobile game content could later be adopted into new contents by their fans. It will later turns out being a completely new content but without completely erasing the original content alongside main characteristics of said mobile game compositions such as character, items or plot. They will somehow relate the produsage of new content as the

alternative and complementary to the original properties of the mobile games. The resulting interplay between cultural translation and digital produsage can be seen in two pictures presented below, showcasing how official material co-exist with fan-made works.

Both instances show the co-existence between official materials and fan-works and the due diligence of Fate/Grand Order fans in making or conceptualizing new works based from official materials. Fate/Grand Order primarily existed in the form of a mobile game in Japan supplemented by some official publications. Accompanying these official publications are *doujinshi* or fan-works based from official materials of the mobile game, often worked by Japanese fans. Western fans in turn becomes the cultural translators as well as digital produsages by translating these *doujinshi* and hosting them internationally on fan *manga* hosting websites. The actions are motivated not only to satisfy demand for additional content aside from the original mobile game (in respect to both *doujinshi* and official *manga* publication) but also to ingratiate themselves further in the mediascape of Fate/Grand Order and understands the embedded (and intended Asian values) within it through mass fan collaborations. This in turn also helped the mobile game to sell more commercially, even in areas such as United States that is far from Japan.

Figure 1: Pictured here are a page from the original publication of official FGO comic book (manga) only available in Japan (left) and its English fan-translated page circulated on fan manga hosting websites (right)

Source: Wataru, Rei (2019)




Figure 2: Pictured here are a fan-made comic book (doujinshi) from FGO (top) and an official comic book (manga) of Fate/Grand Order (bottom). Both are hosted on a fan manga hosting website Mangadex.com

Source: Nina, Kamabokodokoro (2018) (top) & Wataru, Rei (2019) (bottom)

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Quick search
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Announcement (May-20): Spread the Love: Contest Winner!
Announcement (May-19): New Feature: Data cover option

Fate/Grand Order - Snowflake (Doujinshi)



Title ID: # 33730

Alt name(s):

Author: Nina Pastime

Artist: Nina Pastime

Format: Doujinshi Comic

Rating: 5.08 5.87 15

Pub. status: Completed

Stats: 4,721 141 1

Description: A Fate/Grand Order Cosmos is the Lustbelt Kadok & Anastasia doujinshi.


Reading progress: Volume 0/1 Chapter 0/1

Actions: Upload chapter Follow Report

MangaDex
Manga
Follows
Community
Info
Manga
Quick search
Guest

Announcement (May-20): Spread the Love: Contest Winner!
Announcement (May-19): New Feature: Data cover option

Fate/Grand Order: Epic of Remnant - Variant Singularity III: A Stage of Corpse Hills and Bloody Rivers - Shimousanokuni: Showdown with the Seven Swordmaster Heroic Spirits



Title ID: # 14870

Alt name(s):

- Fate/Grand Order: Epic of Remnant - Eirei Kengou Nanaban Shoubu
- Fate/Grand Order: Epic of Remnant - Seven Duels of Swordmasters
- Fate/Grand Order: Epic of Remnant - The Tournament of the Seven Blade Master Heroes
- Fate/Grand Order: Epic of Remnant - 英霊剣豪七番勝負
- Судьба/Великая Прокля - Шимуса-Окина-Турнир Семи Игровых-Мастеров Меча

Author: TYPE-MOON

Artist: Wataru Rei

Genre: Action Adventure

Rating: 3.44 3.71 117

Pub. status: Ongoing

Stats: 112,675 3,468 99

Description: The year is 2016 a.d. Some time ago, humanity had escaped the path to peril. This tale takes place after that period. This is the tale of a hero once again.

Related:

- Fate/Grand Order: Epic of Remnant: Pseudo Singularity II: Women of Agartha (Prequel)
- Fate/Grand Order: Epic of Remnant: Pseudo Singularity IV: The Forbidden Ashen Garden, Salem - Heretical Salem (Sequel)

Official: Raw

Retail: Amazon.co.jp BookWalker eBookJapan

Information: Mangalupdates AniList MyAnimeList

Reading progress: Volume 0/1 Chapter 0/1

Actions: Upload chapter Follow Report

CONCLUSION

In conclusion, the interplay of both cultural translation and digital produsage pattern of mobile game consumers over the case of Fate/Grand Order showcases a successful bridging of Asian values onto Western audiences. Fans of the game poured and worked (in their imagined identity as a fan after being exposed to the FGO mediascape of translated culture and context) to produsage new content from official materials not only to capitalize on the expanded capabilities provided by the digital globalization, but also to ingratiate themselves with the inherent values and cultures within the mobile game itself. As cultural translation negotiated the visage of elements of said game (its text, pictures, etc) while maintaining the intended meaning and values embedded within, Asianization from the case of Fate/Grand Order in Western audiences can be considered as a success. This proves that foreign cultural acceptance can be done given the form of cultural translation and digital prosumption as the starting base for cross-cultural attraction and understanding. The authors outline that both process of digital prosumption and cultural translation as the necessary steps for future Asian cultural products (and subsequently Asianization) to thrive in Western-dominated global cultural market.

LIMITATION AND RECOMMENDATION FOR FURTHER RESEARCH

This study is limited due to its highlight of only one particular case of mobile game as a cultural product. This limited the scope and depth of this research. The authors recommend further studies to inquire further on the scope and depth of the topic regarding Asianization measured in the success of other Asian cultural product acceptance in Western market, as well as hoping that this study will become a stimulus or a stepping stone towards a further study with broader scope and depth in this field of interest.

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THE TRIPLE ROLES OF WOMEN MOTORCYCLE GRAB DRIVERS IN SURABAYA, INDONESIA: A QUALITATIVE STUDY

by

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ABSTRACT

The purpose of this study is to provide an overview of the exploration and analysis of triple roles of women motorcycle Grab drivers in Surabaya. This study uses the categorization of the triple roles of women by Moser. The approach of this study uses a qualitative with phenomenology dimension. The data were collected through observation and in-depth interview to 8 informants. The findings show that women motorcycle drivers have a community and get different treatment from customers. The results of this study are (1) besides working, women motorcycle Grab drivers take care of children and household; (2) being a driver is more able to allocate time for household affairs, on other hand to earn a living; (3) joining the community makes them feel happy and more enthusiastic at work. The practical implications of this research are to increase women's confidence based on the principle of gender equality to pursue their performance.

KEY WORDS: Gender and society, Women motorcycle driver, The triple roles of women.

INTRODUCTION

Background

The role of women in society is highly constructed by a patriarchal culture that has existed since centuries. The interpretation of women as subordinate subjects who are weak, emotional, naive and always dependent on men, so that only focus on the private sphere rather than the public (Tickner, 1992). It makes female roles excluded in various fields from knowledge, social environment, culture, and even politics. Private domain in the meaning of work related to domestic concepts such as household, so that women are identified with the concept of mother and wife only. But this concept becomes a problem when a women lost her spouse, which becomes the head of the household is a woman. The condition then forced the woman to plunge into the 'men' work realm to fulfill her life needs. However, with the primitive culture as a result of social construction that has been rooted makes women have difficulty in finding work. The powerlessness of women due to social construction made by social environment is exacerbated increasingly because of the many patriarchy cultures still embraced by various work environments even supported by social policy or political regime. This condition further suppresses women so that it is prone to enter into poverty circles. A report from UN-Women (2014) shows that there is a risk of increasing violence against women or girls who live in poverty.

According to Moghadam (2005), in developing countries, women who become household heads have a more severe problem in acquiring resources and services in property and agricultural field. This is because women have a difficult access to land ownership, credit, capital, and good income jobs, plus a dependent child. However, in the current era of globalization, which is accompanied by the acceleration of information and communication technology, various digital platforms have emerged that can be used by women to get jobs and demonstrate their existence, one of which is an application called Grab. Grab is one of the transportation service applications that allows its customers to book trips quickly through the application (Wee, 2017). This app offers a wide range of easy, affordable and safe transportation services for its users. The app is rated in its development in several countries, evidenced by its contribution of contributing US \$5.8 billion to the economy in southeast Asia (Grab, 2020). Since it was formed by Anthony Tan on the 2011, Grab who initially focuses solely on online taxi service that bases its fares from cars, destinations and waiting times then transforms into an application that covers a variety of fairly complex fields. During its development, 'Grab' not only recruited men to be driver partners, but also women. The role of women as motorcycle Grab drivers has more complex obstacles and challenges than men. This is what attracts writers to deepen the dynamics of female roles that work as a Grab-bike driver with multi-role in social and household environments.

Previous research that became a reference for this research about the triple roles proposed by women, especially those already married. The imbalance of relations between men and women in social production relations will affect the reproductive role and social role of women (Alliyu, 2016). Supporting this, other research found there are indeed differences between the productive, reproductive and socio-cultural roles in rural and urban communities between men and women based on the results of gender studies (Balgah, 2019). Besides this research of triple role was also carried out in Indonesia which dis-

cussed a number of women traders in the market (Choiryah, 2020). The results of this study suggest that the triple role of women traders in the market is a form of gender discrimination and as a result of patriarchal culture. Besides that, women drivers of online transportation are a new phenomenon in Indonesia that is developing along with the emergence of the latest innovations in the variety of public transportation. One of them is the Grab application. It is undeniably that it will bring up negative and positive stereotypes (Larasati, 2017). This is in similar with research which explains that stereotypes in society that still consider women as unsuitable for work are increasingly fading by women themselves (Verasatiwi, Wulan, & Bandung, 2018).

Therefore, the purpose of this study is to provide an overview of the exploration and analysis of triple roles of women motorcycle Grab drivers who are able to play roles in various fields simultaneously through objective evidence through the data obtained. The research object focuses on a women motorcycle Grab driver – who are married – in Surabaya, Indonesia. The chosen location of Surabaya, Indonesia is because it is the second largest city after Jakarta and has a distinctive cultural contour.

CONCEPTUAL FRAMEWORK

The conceptual framework of this study uses a gender role developed by Caroline Moser, namely the triple roles of women. Gender planning recognizes that in low-income households, women have three burdens: the role of reproduction, production, and community managing work (Moser, 1989). In carrying out this roles, they implicitly accept the sexual division of labor and the nature of their gender subordination. Furthermore, Moser said that based on the exchange value, only productive work was considered as work. Not considering the role of reproduction and community as work has serious consequences for women. This is different from the role of men who are largely valued, where they are directly paid through remuneration or indirectly paid through political status and power.

TABLE 1. Categorization of Triple Roles of Women

Reproductive Work	Responsible for giving birth and/ or raising children and performing domestic tasks performed by women. In addition, the role of reproduction is not only in terms of biological reproduction, but women also care for and maintain the workforce (husband and working children) and the future workforce (infants and school-going children).
Productive Work	The role played by women to pay cash or goods. This work includes market production at exchange-value, home and/or subsistence production with actual use value, and informal production.
Community managing work	Activities undertaken primarily by women at the community level, as an extension of their reproductive roles. This role is to ensure the supply and maintenance of scarce resources from collective consumption. This work is voluntary which is not paid, carried out at 'free' time.

Source: International Labour Organization 1998

RESEARCH METHODOLOGY

Characteristics of a qualitative approach that is constructing social reality, focus on interactive processes, truth and authenticity are the main factors, values are present and explicitly, theories and data are integrated, situationally constrained researchers are involved in research, thematic analysis (Neuman, 2014). This study uses a qualitative approach to examine the authenticity and truth of the triple roles phenomenon in female Grab drivers in Surabaya that occurs interactively. The qualitative research tradition dimension uses the study of phenomenology. Phenomenology focuses on understanding the essence of experience about phenomena. Phenomenology studies are used because they can describe a phenomenon as it is. In addition, this study looks at the object of study holistically. So that phenomenology studies was chosen to examine the problem in this research (Creswell, 1998).

The location of this study is in the city of Surabaya, East Java Province, Indonesia. The technique of determining the informants is done through snowball techniques with the criteria of a married woman grab driver. This technique was chosen because researchers used information from the first information to find out other informants. There are 8 informants in this study, consisting of 6 women motorcycle Grab drivers who are married as key informants and 2 people apart key informants who have a role in the community of women motorcycle Grab driver. The total of informants are ideal because it meets the criteria and has researcher needs.

Data collection techniques conducted by researchers through in-depth interviews and observations on female Grab drivers in the city of Surabaya. Observation were made by observing the grab community then contacting the community administrator to get data and deeper information. After the data has been collected, the credibility of the data is tested by comparing and checking back the degree of trust in the data information obtained through several informants (Denzin, 1978).

RESULTS

As a subject that is viewed as having a subordinate position, it does not make the woman lose her confidence to demonstrate her existence. In many sectors both formal and informal, women are now transforming as subjects with a fairly unique multiple-roles as this proves the success of gender equality agenda has evolved. In line with this, stereotypes of female naturalities that are identified with softness, brittle, and dependence on others in fact are not necessarily appropriate. Women can now express themselves through various ways and social spaces as men can do.

Being a woman motorcycle Grab driver, being one of the professions that many people demand is no exception to the women. With a variety of reasons ranging from making women motorcycle Grab drivers as a side job to being one of the main jobs to meet the needs of life, women have demonstrated their strengths and abilities. Being a mother, wife, worker, or even a householder can be done by a woman. Nevertheless, women also have

the social responsibility to actively participate in social activities as a manifestation of its solidarity by following the community.

Driver Grab Community

Human beings are essentially unable to fulfill the needs of his own life, so it will tend to form social groups (*Homo socius*) (Machado, 2011). The social environment formed in groups has interconnectedness between members because of its complementary nature. The existence of similarities in both goals and views is usually the basis for the formation of social groups. Likewise, the object we studied was the Grab driver community.

Based on the results obtained from the data of women motorcycle Grab drivers 'Grabbike' in Surabaya, there are at least two Grabbike communities that are participated by several informants such as GS87 and Srikandi Jaya. GS87 itself is a Grabbike community with a total membership of around 71 people, with 5 female members. Meanwhile, Srikandi Jaya is a women-only community with a total membership of around 50 people, 29 of whom are from Surabaya. The GS87 community aims to bring drivers together to get to know each other and foster a sense of solidarity. In addition, the presence of this community is also used to solve problems experienced by drivers such as fake orders. On the other hand, the Srikandi Jaya Community has several objectives, namely first as a forum for hospitality with fellow drivers. Second, managing problems experienced by drivers to be connected with Grab management. Female drivers are often the targets of crime. Therefore, through the Srikandi Jaya community, the women drivers will work together to protect each other while passing through crime-prone areas by connecting with each other.

Based on the research conducted, researchers found that 3 out of 5 females driver informants chose not to participate in the Grab driver community. There are a variety of reasons that make women who are drivers tend not to participate in the community. However, the main reason women drivers choose not to participate in a work-based community is because they choose to spend time with their families at home. On the other hand, 2 out of 5 other informants actually gave different views. According to them, the existence of this community has an important role because it provides a platform for them to build solidarity among fellow drivers.

Alhamdulillah, I was selected in the GS87 Community. Actually I don't understand the details about this community, but every time there is an event the members are always invited. For example visiting members who have recently given birth and visiting members who are sick. In essence, if there is a community it is comfortable, solidarity, and kinship. So we felt accommodated. I am very proud to be a Grab driver, I am always involved in various events everywhere. But I am not interested in being elected as an administrator (GS87 community), I prefer to be involved in its activities. (Dwi)

I join the community, incidentally there are two communities, in the community members are not only women, but there are also male mem-

bers. This is because this community based on the motorcycle taxi does not view the gender. So that if there are problems can help each other.
(Yohana)

Based on the data provided by the informants, it can be understood that as a woman, motorcycle Grab drivers tend not to follow the community because their dual roles (Reproductive and Productive) limit their movement. Although some communities provide flexibility for female drivers to attend regular meetings even though they do not participate in the entire event. The lack of information obtained by female drivers regarding the existence of existing communities is also the reason they are not involved in the ojek driver community. Basically, the existence of this community is very helpful for female drivers in carrying out their work, apart from establishing friendship and helping each other, community is the right place to express women as social beings.

Customer Treatment

As working women, there is treatment from several societies that consider women as weak creatures so that women are faced with challenges and threats to their own safety. As a woman motorcycle Grab drivers, the characteristics of the passengers range from friendly to impolite. Based on the results of interviews conducted with several female drivers, there are two different sides if the passenger is male. On the one hand, female drivers will be given privileges so that passengers will offer to drive their vehicle. On the other hand, there are male passengers who refuse to ride on, or even harass the female drivers.

I have been rejected by a passenger, some male passengers choose to drive. However, most orders from men cancel when they find out the driver is a woman. In the early days of being a female Grab driver, I once got a male passenger, but he (the passenger) did something disrespectful (harassment)... There are also orders that have suddenly been canceled unilaterally, with unusual reasons, for example not a mahram.
(Hana)

Based on the statement from the informant, it can be seen that the patriarchal culture still exists in everyday life. The case example above, where the existence of harassment by men against women is evidence of the existence of patriarchal stereotypes that place women as subjects who are not equal to men. In the case of women as motorcycle Grab drivers, the challenges faced by women tend to be more. In addition to the challenges of being able to manage themselves because of their dual roles, both in the household and in the social environment, in carrying out their jobs, women are also vulnerable to actions that threaten them.

DISCUSSIONS

Reproductive Work

In the dominant assessment of the division of work at home based on gender, Konigsberg's finding (Bianchi, 2012) that men do not want to share the workload at home. Thus, women who work to make a living, at the same time bear the burden of household and child care. Women's participation in the labor market has increased, but the allocation of household and child care done by women remains in most communities (Momsen, 2004).

The results of the field study indicate that female grab drivers must be willing to get up early to take care of domestic work such as cooking, cleaning the house, taking care of children, and escorting children before working as drivers. After work, they also still do various other household tasks such as guide children to learn, washing dishes, cleaning the bathroom, and other work.

Sweep, miss. The washing part is by him (pointing at the husband). Yes, there is just a washing machine. Then, I take care of My son named After that, I help my parents to cook, sometimes it depends until 10 o'clock is over, 9 o'clock is over. Depending on the cooking. After teaching my child, because the problem is now studying online, i wash the dishes and cleaning the bathroom. So, at 12 or 1, I just left. (Wahyu)

Based on the above interview, it appears that female grab drivers experience a lot of burden due to gender differences. It cannot be separated from the inherent patriarchal culture (Moser, 1993), especially in Indonesia. Over the years, the division of labor by gender separates specific tasks between women and men. As a result, men do not spend as much time doing household chores as women.

If that morning I was finished praying I could not go to sleep again, right at 4 in the morning, after I wake up I cook, clean the house, take care of the children, take children to school. Then go to work at 7 in the morning until 11 o'clock. Then later at 1 o'clock in the afternoon until before sunset starts again. After that cleaning the shower, accompany the child. In addition, I check that there is information from my community related to work or others. Sometimes when I'm tired, I go to sleep right away. (Dwi)

Unlike the previous interview, the quote above shows that female grab drivers with single parent status have a complex role in their lives, the role of reproduction, the role of production, and the role in the community (Moser, 1989). Where she must balance her role starting from the role to make a living as a grab driver, take care of her own children without a husband, and remain involved in community-based social activities.

Productive Work

Most job degradation shows that women move to male-dominated occupations, rather than men who move to women-dominated occupations. Therefore, women also have the same incentive to choose male-dominated occupations (England, 2010). This is the reason why female drivers choose to become drivers, supported by Mrs. Murti's statement regarding the comparison of income to become Grab drivers with previous work.

If the amount of wages I earned in my previous job, it's clearly different. The wages I earn as an driver is more enough to meet the needs than my previous job. And my previous job, it (wages) comes out once a week. Become a driver, can be immediately taken (wages) on that day. (Dwi)

In addition, the choice becomes a driver because they will have more time to family and home affairs. This is supported by the statement of Wahyu.

Starting to become a Grab driver in December 2017. Because I need more time to be with my child, I prefer to be a driver because more flexible. If work in an office, the working hours are not flexible. (Wahyu)

Along with the complexity of women's work, be it work that generates wages or not, that women work longer hours than men (Momsen, 2004). Below is a table of the informants' working hours per day as women motorcycle Grab drivers.

TABLE 2. The Duration of Working Hours as a Driver

Number	Informants	Duration	Duration of husband's work
1.	Murti	6 hours	6 hours
2.	Dwi	9 hours	-
3.	Yohana	6 hours	-
4.	Wahyu	9 hours	8 hours
5.	Hana	10 hours	-

Some informants have double jobs, whether they are paid or not. In addition to being a Grab driver, a number of informants furthered higher education studies (Yohana), seller of online food (Wahyu), and fabric mask production (Murti). In line with Momsen's statement, if accumulated by working hours as drivers and other production activities both remunerated and not, the female Grab driver has longer working hours than men.

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There is an appreciation of respect. How come they are strong, even though these women motorcycle driver also take care of household. More positive. I am more solid with neighbors after entering Grab than before joining Grab. (Dwi)

Community Managing Work

According to Moser (1993) in addition to having control in the household, women also have a role and access various resources in the community. In the context of discussions about women grab drivers in the city of Surabaya, women have a social responsibility to participate in community activities such as gathering PKK (Family Welfare Education), Arisan (Social Gathering), Pengajian (Recitation) etc. These activities are not mentioned in the written rules that must be followed. However, this rule has become part of collective awareness to be followed in all communities as a form of social solidarity. This is supported by the Yohana's statement.

Yes, I join the community, there are two communities, the member are women and men because this kind of online transportation community like grab usually has mixed member . There is community only women member are in the center of Sidoarjo, but it so far of my house, so i not join that. Besides that there is also Arisan (social gathering), grab groups are also the members. (Yohana)

On the other hand, various social activities do not fully impose the heavy burden that psychologically tortures women. Some other drivers were very happy and enjoyed the social role because it can relieve boredom. The presence of the community that was followed gave them a sense of comfort and enthusiasm, making them more active at work. Intense interaction between members in the community, so that a strong sense of solidarity grows. Besides, they also feel more able to develop their potential through various community activities. Following is Dwi's statement about her experience in becoming a community member.

Not just Srikandi, but thank God I was selected in the GS87 Community. This community is actually not exactly what it looks like, but every time I have an event I always invited, such as visiting people who gave birth to babies or visiting people who are sick. Anyway so good to join the community because full of solidarity. So we are welcome. I am very proud to be the Grab motorcycle driver, everywhere I always invited. But I am not willing if I am appointed as an administrator, well, but if I was involved in those activities, I would be happier. (Dwi)

CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings show that women motorcycle Grab drivers have a community and get different treatment from customers. The presence community helps women motorcycle Grab drivers. Apart to building relationships and helping other drivers, the community becomes the right place to express their existence as part of the community. There are treatment of customers who perceive this female driver as a weak creature, such as rejecting the driver because of a woman.

The results of this study from triple roles of women analysis are (1) besides working, women motorcycle Grab drivers take care of children and household; (2) being a driver is more able to allocate time for household affairs, on other hand to earn a living; (3) joining the community makes them feel happy, comfortable, and more enthusiastic at work.

Recommendations

The practical implications of this research are to increase women's confidence based on the principle of gender equality to pursue their performance. For companies, the results of this study can be used as a reference in formulating policies in the field of employment to tolerate women's obstacles to their performance. The recommendations from the results of this study are:

1) For the government, implement an affirmative action policy for women drivers to support work security and safety. Considering this job as an online driver is one of the jobs owned by Indonesians, especially the middle and lower classes.

2) For the company, as a reference in formulating employee work mechanisms, in particular to tolerate women's barrier to work and their burdens.

3) For society, the results of this study can be used as a basic view that the triple role held by women has more severe challenges ranging from being a housewife, working, to social beings.

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A STUDY ON INFLUENCE OF FACEBOOK IN TRAVEL DECISION MAKING

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ABSTRACT

The main purpose of this study is to find out that how Facebook affects international tourists and how these posts relate in the eyes of international tourists to create a destination image for Bangkok. Moreover, this study explores the reasons for international tourists to post their experiences on Facebook and at which stage of their journey whether it is pre-trip, during the trip or post trip and also how Facebook information helps at every stage of travel to international tourists. The methodology used by the researcher is Qualitative research approach and constant comparison analysis technique is used to analyze the data. Research finding indicates that it is critical for Bangkok-based tourism marketers to have an overview of the business and promote Bangkok on Facebook by creating a positive image of Bangkok in the minds of tourists. This also describes all of its challenges in coping with these rapidly growing trends of international tourists using Facebook to gather travel related information and then making their travel decisions.

KEY WORDS: Social Media, Facebook, Travel Decisions, Destination image, perception

INTRODUCTION

Now days in order to make travel decisions people visit a lot of travelling sites, view lots of blogs, vlogs and reviews of people who have already visited that place on trip reviewing pages for a particular destination in order to clear their insights related to the destination and gather some information. People also tend to visit official pages which are related to the destinations before making travel decisions. Internet has reshaped tourism information as well as people's travelling plans (Buhalis & Law, 2008). Similarly, they use social networking sites like Facebook, Instagram as they believe in sharing their day to day information on social media networks to keep people updated about their routine. Some social media networks also helps their customers to share their experiences related to their travel on their accounts to create a travel content for other users who are social media friends and it can help them to make their travel decisions (Jovanović, Božić, Bodroža, & Stankov, 2018). For such influencing contents social media is adopted by hospitality and tourism marketers who are using social media as a tool for promoting destinations and their products with the help of posting photos and videos related to their products (Mariani, Styvén, & Ayeh, 2019). Increase in use of social media for travel related information has led the marketing researchers to consider social media as a place for eWOM that means 'Electronic world-of mouth' as these contents on social media are changing the behavior of future tourists (Stephen, Goldsmith, & Pan, 2008).

Facebook is one of the most popularly used social media platform amongst people of any age because of its easy use and easy accessibility to get along with people staying geographically far away. In regards with traveling, people share their traveling experiences by posting photos, videos or comments related to the places visited and they also gather information from official pages of the destinations through Facebook. Now it is a culture to share traveling experiences online.

As, Facebook is one of the most reliable and informal means of communication site for people to share their experiences as well as viewing the experiences of their friends, family, colleagues or even strangers. Through such way of information many researchers found that Facebook is becoming a hub for sharing travel related information like photos, videos, experiences etc., mostly during and after their trip (Kim & Fesenmaier, 2015).

Facebook is acting as a platform of "electronic word of mouth", where people directly or indirectly are helping in the promotion of a destination through posting their experiences on Facebook about their trip to that destination. Such contents generated on Facebook are playing a vital role to influence people to travel.

There are many travel related pages which are helping to gather good contents related to a particular destination. There are many pages of tourism marketers who feel that now a days Facebook is one of the most important platforms through which they can connect with masses and also can promote their products on Facebook. Facebook is also helping in creating online communities which are freely connecting people from different nations to come under one roof and interact related to their travel experiences. Social media network like Facebook is making a virtual world of people different from their usual world. People

feel a need to have an online presence and also to have a different identity than their real identity. Now likes on photos posted on social media networks decides the success of the holiday (Muther, 2016). By posting such photos, videos or contents people think they are building a self-impression on others and also help in creating an image on others (Lo, Mckercher, Lo, & Cheung, 2011). Even before deciding something to do people check it on social media, or if they saw anything on social media, they would like to do the same. This states that how social media like Facebook plays a vital role in the lives of people.

This study gives us insights about how Facebook influences the international tourists coming to Bangkok makes their travel related decisions by viewing photos, videos or contents posted on Facebook. These information can also be posted by Facebook friends, travel pages, travel marketers or even by some famous travelers whom the tourists must have followed and also to find that what makes tourists to share their experiences on Facebook and at which stage of their travel which can be pre-trip, during the trip or post-trip. The study also deals with how tourism marketers use Facebook to promote their products as they feel that Facebook is one of the most important medium to have an online presence which ultimately leads in creating a destination's image that is Bangkok in the minds of international tourists. This research was conducted within Bangkok with a sample size of 15 international tourists visited Bangkok which were from Australia, Austria, Scotland, India, Italy, USA, England, Israel, Norway and Netherlands and 5 tourism marketers which includes 2 travel agencies, 1 transportation service providers and 2 destination management companies which runs their business in Bangkok.

RESEARCH OBJECTIVES

RO 1 To identify Facebook posts influencing international tourists to make travel decision.

RO 2 To identify marketers based in Bangkok help in promoting Bangkok using Facebook.

RO 3 To assess the destination image based on the information (post, review, videos, comments, blogs, and vlogs) collected from Facebook in the minds of international tourists

RO 4 To investigate the reasons behind when the travelers post their experiences and does Facebook information helps in every stage of travel (pre-trip, during trip and post-trip)

LITERATURE REVIEW

The influence of Social Media on the overseas travel choices of generation Y (Magill, 2017)

This study shows how social media plays an important role in the daily routine of people of this generation. How social media helps in creating self-impression and also creates an image on others through sharing their photos, videos and comments on Facebook. They have their own world in which they want to control people to see what they want to share about themselves. Generation Y is the generation with digital era. The travel decision to a place will be only successful when there are more likes on the photos shared related to the

place on Instagram and Facebook and choose destinations based on how it looks on social media. Researcher got to know that generation Y continuously share and post photos and videos during their travel and questioned that whether sharing photos is the only motive to share with family and friends only except to see the local culture of the destination travelled.

To complete the research, the researcher undertook primary and secondary data collection. The secondary data was collected from other related literature which guided the researcher to analyze the present situation of generation Y in context with the study matter.

The aim of this study was to discover how social media helped generation Y to make choices to travel overseas in order to share their experience through posting photos, videos on Facebook.

The method used in this study was done by collecting two types of data that is primary and secondary data. The secondary data was collected from all the research articles which researcher used in the study and the primary data was collected through mixed method research approach that is through both quantitative data and qualitative data, this method helped in extracting in depth information related to the research topic. The secondary data was taken from various books, journals, reports etc. and for new information and to gather information that does not existed were collected primarily which helped in determining specific and relevant data related for the topic.

The quantitative data was collected by using questionnaires based on internet in the place of structured interviews as it is less expensive and faster to take samples which are large in size. The questionnaires included new trends, people's attitude and population's opinions which were the sample studied through Facebook and were studied in numbers. The researcher thought that creating a questionnaire through Facebook can fulfil the aim as according to the findings of the literatures used by the researcher showed that people have their active participation on social networking sites that means the researcher can approach them easily through online questionnaire and people can use their cellphones to give answers of the questionnaire as it will not take their a lot of time.

The questionnaire was designed through a survey Qualtrics which was online generated. As it was distributed online so it was a random sample. 141 responses were received as large sample creates powerful statistics for notable answers (Cash, et al., 2016).

Qualitative method was used to study in-depth knowledge about the topic. Researcher used phenomenologist approach for focus group (Mason, 2014). This approach helped in-depth knowledge and people's perception by using their personal knowledge. The researcher aimed generation Y's opinions and perceptions through quantitative research. Researcher also used interpretivist approach. The groups were also random but had some purpose to select them.

The data was analyzed using Qualtrics which converts respondents' answers into Pie charts and graphs which helps the data to be viewed in simpler manner. Researcher used

thematic analyses for focused group through by going through all the evidences used while collecting data.

The findings of this study were that there is an influence of social media on this generation to make travel decision to overseas, participants also agreed that they make their travel decisions based on other traveler's experience and researcher also found that respondents were not that honest while answering the questions. The respondents also agreed that they use social media everyday even after waking up and spend 3hours on social medias on an average. Respondents are only influenced from the posts people share online, they also do further studies as they think people posts only few things on social media and may not be that trusted as respondents themselves do.

Social Media in Travel Decision Making Process (Briandana & Dwityas, 2017)

Travel and tourism are one of the most influencing sectors in the world, and creating information is most important in this industry. These days, the way travelers are using this information during their decisions related to travelling has changed. The increased development of Information and Communication Technology and its usage in tourism industry is one of the reasons which changed the decision-making process of travelers related to travelling. It is mainly related with the formation of social media as one of the platforms of Web 2.0, which offers inter communications to users.

The purpose of this study was to find out that how social media influence the decision-making process of travelers to travel to a destination according to the community members of Indonesian travelers. It will tell us about the behavioral concept of consumers, also discusses the theory of behavior of travel buying and tells the concept of how social media used for travelling.

Qualitative research method was used by the researcher and the data was collected through interviews with traveler community's members named as "Backpacker Indonesia". The members of this community were chosen based on the observation of how community's site was active people's comments and interactions with each other.

The focus of the research was to find how social media influences travelers to make a decision related to travelling to a particular destination. Moreover, the study is also related to the theory of consumer behavior. More understanding is developed through creating a useful theory with the help of appropriate theories and thus, leads to the development of a model which the researcher uses, which is the model of how travelers use social media to making decisions related to travelling. The primary data in the research is made through interviewing the informants and population interaction with "Backpacker Indonesia" members of travelling community.

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model which the researcher uses, which is the model of how travelers use social media to making decisions related to travelling. The primary data in the research is made through interviewing the informants and population interaction with “Backpacker Indonesia” members of travelling community.

The secondary data was collected with the use of observation and participant observation method. To carry out the direct and participant observation the researcher observed the interaction of travelling community “Backpackers Indonesia” on the social media. For Participant observation, the researcher joined the "Backpacker Indonesia" community and some interacted with the members. The subject of the research were the members of the traveler community. To select the subject researcher saw that members are: (1) The members should be using new media, (2) They should be travelers, (3) they should be New Tourists, and (3) and should be the active members of traveler community in Indonesia.

The main result of this study shows that social media is the most important information provider to the travelers to make a decision related to travel and people use social media at every point of travel to do each and every activity. The role of information collected for travel decision is not only important at the point of information collection but also at every stage of decision-making process. The information related to this context is generated from User Created Content (UCC). Social media is a platform that allows the users to upload their opinions and UCC on various applications on social media. This study shows how users use information from social media; (1) in pre-trip stage they utilizes UCC on social media to respond, collect, evaluate, and confirm, (2) in during trip stage traveler utilizing the information, and (3) in post-trip they share their information to the other community members. The study concluded by providing information for academics and theories related to the study of impact of social media for travel decision making process as well as for making marketing strategies for tourism industries related to consumers preferences over destinations.

Strategic impact of social networking sites on travel planning (Gavazov, 2016)

Decades have seen that there has been an increase in the social media as well as information technologies development around the world which has reshaped the tourism industry which further developed a phenomenon of eTourism (Buhalis , ETourism: information technology for strategic tourism management, 2003). It has changed the way people plan their travel.

This research focuses on what challenges and opportunities are there for the tourists from technologies of internet, what is the purpose of using social networking sites and how information on social networking sites are useful to them. The study focused on how social networking sites are used at every stages of travel which are pre-trip, during trip and post-trip and also the purpose to use it, the study also aims to find out the how social networking sites has impact over every stage of planning a trip. The data collection techniques being used are both qualitative and quantitative. Philosophy of research is also being taken into consideration. In order to find derive the reason behind using social media and making travel decisions during every stage of travel that is pre-trip, during the trip and post trip

online survey was conducted as it fulfils the use of internet it was more practical to take answers from the respondents online. For deeper understanding in-depth interviews were conducted.

The results stated that people are inspired by the information provided on social media to make their travel decisions, similarly the purpose of using social media before their trip were different like seeing for offers, comments related to places by people etc. which presented that they are not only inspired but can be treated as the most important component. The other result was when people have already decided to visit a destination, they tend to search more details on social media intentionally and on the other hand people must have seen photo or post related to the place and felt an urge to visit that place unintentionally. The result gained from both interview and survey are that people gain useful knowledge from social media before the trip to be influenced to make travel decisions. As these tourism products are untouchable they cannot be felt which made it difficult to understand the value before trip and with the help of social media this risk is now minimized and can also gain different type of information which can be a great help to make plans, it can be also noted that there can also be information which cannot be of use but can result in influencing the tourist. Furthermore it is resulted that tourists post to make their own impression before the trip and also for during the trip but has a slight difference that they post contents related to the destination they are about to go before the trip and during their trip they tend to post photos and videos and for the post trip the posts of travelers become inspiration for further potential tourists and can act as an valid information for them to make travel decisions.

Influence of user's psychosocial traits on Facebook travel-related behavior patterns (Jovanović, Božić, Bodroža, & Stankov, 2018)

The principle aim of this study was to see what were the aspects of psychological travel behavior of the Facebook users' on Facebook this includes the time in which they share their travel information, the type of information they share which can be photos, videos, comments etc., are they influenced from the posts of other people and also motivated to post their experience which can be positive or negative.

The researcher conducted an online survey in which 804 citizens of Serbia were participated and the invitation was sent through a Facebook page and snowball technique was used to collect the participants and to analyze the data SPSS 17.0 was used by the researcher. There were three parts in the questionnaire. The first part was related to socio-demographic factor of the respondents and through which way they plan their trip. The second part involved 9 questions related to use of Facebook by the respondents related to tourism which includes questions like how frequently use Facebook to post their information related to travel(which can be post-trip, during trip or after-trip); how many times they post it; how many times they use a specific categories in their comments or statuses and how often they tend to post when they feel positive and also when they feel negative; what type and number of photographs they share related to their travel (their oneself or /and their oneself with others, destination); who all can see their posts; which type of peo-

ple's posts they see on Facebook; what are their reasons behind their seeing the posts of others. The third part was to see the behavior of the Facebook users.

To analyze the results linear regression was used the dependent and independent variables were the behavior and the psychology of the users of Facebook. The profiles of people on Facebook as virtually were the people who post their travel related information very frequently and also at every stage of their travel as they like to post in both the conditions whether positive or negative and they post photos of themselves as well as of the destination, they like to share their posts with people who are close to them and vice versa and similarly they like to see posts of their families, friends and their partners.

To present oneself on Facebook is followed by the people who tend to post frequently and also at every stage of their travel as they are the active participants on Facebook, they like to share when they are happy with trip as they share related to the activities they participated during their trip, going out to enjoy, they want to have a positive image on Facebook so they would like to share their photos with their Facebook friends whom they never met and are also interested in others information when they feel bored. The addiction of Facebook is directly related to the number of people posting their travel information and also in all stages of travel, they tend to share when there is a positive experience and would like to share their photos with their closed ones and themselves with Facebook friends whom they know from Facebook.

Socialization is related to the behavior of the person as they tend to post more information on Facebook specially pre-trip, they like to post about their outings, hotels and the activities they are doing and if there are any negative experience they would like to share as they let the people whom they know from Facebook to see their posts. For Facebook's compensatory use is not related to number of Facebook posts as they less allow their closed ones to see their posts and also don't see the travel information posted on Facebook by others even, they are close to them or the destination is very nice.

Social network influences on young tourists: An exploratory analysis of determinants of the purchasing intention (Pietro & Pantano, 2013)

Due the increase in internet technologies have resulted in increasing the challenges for new markets and also providing heavy competition. Social media plays a free area for these marketers to do marketing and influence the travel decision of tourists. Social media helps in reaching to the masses which allows marketers to deal with their clients directly and to market their brand and also deal with their employees as well as suppliers. Even can easily get the reviews, suggestions etc of customers and can act accordingly.

The promotion on social media can be less costly than other mediums and can help in attracting masses at the sometime. One of the most used media of social media is Facebook and the research focuses on how Facebook helps in destination selection and how marketing strategies can be made accordingly.

The random sampling method was used and the questions were asked from the high school students. The results showed that Facebook due to eWOM has emerged as media to be used for marketing. The young people who are more into social media tend to have influences on their purchase decisions as they find more destinations online and see reviews and comments before making purchase decisions. The eWOM has made it easy to use and for further enjoyment, which can act as an advantage for marketers to make available such marketing to involve their users in their pages and to make their products popular and also make the users to comment their opinions and be motivated for that. The organizations can generate other applications to link with Facebook which can further attract more users towards the page because of advanced graphics.

Facebook is helpful to the users to gather useful information which can further decrease the risk as it can be helpful for purchase intention of the user and can also help in creating the image of the destination by gather more data related to travel and services. Facebook can also be fastly taken as main medium for providing information as it connects the tourists as well as the marketers directly to each other.

RESEARCH METHODOLOGY

Research Design

Firstly, in this research qualitative method was applied which was based on literature review related to the influence of social media and Facebook on the potential travelers to make their travel related decisions. With the help of related literatures, qualitative method was used, as it collects in-depth data rather than data collected in quantity which are practiced by using quantitative method.

The data was collected based on semi-structured interview from the respondents. The collected data was investigated and analyzed. The questions were open-ended questions, so that if there were any requirements of any necessary changes along with the questions already performed were also asked at the time of interview.

The target population were international tourists visited Bangkok, who were Facebook users and were influenced from the posts of Facebook to make some travel decisions to those places. The target population also included the tourism marketers which were working in Bangkok and helps in promoting Bangkok on Facebook and thinks Facebook as important medium to promote their products.

Sampling Procedure

This research consists of semi-structured questions which were prepared on the basis of the research questions and research objectives of the research mentioned in the introduction also on the basis of all the related literatures which were reviewed by the researcher. 11 open-ended questions were asked from 15 international tourists and 7 open-ended questions were asked from 5 tourism marketers in Bangkok which helped in getting insights

related to the influence of Facebook on their travel decision making process and also created it as in-depth study as it was done according to qualitative method. There were also some time constraints which made researcher to limit the sample size. There were also limitations while interviewing the international tourists as many were not willing to give answers and many were not ready to take pictures and also to record. The researcher also tried to contact many tourism marketers but because of their busy schedule due to peak season, the researcher was not able to take their interview. Even if there were some limitations faced, researcher was able to gather useful information from the respondents and findings of the research was made.

The analysis technique used was Constant Comparison data analysis technique. As this technique helped in creating In-depth comparison among the answers of tourists as well as tourism marketers. In this method after the data was collected, coding was done by taking out the key information with the help of transcripts of international tourists and tourism marketers which included 2 destination management companies and 1 transportation service providing company and 2 travel agencies within every research objective. After the coding, axial coding was achieved for every research objective. The researcher found many answers similar to each other provided by the informants but also found some different opinions.

RESULTS AND DISCUSSION

The researcher followed the four main objectives of the study which were:

RO 1 To identify Facebook posts influences international tourists to make travel decision.

The objective was to find whether Facebook posts influences international tourists to make their travel decisions or not and also to find out what made tourism marketers to create their Facebook pages.

The result obtained from international tourists were:

After the interview from international tourists, the researcher got to know that the international tourists were Facebook users, but did not used it on a daily purpose, majority of the tourists used it to keep in touch with their family and friends. Some also used it for posting photos or chatting. When asked, that whether they have come across to some travel pages or some posts of their Facebook friends or even the posts of some famous travelers and whether those posts influenced them to travel to that place or even to Bangkok, they agreed that they came across to many travel related pages on Facebook and also on Instagram, also the of their friends made them to want to travel to those places and also Bangkok, and they even found the pages and posts useful to make a travel decision to Bangkok, which clearly depicts that tourists are very much influenced from the photos, videos or any content posted on Facebook related to a place to make their travel decisions which many of them also applied before visiting Bangkok. Tourists find Facebook as an influential element to make their travel decision because they find many posts related to travelling on Facebook which shows photos, videos and contents related to destinations. The posts can

be posted by Facebook friends or some travel related pages. These posts acts as an information source and helps a tourist to decide whether to visit a particular destination and how to plan it.

The results obtained from tourism marketers were:

The findings provides that the tourism marketers worked in Bangkok and are dealing with tourism products and got the idea to create account on Facebook as they thought that Facebook is one of the most important place to have an online presence as Facebook is a universal application and through Facebook they can reach to masses and promote their products and increase their market.

RO 2 to identify marketer based in Bangkok helps in promoting Bangkok using Facebook

The objective was to know that whether tourism marketers helps in promoting Bangkok through Facebook or not and whether tourists were paying attention to them on Facebook from the point of view of international tourists and how tourism marketers provide services to their customers and meet their future challenges.

The result obtained from international tourists were:

The answers obtained from the interview from tourist were that majority of them did not followed tourism marketers but have come across with some of the posts of tourism marketers on Facebook, many of them had followed the official pages of places, but when asked for official pages related to Bangkok they were not sure about that. According to international tourists some thinks that the posts posted by these pages and marketers are reliable because they know about the place well and provides many useful facts and attracting pictures and videos related to the places, but some think that the information posted by these pages can be reliable to some extent as they can use such information to promote their products. Which can tell that people rely on these pages to some extent and doesn't believe everything on these pages.

The results obtained from tourism marketers were:

According to the tourism marketers they provides almost every type of tourism services and their target markets were little different from each other as they were the growing business reaching to different market segment is a positive factor for them and for everyone the challenges were their competitors online and offline for meeting those challenges the wanted to provide more unique services and services which they cannot get online and also to have strong online presence which will help them to promote and capture the market more easily. Marketers use Facebook to post their tours and provide information related to destinations which they deal in. They also provide lots of valuable deals on Facebook. They act as a guide for the tourists.

RO 3 to assess the destination image based on the information (post, review, videos, comments, blogs, and vlogs) collected from Facebook in the minds of potential travelers

The objective was to find out how Facebook helps in creating destination image of Bangkok in front of international tourists and after these posts international tourists made per-

ception and whether the perception was positive or negative and whether it was changed after visiting Bangkok or not and also how they think Facebook as a relevant place related to places. For the context with tourism marketers how these marketers help in making positive image of Bangkok in the eyes of tourists.

The result obtained from international tourists were:

The interview taken from international tourists tells that they think that Facebook posts helps in creating destination image of Bangkok but to some extent as they think that there can be personal biasness of people related to a place and can also spread false messages but, when asked for their perception after viewing the pictures and videos on Facebook was positive and had changed a little after visiting to Bangkok and was positive. This tells that even people are aware that there can be some false posts on Facebook and can be relied to some extent but still Facebook helped in creating image of Bangkok and also it was positive which indicates that they saw the positive aspect of Facebook posts and neglected the negative side of posts to make image of Bangkok.

The results obtained from tourism marketers were:

The findings obtained from the interview from the tourism marketers related to the creation of destination image of Bangkok in the eyes of tourists through promoting Bangkok with the help of posting information(videos, photos) on Facebook they replied that Bangkok is one of the most popular places in the world and don't need to be promoted but they try to promote Bangkok more through their packages and posts photos and videos of places and activities to do in Bangkok and also to show the culture of Bangkok.

RO 4 to investigate the reasons behind when the travelers post their experiences and does Facebook information helps in every stage of travel (pre-trip, during trip and post-trip).

The objective was to find out what made tourists to post their experiences on Facebook and what type of information they would like to share (photos, videos or contents) when and to find that whether the information on Facebook helps them during every stages of their travel.

The results obtained from international tourists were:

According to the findings the international tourists do not post on Facebook much, when asked that will they post their experience in Bangkok, they answered that they would like to share their experience in Bangkok as they enjoyed a lot and many would like to post photos and also some wanted to post both photos and videos of their experiences, the places they visited in Bangkok and also of the activities they did in Bangkok. Majority of them wanted to post their experience during the trip as to share their experience with people while enjoying and also post trip as they there will be more time to decide what to post and can be posted as a throwback to good memories in Bangkok. Majority of them also thinks that Facebook posts helps during every stage of travel that is pre-trip, during the trip and post-trip as:

Pre-trip: they can gather information related to place by being influenced from the posts on Facebook and can decide which destination to go.

During trip: after visiting the destination can find out where to go within the destination, what to do, where to eat and activities to do.

Post-trip: they can post their experience to inspire other tourists to visit to the destination and gather information from their posts.

The results obtained from tourism marketers were:

When asked whether tourists can buy directly through Facebook the answer from them was no, as they can only contact through Facebook as they have auto generated messages which can easily help them to contact with the marketers and when asked about the reviews they said that reviews of their customers are important to them as through reviews they would know the needs of their customers better and also tried to reply every review whether positive or negative they help their every customer and are ready to help them with anything at any time of the travel of their customers.

COMPARISON WITH RELATED LITERATURES

The influence of Social Media on the overseas travel choices of generation Y

In relation with this article, the results were that, Facebook helped in influencing people to make travel decisions and people also agreed that Facebook is not an only influencer as the information provided on Facebook can have personal biasness of people sharing it, so they think to search more information on other platforms also and similarly in this study researcher found out that tourists think that Facebook can act as an important element of gathering travel related information but not as the sole element because of personal biasness of the travelers who posted their experiences on Facebook.

Social Media in Travel Decision Making Process

The literature discussed how the information derived from social media are not only for making travel decision but also helps in every stage of travel which are pre-trip, during the trip and post-trip, as the information derived pre-trip is the time when a traveler has an urge to travel, find related details on social media, compare the information collected and make a decision to purchase the product, during the trip helps to know more about the place they have visited and post trip is to share their experiences to influence other travelers behavior and also the article suggested that as there is increase in the use of social media among tourists the marketers should market their products on social media according to the behavior of tourists and in comparison with this study, researcher also found out that tourists use Facebook at every stage of their travel and at pre-trip stage they would like to collect information to make their travel decisions, during the trip they will find what all things are there related to the destination they visited and post trip they would like to post their experiences on Facebook to inspire others to travel to the place and as related to the tourism marketers researcher found that they tend to keep their eyes on new demands and trends of tourists.

Strategic impact of social networking sites on travel planning

The literature was similar to that of first and second literature and as the result of the literature was that social media influence individuals to travel and also it's posts acts as a useful information during every stages of their travel but there could be many contents which are not correct but can influence tourists which can act as challenge of using social media as eWOM and similar results were found by the researcher in this study.

Influence of user's psychosocial traits on Facebook travel-related behavior patterns

In this literature PSAFU was used to analyze the results to see the behavior of the tourists to make travel decisions, but the analyses in this study was not similar to the literature. The researcher of this study used qualitative analysis method but there were few similarities among the answers that the tourists tend to share their experience to share it to others and influence them but are also influenced from the posts of others and also tend to post according to their feelings. In this study there were some tourists don't like to post a lot but felt to post their experiences in Bangkok as they enjoyed their stay in Bangkok.

Social network influences on young tourists: An exploratory analysis of determinants of the purchasing intention

literature was useful for the point of view of the tourism marketers as it resulted that use of social media like Facebook among the young tourists there are more chances of influence over their decision making process which urged the tourism marketers to have their online presence and increase the popularity of their products and also create more attracting posts to influence the purchase decision of young travelers. Similarly, for this study the marketers themselves felt a need of online presence as it acts as an asset to their promotions and also, they keep on updating themselves with new trends.

CONCLUSION

Now days Facebook is more than that of social media providing means for chatting and sharing photos and videos. It is also used as a medium to influence tourists to make their travel decisions and use the information provided on Facebook for every stage of the travel that is pre-trip, during trip and post-trip and also to share their experience to influence others. As Facebook can have useful information but can also have misleading information which can hinder the image of a particular destination. People have a tendency to share what they feel like whether positive or negative and which can ultimately influence others in some or another way. To overcome such things tourism marketers should provide more and more facts related to the destination. Facebook is helping the tourism marketers to easily reach to the masses which can help them to promote their products and in order to do that they should know about the requirements of the tourists and sell their products accordingly. This increasing use of social media like Facebook can help both tourists and tourism marketer to come under one roof which can provide benefits to both and help in developing this new trend of using Facebook as providing travel related information.

RECOMMENDATION

These recommendations are for tourists as well as for tourism marketers and travel pages:

Before making a travel decision, tourists should gather all possible information from all possible sources in order to save themselves from false information.

Tourists should know with whom they are sharing their experiences and should have proper securities on their accounts in order to minimize the risk of exploitation of their personal information.

The tourism marketers should not only promote their products on social media like Facebook but also provide all the useful information to tourists on Facebook.

In order to answer the queries of tourists related travel there should be useful forums as well as there should be some initiatives taken by the travel pages and tourism marketers to answer all the queries of tourists.

The information provided by travel pages and tourism marketers should be easy to understand for any type of tourist as Facebook has many accounts of people from different countries.

The tourism marketers in order to promote their products to their target markets should provide information in their languages to the countries they are focusing on.

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SATISFACTION AND LOYALTY OF THAI TOURISTS TOWARDS JAPANESE TOURISM

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ABSTRACT

This research aimed to identify the factors contributing to satisfaction and loyalty of Thai tourists and extend to analyze the relationship between each generation. To conduct this research, online questionnaires were collected from 407 respondents who are Thai and had experience travelling to Japan. The researcher applied non-probability sampling method based on convenience sampling technique, snowball sampling technique and quota sampling technique on the generations. The research results obtained from the analyzing data using statistical methods of Multiple Linear Regression (MLR), Simple Linear Regression (SLR) and one-way ANOVA. The study results suggested that attraction, accommodation and food, shopping, transportation, and local people had significantly positive effect on tourists' satisfaction. The attraction represented the most affecting factor on tourists' satisfaction while transportation had least effect. Tourist satisfaction had positive effect on Tourist Loyalty. However, there were no difference among generations towards satisfaction and loyalty to Japan. The recommendations from this research not only give the advantages to Japanese tourism but could also be applied to the tourism in Thailand.

KEY WORDS: Japan, Travel, Tourist Satisfaction, Tourist Loyalty, Thai tourist

INTRODUCTION

Japan has become a popular travel destination for Thai travelers and been increasing since the Visa waiver on 2013. Japan is one of the most speedily growing destinations for Thai outbound tourists. Given the rates of growth from the Japan National Tourism Organization (JNTO) data since 2013, the number of Thai travelers has been increasing from 260,640 visitors in year 2012 and double to be 453,642 visitors in year 2013 after the visa waiver, became 901,525 in year 2016 and break the record of 1.1 million visitors in 2018 (Balikbayan Media Center, 2018). For Thai outbound travel, Japan is one of the fastest growing holiday destinations.

Travel plays an important role as a major revenue for many businesses. The increase in Thai travelers to Japan is attributed to the rising number of many related businesses. They use this opportunity to do the marketing campaign such as airlines businesses, hotels agency, travel website, group tour operator, bank, credit card companies, telecommunication companies and insurance companies.

Hence, this research aims to study the factors affecting tourist satisfaction of Thai tourists towards Japanese tourism, also looking for the top factors in order to bring to recommendation. As well as to study if tourist satisfaction has an impact on tourist loyalty so as to benefit businesses, entrepreneurs and the tourism industries that related both direct and indirect with Japanese tourism to obtain the important information to plan and do the market development to meet the needs of customers and to improve the service quality of group tour to satisfy the tourists.

The researcher collected the data from 407 Thai respondents who had experience traveling to Japan from online survey. The questionnaire was designed into 3 main parts: Screening Questions, Demographics, and Inferential part. The data were analyzed using statistical methods of Multiple Linear Regression (MLR), Simple Linear Regression (SLR) and one-way ANOVA.

According to Virtuoso Luxe Report (2019), the multigenerational travel was 2019 year's top vacation trend. As well as Agoda's Family Travel Trends survey (2018) also found a growing of family travel segment. The survey stated that 77% of Thai people had more than 5 family trips per year and travel with big family including multi-generations. They expected on a family trip to spending quality time, followed by relaxation and try new things. Expedia also revealed that each generation had unique habits and different travel behaviors. The study found Gen Z travelers value adventure experiences. Millennials value outdoor activities and cultural attractions. Gen X travelers seek traditional travel experiences with family. And Baby Boomers desire sightseeing or touring.

Therefore, this research was extending to investigate the mean differences between generations of respondents toward tourist satisfaction and tourist loyalty in order to promote Japan as multigeneration friendly destination or a family vacation destination. Generations beginning and ending years was defined based on The Center for Generational Kinetics

(2018). Gen Z are those born 1996 and after, Millennials (born 1977 to 1995), Gen X (born 1965 to 1976) and Baby Boomers (born 1946 to 1964).

LITERATURE REVIEW

Tourists' Satisfaction (SA)

Satisfaction is related with prior expectation and past experience. Oliver (1980) proposed the theory to examine customer satisfaction that based on expectation and confirmation or disconfirmation. This is used to study the impact of the quality of the service or product provided by an organization towards the customer satisfaction. Yüksel & Yüksel (2001) also agreed that the customer satisfaction is the result of comparison that the actual experience they received is greater than the initial expectations.

In tourism sector, satisfaction can be considered as a tourist's post-purchase evaluation of the destination (Ryan, 1995). Hunt (1983) stated that the tourist satisfaction is about the pleasure of the travel experience and the evaluation that the experience was at least as good as it was supposed to be. In addition, visitor satisfaction has impact on the intention to revisit and intention to recommend. When tourists are satisfied, they may express positive opinion and share favorable comment about the destination and may able to lead other visitors to visit. (Nilplub et al., 2016 ;Truong & King, 2009; Yoon & Uysal, 2005; Chi & Qu, 2008).

Destination Attraction (AT)

Destination attraction is known as the features of specific destination such as landscape, scenery, weather or events and activities at the destination. Destination attraction can be defined as tourism resources that attract visitors (Krešić & Prebežac, 2011).

Beerli and Martin (2004) stressed that without the destination attractions, it cannot motivate tourists to visit the specific destination. Tourism attractions is the main element of the destination's appeal. Leask (2010) stresses the tourism attraction is important for tourism destination since they are key motivators for visitors.

Accommodation and Food Service (AF)

Accommodation and food are part of the trip satisfaction. In tourism industry, accommodation is the basic and vital part of tourism supply to solve the basic needs. A system of accommodation service needs to be developed since it has an impact to develop tourism (Truong & King, 2009). The quality of accommodation service has an impact on tourist satisfaction to make customers have an intention to revisit the tourist destination and make a recommendation (Fern et al., 2012).

Retail and Souvenir Shops (SH)

In the hospitality activities, shopping is one of the oldest activities and have higher priority than other tourist activities such as sightseeing and leisure. During the trip, tourists bring souvenirs home as a good memory and a nice gift to family and friends. (Murphy, 2011; Jensen, 2012) The spending of tourists is three or four times higher than the ordinary shoppers. (Littrell et al., 2004)

Early literature on tourism satisfaction by Middaugh, Kwak, and Meng (2013) found that the satisfaction towards shopping is strongly related to overall satisfaction. A retail environment helps consumers relax and enjoy consumption experience and shopping also helps people escape from routines. For many tourists, if they are satisfied with shopping activities and getting what they like, they considered that the trip is enjoyable.

Transportation Service (TR)

Transportation is necessary for tourism. In the international tourism system, transportation is an important ingredient. It is essential to connect people to destination by air, sea and land. The transportation includes airlines, railways, bus operators, car rental operators, etc. The transportation system has an impact on the tourism experience in terms of how people travel, how they choose destination and transportation mode (Culpan, 1987; Beerli & Martin, 2004)

Diana (2012) indicated that in order to increase number of tourists, providers and local managers need to focus on the tourist satisfaction on transportation services and understand tourist expectations.

Local People (LP)

Local communities are the key of tourism destination. Local people are the hosts and providers of personal services of hospitality resources. The lifestyle and culture of local people are also very appealing to tourists. The local people's actions in term of their gestures, attitudes and affection have are important to make tourists satisfied. (Jamal & Stronza, 2009). The warm, friendly and hospitable attitudes of local people are important to influence tourists' satisfaction and their impression of the destination. (Chen & Chen, 2010)

Tourist Loyalty (LO)

According to tourism literature, tourist loyalty refers to the intention of tourists to revisit the same destination and their intention to recommend the destination to their friends or relatives (Toyama & Yamada, 2012). Tourist loyalty plays an important role on the destination marketing since the repeating visitors can reduce marketing costs since they have more desirable with less costly as compared with attracting new visitors. (Loureiro & González, 2008 ; Shoemaker & Lewis, 1999.)

Tourist satisfaction with destination attributes influenced destination loyalty. A high loyalty tourist is more likely to stay longer at a destination and tend to spread positive information through word-of-mouth (WOM) than the first-time visitor (Li et al., 2010; Zhang et al., 2014). The tourist loyalty plays an important role to develop the competitive advantages and the marketing strategy of the destination (Yoon & Uysal, 2005).

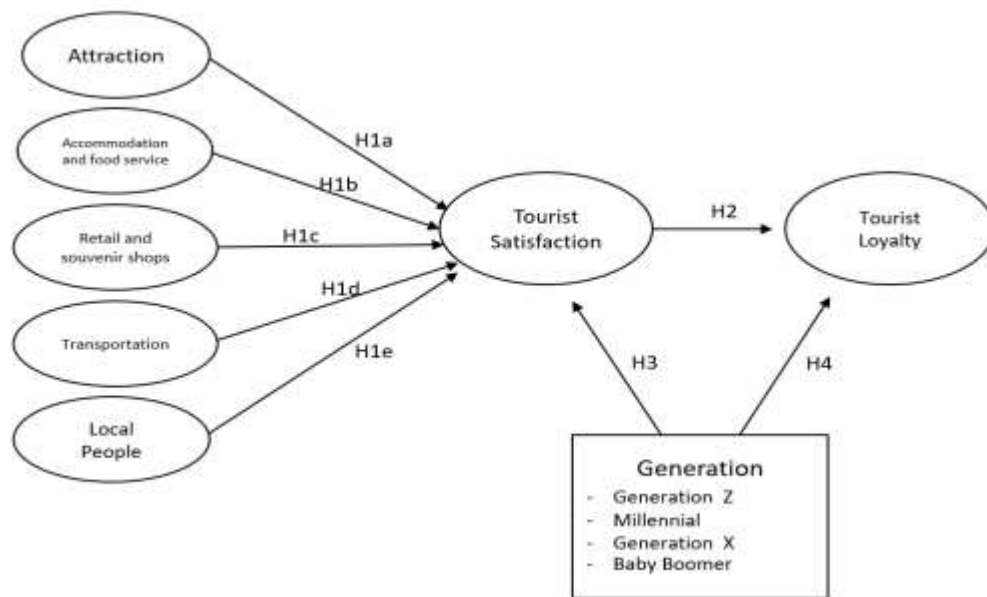
RESEARCH METHODOLOGY

Conceptual Framework

The conceptual framework of this research was adopted from the theoretical model of Le & Dong (2017) who previously studied the factors related with perceptions of destination quality which affecting European tourists' satisfaction in Nha Trang city. There are six factors in this model: attraction, accommodation and food service, retail and souvenir shops, transportation and local people.

The study also aims to study the influence of tourist satisfaction toward tourist loyalty by adopted and combined the theoretical framework from the research on the influence of destination image and tourist satisfaction on tourist loyalty; a case study of Chinese tourists in Korea (Chiu et al., 2016). The results of the adopted research indicated that the tourist satisfaction significantly lead to the tourist loyalty. And it was also assumed that generations had relationship between tourist satisfaction and tourist loyalty.

Figure 1: Conceptual Framework



Hypotheses

H1: Attraction (H1a), Accommodation and food service (H1b), Retail and souvenir shops (H1c), Transportation (H1d) and Local people (H1e) have significantly positive effect on tourist satisfaction.

H2: Tourist satisfaction has significant effect on tourist loyalty.

H3: There is a significant mean different between generations towards tourist satisfaction.

H4: There is a significant mean different between generations towards tourist loyalty.

Research Methodology

This research was conducted based on quantitative approach by using questionnaire with non-probability sampling method during January - March 2019. Convenience sampling and snowball sampling techniques were applied to distribute the questionnaire through online survey on Google form. Quota sampling was also applied to equalize the number of each generation. Online questionnaires reached 407 respondents who are Thai and had experience travelling to Japan.

RESULT AND DISCUSSION

Demographic Profile Summary

TABLE 1. Demographic Profile

Demographic	Characteristics (N = 407)	Frequency	Percentage (100%)
Gender	Male	153	37.6
	Female	254	62.4
Generation	Generation Z	98	24.1
	Millennials	103	25.3
	Generation X	109	26.8
	Baby Boomer	97	23.8
Income	Less than 15,000 Baht	104	25.6
	15,001 -35,000 Baht	98	24.1
	35,001 -50,000 Baht	80	19.7
	More than 50,001 Baht	125	30.7
Reason of visiting Japan	Leisure/Sightseeing	373	91.6
	Business	4	1.0
	Visiting relatives and friends	8	2.0
	Honeymoon	1	0.2
	Attend Event/Concert/Exhibition	3	0.7
	Others	18	4.4

TABLE 1. (Continued)

Demographic	Characteristics (N = 407)	Frequency	Percentage (100%)
Frequency of visiting Japan	1 time	64	15.7
	2-3 times	139	34.2
	More than 3 times	204	50.1
Average amount spent per trip	Less than 30,000 baht	25	6.1
	30,001 -50,000 baht	171	42.0
	50,001 - 70,000 baht	112	27.5
	More than 70,000 baht	99	24.3

Pearson's Correlation**TABLE 2.** Pearson's Correlation Matrix

Variable	Mean	SD	AT	AF	SH	TR	LP	SA	LO
AT	4.68	0.38	1						
AF	3.88	0.62	0.253 *	1					
SH	4.32	0.54	0.338 *	0.488 *	1				
TR	4.77	0.35	0.258 *	0.169 *	0.237 *	1			
LP	4.12	0.58	0.317 *	0.373 *	0.550 *	0.225 *	1		
SA	4.74	0.39	0.526 *	0.381 *	0.455 *	0.289 *	0.454 8	1	
LO	4.72	0.43	0.426 *	0.366 *	0.369 *	0.146 *	0.430 *	0.676 *	1

Note: * represents the correlation coefficient (r) with P-value ≤ 0.05 .

Regarding to the Pearson's correlation matrix exhibited in Table 2, the result found that all variables have correlations relationships among each other with P-value less than 0.05. The overall relationship between variables has positive relationship. According to the strength of correlations defined by Evans (1996), the coefficients the range of 0.60-0.70 are likely to be strong. As a result, the tourist satisfaction has strong relationship with tourist loyalty at 67.60%.

Multiple Linear Regression (MLR)

TABLE 3. Multiple Linear Regression result (H1); Dependent Variable: Satisfaction

Hypothesis	Variable	Standardized Coefficient (β)	VIF	P-value	Result
H1a	Attraction	.358	1.207	.000	Supported
H1b	Accommodation and food service	.134	1.352	.003	Supported
H1c	Retail and souvenir shops	.139	1.712	.005	Supported
H1d	Transportation	.098	1.111	.015	Supported
H1e	Local People	.192	1.509	.000	Supported
R square		.418			
Adjusted R square		.411			

As shown in Table 3, the R square of 0.418 meaning that all 5 independent variables could explain the dependent variable, satisfaction around 41.8% at the significant level of 0.05 or the 95% of confident level. The P-value of all independent variables less than 0.05 indicated that H1a, H1b, H1c, H1d and H1e are supported. Therefore, H1 is supported.

In addition, Standardized Coefficient (β) of all hypotheses illustrated that all independent variables statistically significant positive effect on tourist satisfaction. Attraction has the most effecting on tourist satisfaction with Standardized Coefficient (β) at 0.358, followed by Local People (0.192), retail and souvenir shops (0.139), Accommodation and food service (0.134) and transportation has least effect at 0.098. The VIF were not greater than 5 indicating that there is no critical multicollinearity among factors in this study.

Simple Linear Regression (SLR)

TABLE 4. Simple Linear Regression result (H2); Dependent Variable: Loyalty

Hypothesis	Variable	Standardized Coefficient (β)	VIF	P-value	Result
H2	Satisfaction	0.676	1.00	.000	Supported
R square		.457			
Adjusted R square		.455			

The results of single linear regression in Table 4 showed that satisfaction can explain loyalty for 45.7% as the R-square is equal to 0.457. H2 is supported because the P-value is lower than 0.05 which indicates that satisfaction significantly influence loyalty at 95% confidence level.

Due to the positive value of Standardized Coefficient (β), it means that tourist satisfaction has positively effect on tourist loyalty.

One Way ANOVA

TABLE 5. One Way ANOVA result (H3) - Satisfaction

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.483	3	.161	1.053	.369
Within Groups	61.673	403	.153		
Total	62.157	406			

According to the results of one-way ANOVA in the table 5 which examine the mean difference of people in different generations towards tourist satisfaction, The P-value is more than 0.05. Therefore, there is no significant difference among generations. H3 is not supported.

TABLE 6. One Way ANOVA result (H4) - Loyalty

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.101	3	.367	1.978	.117
Within Groups	74.748	403	.185		
Total	75.849	406			

According to the results of one-way ANOVA in the table 6 which examine the mean difference of people in different generations towards tourist loyalty, The P-value is more than 0.05. Therefore, there is no significant difference among generations. H4 is not supported.

CONCLUSION, IMPLICATION, AND RECOMMENDATION

Conclusion

The study found positive effect from Attraction, Accommodation and Food, Shopping, Transportation, and Local people to Thai tourist satisfaction. The finding affirmed that the Attraction of Japan represented the most effecting factor for tourist satisfaction, followed by Local people, Retail & souvenir shops, and Accommodations & food service respectively. Meanwhile Transportation had least effect to satisfaction of Thai tourists. The findings also revealed that satisfaction played an important role in developing tourists' behav-

iors related to loyalty including spreading positive experiences to others and revisit the country.

Additionally, the result of one-way ANOVA conveyed that people in different generation had no different satisfaction and loyalty towards Japan. All generations had the same perspective towards travelling to Japan.

Implication and Recommendation

This study provided the key findings and a better understanding on Thai tourists for business developer and marketer of tourism management agency, businesses related to Japan tourism, and Japan National Tourism Organization (JNTO) that currently focused on Thai market or group tour operators to develop and prioritize the proper strategies to make their customers satisfied and have loyalty toward the destination.

Based from the results, it could be interpreted that Thai people are satisfied to visiting Japan. Attraction of Japan is a key factor. Tourists are influenced the most by the nice weather, seasonal attraction, and the beautiful of scenery. The finding suggested that the group tour operators should promote their tour package including visiting landmark and beautiful tourist attractions (e.g. cultural attraction, natural attraction, historical attraction or the popular amusement and theme parks). Marketers or Public relations of related businesses could run the campaign by using the benefit of beautiful places, nice weather, enjoyably events & festivals and seasonal activities to attract Thai people to visit Japan. For example, Airlines could do the campaign to promote a customer to take new route of Bangkok - Japan flight to enjoy breathtaking views of Mount Fuji, see the historical monuments preserved inside the Osaka castle, find peaceful ambience at Kyoto, enjoy spectacular scenery of cherry blossoms in Tokyo, or frolic in the snow in Sapporo

Surprisingly that Local people are also highly impacted Thai tourist satisfaction even though there is a language barrier, but the hospitality and friendliness of Japanese people could attract Thai visitors. The nature of Japanese people is a strength of Japan tourism.

A common activity for any travelers is to buy a souvenir after a trip. Retail and souvenir shops of Japan are significant predictor of Thai tourist satisfaction. Group tour operators should concern the tour package to include shopping schedule or include a program to famous shopping centers in order to attract the customers. Online travel agency should put the information of shopping spots on the website to give information. Japan National Tourism Organization of each local prefecture can promote their originality of a product of a specific region to attract Thai people, for example the sweet purple potato from Okinawa, the apple from Aomori, Kobe wagyu from Kobe or the snack KitKat that was developed based on the Japanese locality product in different flavors e.g. Kitkat Shinshu Apple or Kitkat Amaou Strawberry. However, the government or any related departments should have a control on the price making sure each individual retailer would not take an advantage on this or surcharge the price irrationally.

Accommodation and food services also play a major role on tourist satisfaction. Online travel agency (OTAs) can prioritize this market to do the price promotion for hotels in Japan to enhance the satisfaction of tourists. JNTO may also promote their Ryokan (traditional Japanese inn) rather than non-Japanese style accommodations. Group tour operators should concern on room quality in terms of size as well as food. The tourist operators have to make sure that the taste and quality of foods in tour package meet customer's needs. Banking service providers or credit card operators may also do the co-promotion with restaurants in Japan to offer special discounts or collecting points and mileages.

Transportation had least impact on satisfaction. It may cause by the complicated of public transportation like train station platforms and bus routes. Japan National Tourism Organization should establish a friendlier tourism environment for Thai tourists to make them feel more pleasant during their trips by having a clear sign or providing variety of languages on the information sheets (especially in Thai language). Tickets agency should also give useful guides on the rail pass (train tickets packages).

The researcher also found that the tourist satisfaction played a critical role to build tourist loyalty. Once they were satisfied, they would share good experiences in Japan and recommend others to visit Japan and more likely to re-visit the place over and over.

Furthermore, the result indicated that there were no significant mean differences between generations towards tourist satisfaction and towards tourist loyalty. Since all generations had the same perspective towards tourism in Japan, the tourism management agencies or related businesses should promote Japan to be a family holiday destination. Japan has many attractions that meet the satisfactions of each generation. The visitors can enjoy Japan in part of cultural, historical, natural, arts, amusement parks, foods and shopping. They should probably advertise and run a campaign in theme of "Japan is a family destination for all generations" to create a perception and destination image of Japan as a country that can satisfied all generations in the family from children to elders. Also, with the company trip or any trips that have to cater people in different generations, group tour operators can propose an idea of trip to Japan that can meet the needs and wishes of all generations.

The researcher would recommend further researches to focus on more specific areas or provinces in Japan such as Tokyo or Hokkaido. Moreover, only five antecedents of satisfaction were examined; other determining factors related to travelling should be included. Lastly, it would also be beneficial to conduct in-depth study to differentiate the level of satisfaction amongst first-time and re-visit travelers.

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A STUDY OF BUYING DECISION-MAKING BEHAVIOR OF THAI AND INTERNATIONAL SENIOR TOURISTS IN THAILAND

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ABSTRACT

This quantitative study aimed to explore the difference in the five-stage buying decision-making behavior of Thai and international senior tourists in Thailand having different demographic profiles. Data from 435 survey responses were analyzed using mean scores, standard deviation, t-test, and one-way ANOVA. The results showed significant differences ($p < 0.05$) in buying decision-making behavior of senior tourists with different nationalities on information search, evaluation of alternatives, purchase decision, and post-purchase behavior stages. Those having different education levels were found to have significantly different behaviors when searching for information and after the purchase. Those with various current sources of income, income levels, and health conditions had a significant difference in information searching behavior, post-purchase behavior, and evaluation of alternatives, respectively. Travel agencies and tourism service providers should adopt appropriate marketing strategies and practices to effectively correspond to these different behaviors in each stage of their customer's decision-making behavior.

KEY WORDS: Senior tourists, Buying decision-making behavior, Thai and international senior tourists

INTRODUCTION

As we recognize widely, it is evident that the world is becoming an aging society. A proportion of seniors aged over 60 years will increase from 960 million in 2015 to reach nearly 2 billion by 2050 (WHO, 2018). The senior population in Asia-Pacific will reach 1.3 billion by 2050, and the largest share of the senior population is Japanese (WHO, 2017). Thailand, as the third rapid aging population in Asia, has more than 10 million senior populations in 2019 (DOP, 2020). These trends and statistics have had an impact on the economy and caused a new model of the economy called “Silver Economy.” The tourism industry in Thailand particularly has benefited from this senior population due to their time availability and financial resources.

Moreover, they have high demands and can afford traveling and taking leisure trips to enhance their quality of life by buying the highest quality of products, services and innovations (TCEB, 2019). According to the impact on the economy of senior tourists, an understanding of their behaviors will shed some light on how to develop unique marketing plans for this tourist segment. This study will also fill the gap of the current body of literature on senior tourists’ buying behaviors. Ten hypotheses were proposed and tested. Details are shown in the data analysis section.

LITERATURE REVIEW

There is no consensus on the definition of the word “senior”. For example, the United Nations, when reporting the statistics of a number of world population, those who are 60 years old and over are recognized as senior population (United Nations, 2015). On the other hand, the report of the U.S. Census Bureau (2016) referred to the older population as those who were 65 years old and over. While the World Health Organize (2001) had used 50 years old as the definition of old or older in their paper named “Indicators for the Minimum Data Set Project on Aging: A Critical Review in sub-Saharan Africa. In terms of marketing, senior tourism is one of the three megatrends which are reshaping tourism due to changing demographics which was the key of the trend especially transforming of age. Tourists who are 60 years old and over drove tourism industry due to their availability to travelling compared with other age groups (SCB, Economic and Intelligence Center, 2017). Marketers should focus on market trends monitoring as the most important task. Demographic as well as cultural and economic trends are major factors which are significant for tourism marketers. There are lots of service providers such as destination management organizations, tour operators or travel agencies which had realized and offered unique packages to attract senior tourists under the concept “experienced and well-traveled” (Nella & Christou, 2016). According to Kotler, Bowen, Maken & Baloglu (2017), consumer buying decision-making behavior process consists of five stages: 1) need recognition, which is the beginning stage when people recognize their need, 2) information search, which is to search relevant information from various sources, both online and offline sources, 3) evaluation of alternatives, which is a selection process when consumers analyze and evaluate their choices, 4) purchase decision, which is a process when consumers make their final selection and decide to buy a particular product and 5) post-purchase

behavior, which is the most important stage for marketers to gain consumer's feedback and find out their satisfaction with the product. Based on Gilbert & Wanhill (2013), need recognition in tourism context can be defined as travel motivation; therefore, there were many researchers previously studied travel motivation of senior tourists. Sangkakorn, Boonyanupong, Thiensiri & Wandee (2011) studied Thai and international senior tourists aged 60 years and over and found that the relaxation was the first motivation for both groups which was similar to European senior tourists' travel motivation who traveled to Thailand (Esichaikul, 2012) and senior tourists who visited Bali (Utama, Putra & Suradnya, 2014). Batra (2009) studied a travel behavior of senior foreign tourists who traveled in Thailand and found that most respondents decided to visit Thailand because they received information through the Internet which was aligned with the study conducted by Pesonen, Komppula & Riihinen (2015). They found that as user of tourism information technology, senior tourists in Finland claimed that they used the internet as a major source to search some information for planning their trip. In terms of evaluation of alternatives, the highest level of security and level of prices were extremely emphasized by senior foreign tourists (Lertkulprayad, 2011). For purchase decision stage, the power of word-of-mouth by family members and friends were highly involved with senior tourists' travel destinations decision-making (Patterson, 2007). Moreover, on the post-purchase behavior stage, some respondents of the study by Pesonen et al. (2015), said that, their travel experience and photos would be shared on their Facebook.

METHODOLOGY

Sample and data collection

This study is a quantitative research using online questionnaire surveys to collect data from nonrandom samples. The first sample group was 201 Thai senior tourists and the second group was 234 non-Thai senior tourists. There were two main parts of questionnaire. The first part asked about demographic information: age, gender, nationalities, marital status, education levels, household types, current source of income and income level, health condition and travel companions. The second part asked about their buying decision-making behavior which was developed based on the study of Kotler, Bowen, Maken & Baloglu (2017) as mentioned previously. The five stages consisted of need recognition, information search, evaluation of alternatives, purchase decision and post purchase behavior. The questionnaire used the 5-point Likert's rating scales asking the respondents to indicate their degree of agreement with the statement (Very Strongly Agree, Strongly Agree, Somewhat Agree, Slightly Agree and Very Slightly Agree). To ensure the content validity and reliability, both versions of the questionnaire had been validated by three specialists and piloted prior to the actual data collection.

Data Analysis

Data were analyzed using a statistical software (mean scores and standard deviation) to describe the respondent's demographic profiles. Meanwhile t-test and One-way ANOVA

were used to investigate the differences in buying decision-making behavior among senior tourists of different demographic profiles.

DATA ANALYSIS AND DISCUSSION

As showed in figure 1, the majority of respondents were females (60%) and 40% were males. Thai senior tourist respondents equal 46.2% while non-Thai were 53.8%, the biggest portion of their age group was 60-64 years old (54.9%) followed by 65-69 years old (26.7%), 70 -74 years old (13.3%) and 75 years old and over (5.1%). Most of them were married (73.1%), widowed or divorced (16.8%) and single. (10.1%). In term of education level, 60.7% graduated a bachelor's degree; 21.6% held lower than a bachelor's degree and 17.7% were holders of a master's degree or higher. For their household type, the majority was living with spouse and family members (77%), living alone 12.2%, living with relative 9.9% and only 0.9% were living with others. In regards of financial support, their current source of income was welfare (52.6%), salary (24.1%), support from family members (22.1%) and government support (1.1%). The highest number of incomes were 914.68 USD or above (61.4%), 609.80 -762.21 USD (11.0%), 762.24-914.65 USD (10.8%), 304.88 USD or lower (6.4%), 304.91 -457.32 USD (5.3%) and 457.35– 609.76 USD (5.1%). In addition, 53.3% of respondents were strong and very healthy, 42.5% were quite strong and quite healthy while only 4.1% were not strong and unhealthy. Lastly, regarding travel companion, 60.9% were traveling with family members, 15.9% were traveling with spouse, 10.6% were traveling with friends, 8.7% were traveling with relative, 3.2% were traveling alone and traveling with travel agency was the smallest number (0.7%).

Figure 1: A demographic profile of senior tourist respondents (n = 435)

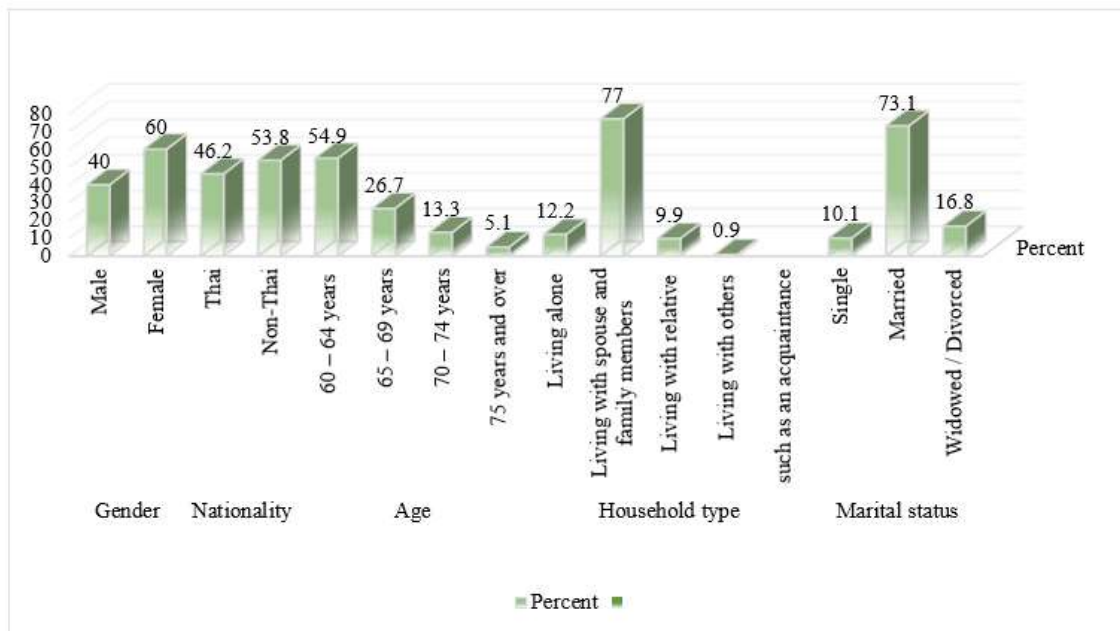
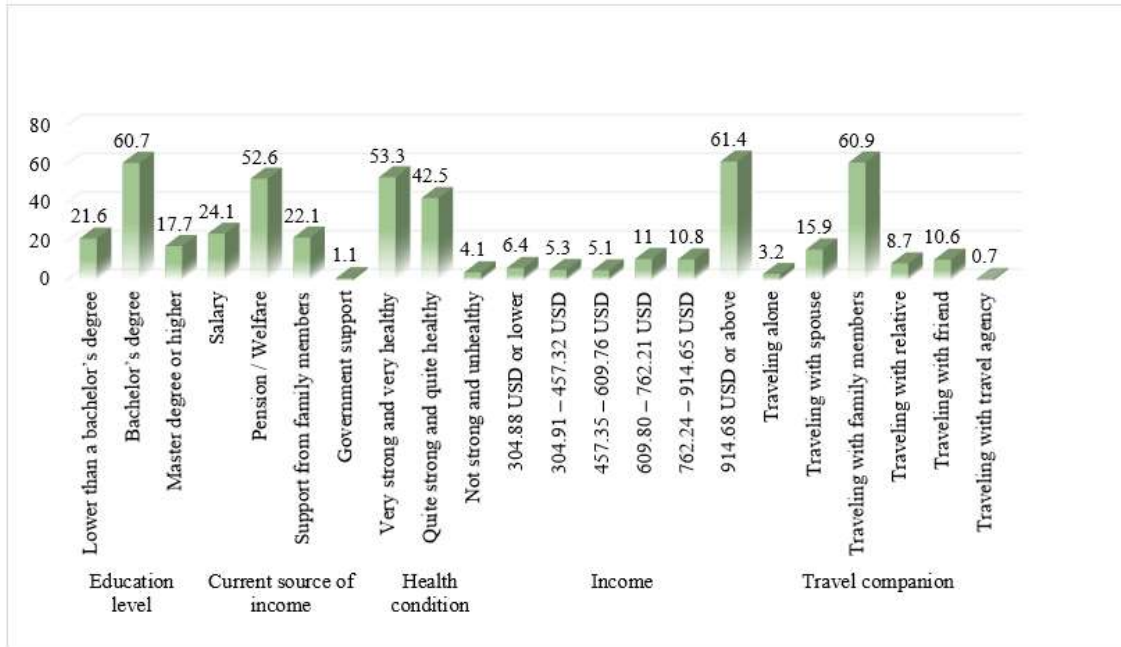


Figure 1: (Continued)



To test hypotheses, independent t-test and one-way ANOVA were employed. Based on table 1, the results showed that there was no significant difference among genders of senior tourists on the buying decision-making behavior. Therefore, the first hypothesis about differences due to gender was rejected.

TABLE 1. An analysis of senior tourists buying decision-making behavior among gender.

Variable	Value	Mean	S.D.	t	Sig.
Need	1) Male	3.9655	.59958	.861	.390
	2) Female	3.9134	.63052		
Info	1) Male	3.6437	.60461	.352	.725
	2) Female	3.6232	.58473		
Eva	1) Male	4.0881	.56970	.936	.350
	2) Female	4.0358	.57308		
Purchase	1) Male	3.8716	.56497	.657	.512
	2) Female	3.8348	.57822		
Post	1) Male	4.2365	.57874	-.071	.943
	2) Female	4.2403	.50091		

Sig.<0.05

TABLE 2. An analysis of senior tourists buying decision-making behavior among gender.

Variable	Value	Mean	S.D.	t	Sig.
Need	1) Thai	3.9891	.57068	1.735	.083
	2) Non-Thai	3.8872	.65375		
Info	1) Thai	3.8607	.55772	8.011	.000
	2) Non-Thai	3.4345	.54940		
Eva	1) Thai	3.9353	.58639	-4.182	.000
	2) Non-Thai	4.1610	.53843		
Purchase	1) Thai	4.0387	.54950	6.700	.000
	2) Non-Thai	3.6871	.54234		
Post	1) Thai	4.0576	.49367	-6.944	.000
	2) Non-Thai	4.3944	.51657		

Sig.<0.05

Table 2 showed that during the stage of need recognition no differences were found among tourists of different nationalities. Differences were found during the other stages; namely, information search ($t=8.011$, $p=0.000$), evaluation of alternatives ($t=-4.182$, $p=0.000$),

purchase decision ($t=6.700$, $p=0.000$) and post-purchase behavior ($t=-6.944$, $p=0.000$) are significant difference.

TABLE 3. An analysis of senior tourists buying decision-making behavior among age.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) 60-64 years old	3.9046	.63320	.482	.695	
	2) 65-69 years old	3.9776	.61843			
	3) 70-74 years old	3.9414	.57797			
	4) 75 years old and over	4.0091	.57064			
Info	1) 60-64 years old	3.6799	.63451	1.742	.158	
	2) 65-69 years old	3.5302	.52272			
	3) 70-74 years old	3.6149	.55515			
	4) 75 years old and over	3.6818	.51411			
Eva	1) 60-64 years old	4.0112	.57825	1.297	.275	
	2) 65-69 years old	4.1250	.58147			
	3) 70-74 years old	4.1178	.53074			
	4) 75 years old and over	4.0303	.53609			
Purchase	1) 60-64 years old	3.8410	.60707	.915	.433	
	2) 65-69 years old	3.8209	.51573			
	3) 70-74 years old	3.8716	.53136			
	4) 75 years old and over	4.0354	.57723			
Post	1) 60-64 years old	4.2253	.53407	1.347	.258	
	2) 65-69 years old	4.3054	.51349			
	3) 70-74 years old	4.2217	.58516			
	4) 75 years old and over	4.0779	.45332			

Sig.<0.05

TABLE 4. An analysis of senior tourists buying decision-making behavior among marital status.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) Single	3.8818	.56948	1.675	.189	
	2) Married	3.9660	.61123			
	3) Widowed / Divorced	3.8274	.66859			
Info	1) Single	3.8220	.61253	2.653	.072	
	2) Married	3.6164	.59300			
	3) Widowed / Divorced	3.5822	.56186			
Eva	1) Single	3.9621	.65775	.669	.513	
	2) Married	4.0671	.54022			
	3) Widowed / Divorced	4.0685	.64838			
Purchase	1) Single	3.8182	.63222	1.480	.229	
	2) Married	3.8298	.56170			
	3) Widowed / Divorced	3.9543	.57878			
Post	1) Single	4.1623	.51424	1.362	.257	
	2) Married	4.2305	.53401			
	3) Widowed / Divorced	4.3209	.53547			

Sig.<0.05

Tables 3 and 4 showed that there were no significant differences among the age and marital status towards buying decision-making behavior of senior tourists. Therefore, the related hypotheses were rejected.

TABLE 5. An analysis of senior tourists buying decision-making behavior among education level.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) Lower than a Bachelor's degree	3.9021	.59441	.216	.806	
	2) Bachelor's degree	3.9371	.63902			
	3) Master's degree or higher	3.9636	.57832			
Info	1) Lower than a Bachelor's degree	3.5851	.62778	5.315	.005	1) < 3), 2) < 3) Bonferroni
	2) Bachelor's degree	3.5903	.57235			
	3) Master's degree or higher	3.8290	.58175			
Eva	1) Lower than a Bachelor's degree	3.9273	.47742	3.984	.019	1) < 2) Bonferroni
	2) Bachelor's degree	4.1143	.58669			
	3) Master's degree or higher	4.0173	.60189			
Purchase	1) Lower than a Bachelor's degree	3.8416	.57227	3.866	.022	2) < 3) Bonferroni
	2) Bachelor's degree	3.8056	.55338			
	3) Master's degree or higher	4.0101	.61553			
Post	1) Lower than a Bachelor's degree	4.0578	.52387	8.228	.000	1) < 2) Bonferroni
	2) Bachelor's degree	4.3111	.52946			
	3) Master's degree or higher	4.2115	.50540			

Sig.<0.05

Table 5 showed that there were no differences among senior tourists with different education levels during the need recognition stage. However, senior tourists who held lower than a bachelor's degree had lower agreement levels than those having a bachelor's degree and those holding a bachelor's degree have lower level of agreement than those with a master's degree or higher during the information search stage ($t=8.011$, $p=0.000$), evaluation of alternatives stage ($t=-4.182$, $p=0.000$), purchase decision stage ($t=6.700$, $p=0.000$) and post-purchase behavior stage ($t=-6.944$, $p=0.000$). Therefore, the hypothesis regarding education level was partly accepted.

TABLE 6. An analysis of senior tourists buying decision-making behavior among household type.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) Living alone	3.8377	.51149	2.661	.048	
	2) Living with spouse and family members	3.9773	.61378			
	3) Living with relatives	3.7256	.70511			
	4) Living with others	3.8500	.91469			
Info	1) Living alone	3.7484	.44772	1.219	.302	
	2) Living with spouse and family members	3.6114	.59202			
	3) Living with relatives	3.6705	.70005			
	4) Living with others	3.3333	.97183			
Eva	1) Living alone	4.0377	.54267	.886	.448	
	2) Living with spouse and family members	4.1143	.58669			
	3) Living with relatives	3.9651	.73872			
	4) Living with others	3.7500	.90779			
Purchase	1) Living alone	3.8281	.58575	.218	.884	
	2) Living with spouse and family members	3.8448	.56158			
	3) Living with relatives	3.9147	.54154			
	4) Living with others	3.8333	1.48102			
Post	1) Living alone	4.3369	.45788	1.075	.359	
	2) Living with spouse and family members	4.2341	.52827			
	3) Living with relatives	4.1761	.54873			
	4) Living with others	4.0000	1.35526			

Sig.<0.05

Table 6 showed that there were no differences among senior tourists with different household types on the buying-decision behavior. The household hypothesis, therefore, was rejected.

TABLE 7. An analysis of senior tourists buying decision-making behavior among current source of income.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) Salary	3.9733	.60895	.455	.714	
	2) Pension / Welfare	3.9039	.62621			
	3) Support from family member	3.9562	.61709			
	4) Government support	4.0800	.54037			
Info	1) Salary	3.8238	.55414	5.355	.001	1) > 2) Bonferroni
	2) Pension / Welfare	3.5509	.58787			
	3) Support from family member	3.6198	.60345			
	4) Government support	3.5000	.58926			
Eva	1) Salary	4.0476	.50990	1.573	.195	
	2) Pension / Welfare	4.0990	.60206			
	3) Support from family member	3.9566	.56104			
	4) Government support	4.2333	.41833			
Purchase	1) Salary	4.0190	.44243	4.237	.006	
	2) Pension / Welfare	3.7957	.60039			
	3) Support from family member	3.7882	.61137			
	4) Government support	3.9333	.20184			
Post	1) Salary	4.1878	.52725	1.397	.243	
	2) Pension / Welfare	4.2832	.53702			
	3) Support from family member	4.1801	.52448			
	4) Government support	4.4000	.54772			

Sig.<0.05

Table 7 showed that the differences among senior tourists of different source of income were found only during information search stage ($t=5.355$, $p=.0001$). Therefore, the source of income hypothesis was partly accepted.

TABLE 8. An analysis of senior tourists buying decision-making behavior among income.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) 304.88 USD or lower	3.9071	.50620	1.175	.321	
	2) 304.91 - 457.32 USD	3.8696	.77836			
	3) 457.35 – 609.76 USD	3.9545	.58856			
	4) 609.80 – 762.21 USD	4.1250	.56962			
	5) 762.24 – 914.65 USD	3.9702	.64062			
	6) 914.68 USD or above	3.9004	.61909			
Info	1) 304.88 USD or lower	3.6369	.44688	2.048	.071	
	2) 304.91 - 457.32 USD	3.8333	.51493			
	3) 457.35 – 609.76 USD	3.5606	.70250			
	4) 609.80 – 762.21 USD	3.8333	.53262			
	5) 762.24 – 914.65 USD	3.6028	.55555			
	6) 914.68 USD or above	3.5880	.61165			
Eva	1) 304.88 USD or lower	3.8869	.49494	2.753	.018	
	2) 304.91 - 457.32 USD	3.8986	.51429			
	3) 457.35 – 609.76 USD	3.8106	.60922			
	4) 609.80 – 762.21 USD	4.2396	.56483			
	5) 762.24 – 914.65 USD	4.0851	.58139			
	6) 914.68 USD or above	4.0705	.57073			
Purchase	1) 304.88 USD or lower	3.7976	.69359	2.339	.041	
	2) 304.91 - 457.32 USD	3.9758	.53493			
	3) 457.35 – 609.76 USD	4.0606	.47479			
	4) 609.80 – 762.21 USD	4.0185	.63243			
	5) 762.24 – 914.65 USD	3.7258	.58970			
	6) 914.68 USD or above	3.8181	.54738			
Post	1) 304.88 USD or lower	3.8520	.33555	4.254	.001	1)<3), 4), 5), 6) Bonferroni
	2) 304.91 - 457.32 USD	4.0994	.55735			
	3) 457.35 – 609.76 USD	4.1948	.35693			
	4) 609.80 – 762.21 USD	4.3036	.55338			
	5) 762.24 – 914.65 USD	4.3708	.59401			
	6) 914.68 USD or above	4.2600	.52812			

Sig.<0.05

Table 8 showed that a difference was found among senior tourists of various income groups during the post-purchase behavior stage. Specifically, senior tourists with an income of 304.88 USD or lower had lower level of agreement than those having an income of 457.35 USD and above ($t=4.254$, $p=0.001$). Therefore, the income hypothesis was partly accepted.

TABLE 9. An analysis of senior tourists buying decision-making behavior among health condition.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) Very strong and very healthy	3.9784	.59352	2.636	.073	
	2) Quite strong and quite healthy	3.9059	.64842			
	3) Not strong and unhealthy	3.6556	.54796			
Info	1) Very strong and very healthy	3.6559	.57044	2.356	.096	
	2) Quite strong and quite healthy	3.6288	.62027			
	3) Not strong and unhealthy	3.3426	.51915			
Eva	1) Very strong and very healthy	4.1236	.56901	5.840	.003	1)>3) Bonferroni
	2) Quite strong and quite healthy	4.0072	.56542			
	3) Not strong and unhealthy	3.7037	.51308			
Purchase	1) Very strong and very healthy	3.8903	.52121	2.313	.100	
	2) Quite strong and quite healthy	3.8210	.63226			
	3) Not strong and unhealthy	3.6173	.51304			
Post	1) Very strong and very healthy	4.2746	.55501	3.694	.026	
	2) Quite strong and quite healthy	4.2239	.51372			
	3) Not strong and unhealthy	3.9286	.28676			

Sig.<0.05

Table 9 showed that there was a difference among senior tourists with different health condition during the evaluation of alternatives stage. Senior tourists who are very strong and very healthy have higher level of agreement than those who were not strong and unhealthy ($t=-5.840$, $p=0.003$). Therefore, the health condition hypothesis was partly accepted.

TABLE 10. An analysis of senior tourists buying decision-making behavior among travel companion.

Variable	Value	Mean	S.D.	F	Sig.	Post hoc
Need	1) Traveling alone	3.6857	.66432	2.150	.059	
	2) Traveling with spouse	4.0841	.53732			
	3) Traveling with family Members	3.9223	.64444			
	4) Traveling with relatives	3.7579	.57920			
	5) Traveling with friends	3.9783	.55494			
	6) Traveling with travel agency	4.2667	.50332			
Info	1) Traveling alone	3.5119	.71152	3.060	.010	
	2) Traveling with spouse	3.6618	.49340			
	3) Traveling with family Members	3.5748	.62273			
	4) Traveling with relatives	3.6842	.58483			
	5) Traveling with friends	3.8551	.42399			
	6) Traveling with travel agency	4.3889	.58531			
Eva	1) Traveling alone	3.8690	.80643	.826	.532	
	2) Traveling with spouse	4.1570	.47044			
	3) Traveling with family Members	4.0377	.58391			
	4) Traveling with relatives	4.0921	.60242			
	5) Traveling with friends	4.0399	.54567			
	6) Traveling with travel agency	4.1111	.25459			
Purchase	1) Traveling alone	3.6190	.81849	1.478	.196	
	2) Traveling with spouse	3.8760	.54451			
	3) Traveling with family Members	3.8201	.57923			
	4) Traveling with relatives	3.9152	.47171			
	5) Traveling with friends	3.9662	.55177			
	6) Traveling with travel agency	4.2963	.50103			
Post	1) Traveling alone	4.2245	.80757	.682	.637	
	2) Traveling with spouse	4.3209	.52283			
	3) Traveling with family Members	4.2086	.54226			
	4) Traveling with relatives	4.3158	.43832			
	5) Traveling with friends	4.2236	.47871			
	6) Traveling with travel agency	4.3333	.21822			

Sig.<0.05

Table 10 showed that there were no differences among senior tourists with different travel companions on the buying decision-making behavior. Therefore, this hypothesis was rejected.

CONCLUSION AND RECOMMENDATIONS

According to the results of hypotheses above there were no significant differences on the buying decision making-behavior between Thai and non-Thai senior tourists as well as among their gender, age, marital status, household type, and travel companions. These results were aligned with the study of Omelan, Podatswski & Raczkowski (2016) which showed that factors such as gender, professional activity and marital status were not related to or influenced travel behavior of Polish senior tourists. On the other hand, there were significant differences among nationality, education level, current source of income, income and health condition. Regarding information stage, the result of this study showed that the average score of the information search stage of Thai senior tourists was higher than non-Thai counterparts and senior tourists having a bachelor's degree of lower searched for less information than those who held a master's degree or higher. This is similar to Anekjumnongporn's research (2018) which mentioned that education was concerned with consumer behavior. Those who had higher education background tended to travel more than people who had lower level of education. It could be assumed that they would like to gain more new knowledge, experience or broaden their perspective. Moreover, senior tourists who had their own salary searched for more information than those who depended on pension or welfare. This supported the study of Lertkulprayad (2011) which found that inbounds senior tourists who had their own savings for traveling tended to search for more travel information through various channels such as newspaper, advertising, Thai friends, tour magazines, guidebooks and the Internet. They usually purchased or booked tourism products via the Internet or by phone. They would like to have accurate information before purchase because they paid for the trips out of their own pockets. Every penny spent should have their money worth. Regarding the evaluation of alternatives stage, a mean score of non-Thai senior tourists was higher than Thai senior tourists whereas during the purchase decision stage, a mean score of Thai senior tourists was higher than non-Thai. Moreover, senior tourists who were very strong and very healthy had a higher level of agreement than those who were not strong and unhealthy. This was not aligned with the study of Utama et al. (2014) which found that health or physical exercise were not the main push motivation to traveling to Bali for senior tourists. Lastly, during post-purchase behavior stage, senior tourists who had the lowest income (304.88 USD or lower) had a lower tendency of revisiting Thailand or recommending Thailand to others compared to those who had higher income (457.35-609.76 USD, 609.80-762.21 USD, 762.24-914.65 USD and 914.68 USD or above). Likewise, senior tourists with lower than a bachelor's degree also had lower possibility of revisiting or recommending Thailand to others than those with a bachelor's degree. These were aligned with the study of Karnasuta (2019) which found that Chinese senior tourists who had high education and income levels would revisit Thailand and after their trips, they would recommend their family members or friends to visit Thailand.

Those responsible for planning trips or tour packages for senior tourists visiting Thailand should refer to the findings of this study. They should be able to focus on and select the appropriate potential groups. Understanding senior tourist's behavior will enable them to develop a better unique marketing plan for this tourist group. Different demographic profiles will play a different role in each of the decision-making stage. Agencies need to identify which sub-segment of senior tourists they want to target and apply the study results to help them tailor-make their tour programs accordingly. A qualitative research may be conducted to gain more insights in senior tourist's buying decision behavior as well as their preferred activities while visiting Thailand.

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HIGH PERFORMANCE WORK SYSTEM TO INCREASE ORGANIZATIONAL SUSTAINABILITY: EVIDENCE FORM NON-LIFE INSURANCE INDUSTRY, IN THAILAND

by

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ABSTRACT

The non-life insurance business has grown in popularity over the past several decades. This takes into account the balance between the protection of property rights This research aimed to study the factors affecting a High-performance work system in the non-life insurance business in Thailand. In this research, in-depth interviews with executives responsible for corporate business development were conducted and a questionnaire framework was provided from the sample group. The approach to developing HPWS is based on an understanding of what business goals are, what arrangements are appropriate for achieving those goals, and how people can contribute to achieving them. This leads to an assessment of what kind of acting culture must exist. The development program needs strong leadership from above. Stakeholders - Line managers, team leaders, employees, and their representatives should be involved. This research can facilitate the management of the committee, especially in the non-life insurance business in Thailand, to understand that the organization can work successfully and have a highly effective work system. The proposed format is useful for professionals dealing with management mechanisms aimed at Organization Sustainability.

KEY WORDS: High performance work system, Organizational sustainability, Organization structure, Sustainable organization

INTRODUCTION

Human resource development (HRD) is one of the important strategies to drive the country towards that goal. The government sector has demonstrated the importance of human resources in the future by defining labor strategies in four phases together. There is a 5-year implementation period, starting from 2018 with the creation of manpower. With effective international standards (productive manpower) to labor driven by modern innovation (innovative workforce) with creativity and skills in research and development (creative workforce) until the social era work of intelligence (brain power) contribute to the management of human resources need to be adapted, accordingly. Hence, the organizational can grow strongly in a new context and have a stable and sustainable performance, resource development humans have received constant attention. Coupled with alertness of applying innovation to improve the organizational structure design, job characteristics and quality development personnel in various organizations with the main idea for increasing the productivity of human resources in accordance with the needs of the market and society Which may be the solution of human resource development at present and to missing words.

The non-life insurance business maybe undertaken only if it is established in the form of a public limited company under the law on public limited companies, with a license to undertake non-life insurance business from the Minister, with the approval of the Cabinet. In applying for a license to undertake the non-life insurance business under the first paragraph, the promoters of a company shall lodge an application with the Minister. When the Minister, with the approval of the Cabinet, grants approval for the undertaking of the non-life insurance business, the promoters shall incorporate a public limited company, and shall place a security deposit according to section 19 and maintain a capital fund according to section 27 within six months of the date of registration of the public limited company. The non-life insurance no person shall make use of the name or the description of "non-life insurance," or any other word or words having the same meaning.

LITERATURE REVIEW

High performing work system:

The role of human capital as a potential source of sustainable competitive advantage has recently been the focus of considerable interest in the academic and popular press. The current "terms of art" such as intellectual capital, Knowledge work and workers, and high-performance work systems (HPWS) all reflect a new interest in "people" as a source of competitive advantage, rather than a cost to be minimized. By extension, intellectual assets and the organizational systems that attract, develop, and retain them are emerging as significant elements in strategic decision making. This evolution in the role of human resources (HR) follows directly from the demands of rapidly changing product markets and the corresponding decline of command and control organizational structures. A skilled and motivated workforce providing the speed and flexibility required by new market imperatives has increased the strategic importance of human resource management (HRM) issues at a time when traditional sources of competitive advantage (quality, technology, economies of scale, etc.). In effect, while the markets for other sources of competitive advantage become more efficient, the subtleties surrounding the development of a high-performance

workforce remain a significant unrealized opportunity for many organizations. When the human resource management used high performance work system, this led to motivation and more commitment from employees within their firm (Datta, Guthrie, & Wright, 2005; Qiao, Khilji, & Wang, 2009). Furthermore, there are many researches in strategic human resource management that study the effects of high-performance work system on a firm's performance. Whereas, there are few research studies on the effect of high-performance work system on attitude, behavior, employee motivation, and firm performance (Appelbaum, 2000; Wu & Chaturvedi, 2009). Different labels have been used including high-performance work systems, high-commitment work systems, high-involvement work systems and high-performance human resource management. Their common thread is that achieving and sustaining high levels of performance requires a positive workplace environment and practices that develop and leverage employees' knowledge and ability to create value. While the specific practices need to be tailored to fit different industries and occupations, they generally include selection, training, mentoring, incentives, knowledge-sharing, partnership-based labor-management relations and other shared decision-making mechanisms. These practices are most effective when they are implemented together and in concert with new capital or technological investments. (MacDuffie, J.1995).

Organizations with high performance:

Management of various development agencies to advance the development of the organization to have high performance (High performance organization) or HPO called Corporate Excellence (Excellence Organization) is an organization that excels. There are plans to accommodate various conditions clearly a situation that could affect the operation of all-round view. Making it possible to achieve mission objectives more effectively meet time and quality of work is excellent acceptable.

High performance work system (HPWS) is often defined as a set of practices that differ. It is relevant for human resource management. Although research each issue to determine the performance of the system HPWS different from what the results are like the System HPWS to forecast, but the pattern of the practice often cover events related to recruitment negative selection (. Selective Recruitment) the development and ongoing training (Extensive training and development) performance evaluation, goal-oriented. (Goal-Oriented Performance Appraisal) and the return on the portfolio. (Performance-Based Compensation) (such as Fu et al., 2017; Huselid, 1995; Takeuchi et al., 2009; Way,. 2002), each of which such practices are designed to be linked together and promoted. With the aim to achieve performance excellence. To build the competitiveness of the organization. Through the development of improved efficacy. Attitude and Motivation Members of the Organization. The research in the past, most often linked to the relationship between the system and results in HPWS enterprise and individual level based on the concept RBV, which believes that a competitive advantage (Competitive Advantage) of the organization will occur. The organization has the resources feature rare. Cann't be copied perfectly and cannot be substituted by HPWS of the organization, although it is not something that contributes to competitive advantage directly, but it can provide the funding process or tool which will make it. human resources are characterized by different theorists RBV described above. Through the selection, training, development, incentives to attract and retain human resources, with a particular organization. For organizations that provide professional services. Such as accounting, law and consulting etc. HPWS system is considered an important tool to make the organization's resources. Capital Intelligence (Intellectual Capital) types of human capital has a huge influence on the success of the knowledge

society. As in the present (Fu et al., 2017) Human capital refers to the knowledge, skills and expertise. Available in-person (O'Sullivan. 1998). HPWS system to help encourage higher quality human capital through the process. From recruiting individuals with carefully selected based on their knowledge, skills, experience, personality and attitude from leading academic institutions. That is believed to produce individuals with high potential for learning (Hitt, Bierman, Shimizu, 2001). When a person has already It develops knowledge and skills to continue with the training and continuous development. To be able to respond to change. The environment inside and outside the organization. Then predispose individuals to use their knowledge and capabilities available to organizations working to their full capacity through the job evaluation and compensation based on. The target performance level is high. The results of operations of the organization over competitors. From the theoretical relationship between HPWS and the competitive advantage of the organization.

Sustainability of the organization:

The business challenges faced by many. Entail risks and opportunities, so have to adapt and develop themselves. In order to survive and grow is sustainable. Enterprise development is sustainable. "Important" to integrate and drive a material which can be done in many ways an enterprise context. In order to make the organization sustainable. Despite the concept covers three main points above them. If the organization does not have a development paradigm (Paradigm) to manage a comprehensive commitment to sustainability for participation (Stakeholder) and people in the organization. Sustainability cannot be achieved Dr. Fahri Karakas (2009) studied the paradigm shift to enterprise development (Organization Development) The proposed principles suggest that organizations in today's organizations face. intricate (complexity and Chaos), which affects the organization more uncertainty (uncertainty) who is responsible for the management of change. Karakas pointed out that in the context of the 21st century looks to be a fast moving and flowing smoothly (Dynamise. and non-linear). Focus on the big picture and the overall strength in innovation (Holistic and Quantum) by these circumstances. The role of the organization is being proposed by the basis of a new concept (New organization Development paradigm) as a) Social artist b) Ethical pioneer c) Spiritual visionary d.) creative catalyst e) Cultural Innovator f) holistic thinker and g) Community builder administrators only need to change the concept to be. Create a corporate building (mechanistic Organization) or organization materialism (Materialist Organization) of interest, but effective. Reducing costs Quality in Manufacturing Overlooked the viability of the organization or society within and outside the organization. The understanding of this paradigm. Make the management understand the employees within the organization. And relate (Stakeholder).

Key issues to be discussed at another point is communication to the people in the organization understand the direction and policies of the organization. Design and layout (Organizational alignment), it is important to set out a strategy that will be available to meet the target? Kathuria, Joshi. & Porth (2007). A research organization in order to place between the vertical (Vertical Alignment) divided by the level of responsibility in the hierarchy of jobs (Hierarchy) from the bottom of the unit to the executive level. And horizontal (Horizontal Alignment), which was arranged by Functions (Function) separate departments such as Production, Marketing, Accounting, etc., as well as the behavior of a member of the organization. (Thira family Ingawanij) which consists of. Behavior Support (Altruism), behavior, sense of duty. (Conscientiousness), behavioral tolerance. (Sportsmanship), regardless of the behavior of others (Courtesy) and habits of cooperation (Civic Virtue). The re-

search of Hutton et al (2007) also shows examples of organizations that adhere to the guidelines of sustainable enterprise development. With regard to the impact caused by the mining operations. The company's risk (risk) and chance (opportunity) by Newmont Mining Company case study at a mine in Peru. Although there are a lot of employment. Including the funding of education, health and community affairs. However, when the opening of new mines effected sources of pollution nearby villages. The protests occurred, making it impossible to drill and deliver ore to the business plan. As a result of the damage. It's based on the NPV and IRR of the financial return on a massive scale. This case study demonstrates the importance of developing an organization that everyone involved must recognize. Both opportunities and business risks. To achieve strategies and plans that will protect not only the specific business goals. It includes community and the environment at the heart of the sustainable well.

Development organization into an enterprise with social responsibility:

International Organization for Standardization. Make out the ISO 26000 guidelines in corporate social responsibility. To encourage organizations to develop itself into an enterprise with social responsibility the main seven main topics: 1) governance, 2) human rights, 3) labor practices 4) Environment 5). operating fairly 6) consumer issues 7) participation and community development. (Chawathip Jindawichan, 2010)

1) Organizational governance organizations require a systematic process (System Approach) and the structure (Structure), which can bring about the principles and practices of corporate social responsibility (Social Responsibility: SR) applicable It must be defined and structured process to decide which show to create and maintain an environment of practices, principles, including the SR system to create incentives in the economy. And non-economic aspects linked to the performance of the SR with the use of financial resources. natural Resources And resource efficiency the promotion of a fair representation of different groups in senior positions within the organization. Balancing the needs of the organization and its stakeholders. Both immediate needs and the needs that will arise in the future. The process encourages two-way communication between an organization and its stakeholders. Taking into account the interests of stakeholders.

2) Human rights organizations have a responsibility to respect human rights. Should be considered to cover the scope of the impact of the decision and the activities of the organization with employees, suppliers, business partners or competitors to influence the value chain. Surrounding communities and the next. Acceptance and respect for human rights is essential to the concept of social justice and fairness. Which is fundamental to support important social institution.

3) Labour Practices is labor practices of an organization. The inclusion of policies and practices related to the work within the organization or on behalf of the organization. By including the provision and promotion of workers' complaints and discipline process. Migration and the shift worker layoff training and development expertise, health, safety policies and practices that affect the nature of work. Especially at work and compensation the recognized organizations and representatives of the workers. And the involvement of the entire corporate group. Workers and employers on the issue of collective bargaining. Social dialogue and tripartite consultation. The labor practices of social responsibility, it is essential to justice, security and peace.

4) The Environment decisions and activities of the organization. Inevitably have an impact on the environment the organization is located at any given time. Impacts arising from activities, products and services of the organization may involve the use of natural resources. Emissions and Waste And the impact on the natural habitat, so to minimize the environmental impact. Organizations should adopt an integrated consideration of the relevant economic, social and environmental. Comprising the activities and decisions of the organization. By focusing on the prevention of pollution of air, water and waste as well as the importance of using sustainable resources. To ensure that resources are used sustainably in the future.

5) Fair Operating Practices is related to ethics in the operation between enterprises and other organizations and individuals, including the relationship between enterprises and public sector partners, suppliers, contractors, business rivals. And associations the organization is a member of the operations in this fairly comprehensive anti-corruption functions. The share of responsibility to the public at large. To compete fairly with socially responsible behavior. Its relations with other organizations. And respect for property rights. To foster positive outcomes. This can be attained only by the leaders of the organization. Including the promotion of responsible action. The scope of influence throughout the organization.

6) Consumer Issues focus is on the opportunity to support sustainable consumption. And sustainable development through the products and services of the organization. Both to educate and to provide accurate information, fair and transparent market that is fair. And compliance with the agreement that is fair to consumers and other customers. Luxurious self-catering, including a reduced risk to a minimum. The products and services. Through design, production, sales providing information, support services and recall procedures. The responsibility for maintaining consumer data are safe and confidential.

7) Community Involvement and Development should have a good relationship with the local community to take action. In such a relationship Should be placed on the participation of the community in supporting community development. The participation of the community in the form of individual or group to seek support to raise good. To strengthen the community. And reflects the strengthening of democratic values.

Development organization into an enterprise with social responsibility is linking the world to have a good conscience. Ethics And take responsibility for their own duties toward society organizations and the nation. The mission covers the economic, social, environmental, business is conducted taking into account the interests of all stakeholders of the organizations with volunteers. And requires innovations in CSR. Support to fix Economic development Social and environmental continuous This is leading to sustainable development by good governance.

Business Non-Life Insurance:

The insurance industry comprising life insurance (Life Assurance) and insurance (General or Non-Life Insurance) by the Insurance (General or Non-Life Insurance), which is the other insurance. Other non-life insurance the insurance is intended to protect against damage and loss of property. Loss of income Incur legal persons and entities death. Mutilation and medical expenses due to the accident. Includes coverage for medical expenses from health factors can be divided into 4 categories.

1. Fire (Fire Insurance), also known as general insurance, fire insurance is a type of head protection to property. Whether the property is the property of the buildings. It is used as a stock. Or inventory them. Caused by fire, lightning, explosion of gas. Household and other disasters. If the additional insured.

2. Motor insurance (Motor Insurance) is an insurance policy against corruption. Arising from the use of cars, which include the loss or damage caused by aging vehicles. Damage to property and the injury of others. Including physical injuries of the driver and passenger in the car that person. Depending on the type of coverage the insured.

3. Insurance Marine (Marine Insurance) is an insurance policy for damages against ships (Marine Hull) and property or goods in transit by sea (Marine Cargo) and also extends coverage to. the air cargo (air Cargo) and freight transport (inland transit) due to protection under international protection.

4. Insurance (Miscellaneous Insurance) insurance sector is the widest in life insurance. The insurance cover of any kind Other than fire insurance, marine insurance and shipping and insurance can be divided into 4 groups.

4.1 Personal Accident Insurance (Personal Accident Insurance), which provides protection against bodily injury of the insured. Caused by Accident Travel Accident Insurance (Travel Accident Insurance), which provides protection against bodily injury of the insured arising from an accident during travel and health insurance (Health Insurance), which provides coverage for medical expenses or fees. sickness of the health of the insured.

4.2 Liability Insurance Law (Liability Insurance) is an insurance coverage for the liability of the insured. This occurs by operation of law by the actions of the insured has caused damage to third parties. The insurer promises to pay compensation to the victim on behalf of the insured. Which is available for various types of insurance liability to the public (Public Liability Insurance) liability insurance products (Product Liability Insurance) Insurance Professional Liability (Professional Liability Insurance) insurance, personal responsibility (Personal Liability Insurance). liability insurance for directors and executive officers (Directors and Officers liability Insurance).

4.3 Insurance that provides coverage for property, insurance of all risks (All Risks Insurance) Insurance Theft (Burglary Insurance), which is protected against theft, pillage or plunder insured property insurance for money (Money Insurance). the protection against loss from theft of cash in the workplace (money in Premise) stable in after hours (money in strong room) and between. The transposition Cash (Money in Transit) insurance loyal employee (Fidelity Guarantee Insurance) Insurance Golfer (Golfer Indemnity Insurance) Insurance Compensation (Workman Compensation Insurance) Crop Insurance (Crop Insurance). Insurance Livestock and Aquaculture (Livestock and Aquaculture Insurance) Insurance horse racing (Bloodstock Insurance) trade credit insurance (trade credit Insurance).

4.4 Insurance Engineering (Engineering Insurance) is a type of insurance on the property or engineering requires sophisticated engineering, insurance, risk vertices of all types of contractors. (Contractor's All Risks Insurance) insurance, all risks of Erection (Erection All Risks Insurance) Insurance boilers (Boiler Insurance) insurance machinery damage (Machinery Breakdown Insurance) Insurance machining of the recipient. Contractor (Con-

tractor's Plant and Machinery Insurance) Insurance computers and Electronics (computer and Electronic equipment Insurance).

Insurance diverse and more complex life insurance as well. It is hard for the average person, or even those in the business. It's easy to understand insurance. However, both life insurance and non-life insurance They aim to encourage the insurance is widespread awareness and broad understanding. In order to have more insurance. The distribution of risks to the insured a wider range. To reduce the risk of many rules (Law of Large Numbers) and will eventually be returned to the insured in the form of lower premiums. Or coverage increases and bring the benefits back into the economy in the form of savings into the economy. To further expand the growth of the economy of the country.

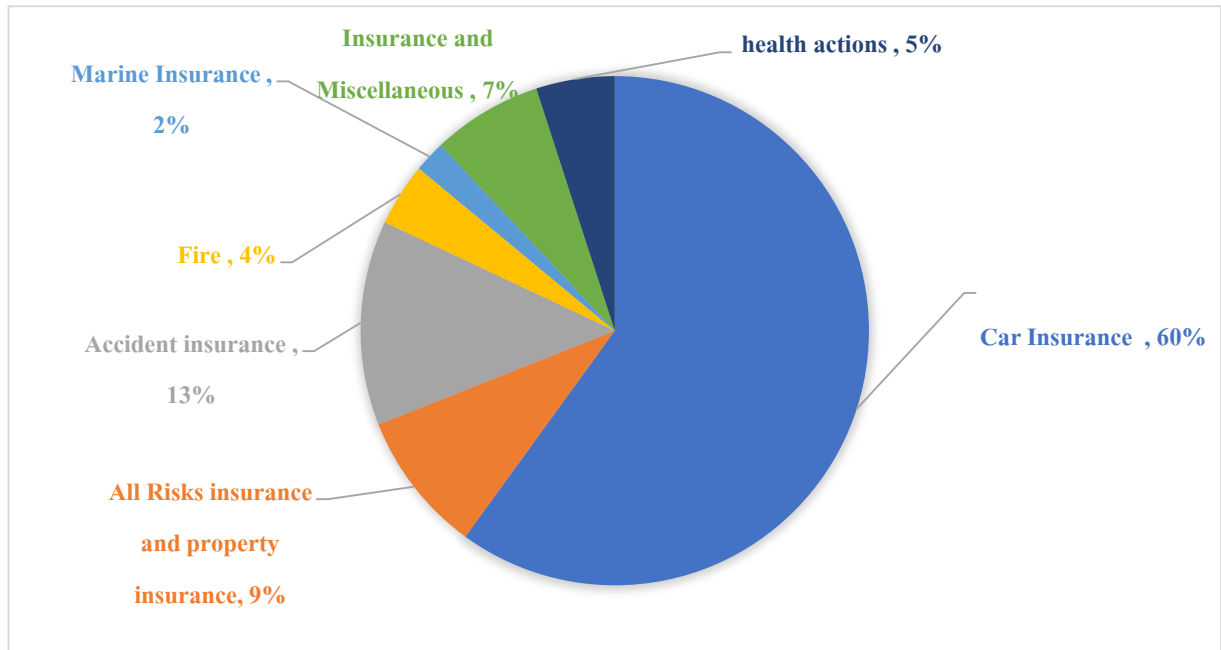
Economy to competition in the Non-Life insurance:

The economy has gradually this. It affects the growth of the life insurance business as well. In the first half of the year 2016 the life insurance business grew by only 6.1% compared to the same period last year. It is estimated that in the year 2016 with a growth rate of close to a year ago. (This is the second year - the year was 2015 - the business faced growing at less than 10.0% per year since 2007 onwards) of the economic downturn and the return of the market. money market funds and lower ongoing for many years now. Many entrepreneurs turn to focus its product offerings in the form of protection even more, as is evident from the premiums received by insurance, the health, the growth rate as high as 44. Only 2% during the period. 2 the last quarter of the year 2016 instead hopes to policyholders. Focused on high-yield savings, such as Single Premium Endowment and so on as it has in the past. (Fiscal Policy Office exchequer, 2016)

TABLE 1. Information Business Non-Life Insurance.

Detail	2016	2017	2018	2019
1. Market Structure				
- Insurance Companies	61	60	59	59
2. The number of policyholders				
3. The number of Non-Life insurance policyholders	55,745,600	59,443,694	63,917,366	62,418,660
4. Indicators developed insurance sector				
- Direct written premiums of the life insurance business (million baht)	211,813	219,649	233,990	59,351
-Investment of Insurance Companies (appraisal)	465,033	460,596	471,663	475,627
-Capital Insurance Company (appraisal)	181,930	190,155	192,705	196,547
-Insurance Penetration - Premiums in % of GDP)	1.46	1.42	1.42	1.41
-Insurance Density - Premiums per capita (in Baht)	3,212	3,300	3,503	3,528

Figure 1: The market share of Non-Life Insurance premiums in 2019.
Source: Fiscal Policy Office, 2019



Life insurance business to weather the economic downturn due to various important factors that affect the growth of direct premiums written include car sales in the country. The value of imports and exports. And housing loans of commercial banks were increased by the same operator insurance. Should take into account the needs of business and society in the digital age is bringing technology to support operations to reduce costs. Product development, diversity Add more channels. Have to adapt to keep pace with change. Bring innovation to use to differentiate from competitors. Important to take into account administration costs. Cost and price premiums reasonable, and focus on customer service. Because these are all factors that affect the insurance business from now on.

Sustainable organization and growth of private car inspection business: change of reality and new paradigm. In his article about the role of HRM in sustainable development and corporate social responsibility, Tome (2011) points out that modern society tends to hold success with continued economic growth. Challenging this passion and growth, he suggested that HRM should play an important role in ensuring that societies, organizations and individuals develop new ideas under undefined success by increasing revenue and other financial indicators. Life does not depend on increasing income levels. Human resource management (HRM) has become an increasingly important topic for research. In particular, a burgeoning body of HRM research has shown that the use of a HRM system intended to enhance employees' knowledge, abilities, and skills is associated with positive outcomes such as lower turnover (Batt, 2002), productivity increase (MacDuffie, 1995), and financial performance gains (Huselid, 1995).

Therefore, that progress in understanding the relationship between HRM and Sustainable can be achieved by taking into account all the points made so far. However, that kind of progress will be piece-meal. Consequently, real progress can only be made by looking at

the broader picture of developments in the field of strategic management, the speed of change within companies and what this implies for managing people and stakeholders. How can we achieve flexibility, agility and what is needed in terms of value alignment at the various levels of analysis? We need to look beyond practices such as staffing and the management of human resource flows. These are the kinds of hygiene factors, which if not delivered cost-effectively will lead to underperformance of the organization. A real contribution to sustainable (in its multidimensional meaning) will only happen once we approach HRM from a more holistic and balanced perspective, including part of the organizational climate and culture, aimed at bringing about the alignment HPWS between job satisfaction, OL capability, AMO and Sustainable Organization and Worker outcomes. This will be a unique blending for each organization, which is difficult to grasp by outsiders (including competitors) and thus contributes to sustained competitive advantage.

RESEARCH METHODOLOGY

The samples were based on qualitative studies. Key informants, executives of the Company executives Non-life insurance Leading in Thailand to gather insights Specialist in the work system Helping the organization to be sustainable is proven by the in 4 ways, consisting of 15 people. Sampling is not based on probability. (Improbable sampling) by selecting only (Specific sampling) (Puangrat taweerat, 2540, p. 84). scheduled sampling Yamané. (suvimol tirakanun, 2548, (p. 198-199), the size of the sample of 1,407 people, but this research uses a sample of 500 people.

Statistics used in data analysis Including descriptive statistics such as frequency, percentage, average and standard deviation. According to statistics, the reference parameter statistics including coefficient correlation and equation model for analysis AMOS program structure, qualitative research conducted by interviewing key informants, executives Life insurance 15 persons by using content analysis.

CONTRIBUTIONS AND DIRECTIONS FOR FUTURE RESEARCH

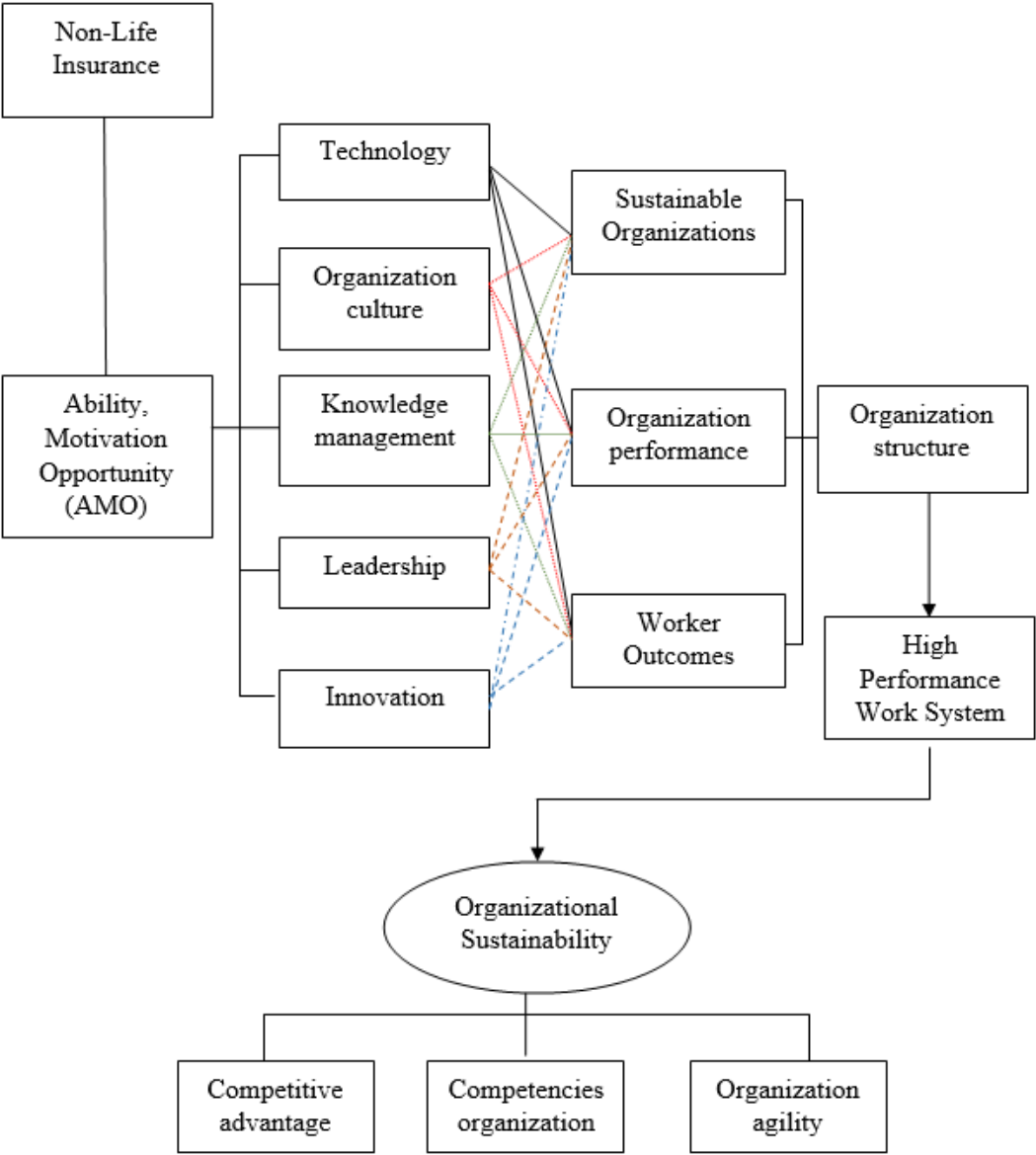
This research also helps managers to identify and identify key components. That may be important in the quality of life insurance, especially from management and operations You can get important insights from this research. This research can facilitate the management of the board of directors, especially in the non-life insurance business in Thailand, in order to understand that an organization can work successfully and have a highly efficient work system. The conceptual model in non-life insurance of a high-level work system:

Conceptual model

Throughout the period, executives are aware of the importance of personnel. Which is an important factor in business competition but does not find anything that can indicate that the insurance company in the eastern region Has promoted the organization to be a highly efficient and sustainable organization With systematic management such as environment management Knowledge management, technology, organization culture Operational effi-

ciency, innovation, etc. that will affect the personnel to be an organization continuously Therefore, the researcher aims to conduct research on "the management of the system to high performance to increase the sustainability of the organization: non-life insurance"

Figure 2: Conceptual model.



1. Organization structure is the basic form that every organization needs to build to be strong. The management gave the opinion that before creating the organization structure Must look at many factors such as what our goal is, the target market, competitive envi-
 ronment, economy, environment, society and politics, how is it? Then the poles can ar-
 range to organize the organizational structure to be suitable for the market conditions or
 meet the target. That is to say, planning should be planned first. Manpower arrangement or
 organizational structure to be most effective and appropriate.

2. Technology is knowledge, tools, techniques. And the actions used to transform the inputs of an organization into products but some executives Gave an opinion on the good technology quality Depends on use by giving advice that specific technology training should be to maximize the efficiency of working with technology.

3. Organization culture put a lot of emphasis on organizational culture because the organizational culture Is the foundation that has been around for a long time in which each organization has different cultures from recruitment, development, training and evaluation. In addition, the Code of Conduct has been prepared and delivered for all employees. To be a guideline for performing duties in accordance with the vision and mission the core values that the company aims for in compliance with laws and regulations for the treatment of all stakeholders, including employees, customers, shareholders, business partners, competitors, society and the environment, and company assets.

4. Knowledge management the executives commented that knowledge management is training, various forms of coaching, and a form to develop the potential of employees. To match the goals of the organization the organization development is still committed to creating the organization to be stable and sustainable. By focusing on quality management throughout the organization by managing the organization's knowledge systematically and promoting the efficient use of information.

5. Leadership most executives agree that good and quality leadership is Leaders that come from work experience Courage And has the ability to control people Leadership is something that every executive should have and every organization will be able to achieve or not. It depends on the leader.

6. Ability Motivation Opportunity (AMO) Promote ability promote motivation Training and development Evaluation of work and teamwork and characteristics of work promote opportunities teamwork and job characteristics, empowerment, and employee involvement and challenges / job independence.

7. Innovation most executives commented that Innovation is the key to business development by using technology to help develop. And lead to the acquisition of new products and services, including management systems within the organization All of this to create a competitive advantage.

8. Competitive advantage competitive advantage consisting of market share customer relations Innovation and community and social acceptance.

9. Competencies organization the core competencies of the organization which consist of technology in knowledge management culture and leadership Influence on the organization.

10. The agility of the organization consists of responsiveness, speed, performance and flexibility / adaptation.

CONCLUSION

The approach to developing an HPWS is based on an understanding of what the goals of the business are, what work arrangements are appropriate to the attainment of those goals, and how people can contribute to their achievement. This leads to an assessment of what type of performance culture is required.

The development programmed requires strong leadership from the top. Stakeholders-line managers, team leaders, employees, and their representatives should be involved as much as possible through surveys, focus groups, and workshops.

The management of the system to high performance to increase the sustainability of the organization: non-life insurance. this research study is as follows: 1) To study the internal factors that influence the organization of the high-performance work system to Increase organizational sustainability. 2) To study the influence of each factor affecting the high-performance organization of non-life insurance. 3) In order to present a system model that is highly effective to increase the sustainability of insurance against the lost organization. This research is descriptive research using executives, executives, and heads of employees responsible for the development of the organization to become an organization with high efficiency. Of non-life insurance companies in the east. And conducting research in accordance with the steps in 3 steps, namely the preparation of a research project Conducting research and research reporting In which the process of conducting the research Divided into 5 sub-steps: Step 1: Synthesis of concepts, theories, and research related to high-performing organizational forms To increase the sustainability of the organization: non-life insurance, step 2: create and develop tools for studying the organization to be highly effective in order to increase the sustainability of the organization: non-life insurance, step 3, data collection, step 4, data analysis and step Part 5 Conclusion of research findings Discussions and recommendations. The statistics used in the research were Content synthesis Basic statistics for data analysis consists of 1) frequency 2) percentage 3) mean 4) standard deviation For classifying variables using analytical techniques factor analysis by exploratory factor analysis using Principal Component Analysis (PCA) in order to obtain important variables, pattern creation by analysis of canonic correlations (Canonical correlation) and the canonical correlation of the variable set with ready-made computer programs, check the consistency of the system for high efficiency to increase the sustainability of the organization: empirical insurance considering the information from the interview Opinions and experiences of experts and experts In conformity with the findings Is an organization model with the high working potential of the system for high efficiency to increase the sustainability of the organization: non-life insurance And presenting the complete research results.

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