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THE DETERMINANTS OF PURCHASE INTENTION OF HOTEL SERVICES

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Abstract

In Thailand, tourism and hospitality industry significantly contributed to the growth Thai economy. With growing number of hotel developments, understanding the purchase intention of the customers can directly help the hotel executives to improve their service performance. This paper aims to explore the relationship of demographic factors, including other determinants, and purchase intention of hotel services in Thailand. The findings indicated that gender, income and age had impacts on the purchase intention. Therefore, the result of this study offers several business implications for hotel marketing department to focus on the right social media channel and properly target to most relevant market segmentation.

Keyword: eWOM trustworthiness, information search behavior,
purchase intention

Introduction

The internet changed the way people consume the information. Traditional advertising is shifting to digital advertising platform, which allows the customer to access to limitless information (Labrecque, Esche, Mathwick, Novak, & Hofacker, 2013). In June 2017, Worldwide internet user were 3,885,567,619 out of the total world population of 7,519,028,970 ("Internet World Stats," 2017). With 57 million of the total number of internet user in Thailand, 51 million are actively on social media in January 2018 ("We Are Social - Thailand Digital Index," 2018). Thailand Internet user in 2017 report conducted by Electronic Transactions Development Agency (ETDA) mentioned the rise of internet usage especially for social media applications with the average time spent on social media at 234 minutes per day. The most active social media platforms are Facebook (96.6%), LINE (95.8%), YouTube (97.1%), and Instagram (56%). Moreover, the research from DEI WorldWide on "The impact of social media on purchasing behavior. Engaging Consumers Online," explained that social media platforms increase brand presence and brand reputation. 70% of information searched first-happen on the social media platform, 49% made their purchase intention based on the information found on social media platforms, and 60% shared the information found on social media with their network (Kim & Ko, 2012)

Digital marketing is a tool in promoting brands, products, and service on the digital platform in order to reach to right target customer in the real-time

(Nagarathinam, 2017). Digital marketing is also considered to be another method of promoting products and service through digital platform, such as, hotel direct website, social media, email marketing, applications, and search engines; this creates a major impact to brands and businesses where it is the foremost effective and fastest tool to connect and interact with their customers ("Marketo," n.d.). Not only the digital era impact how businesses do their marketing, but it also affects the customer behavior as well. Many brands and businesses have shifted from using the traditional marketing to digital marketing to reach to their targeted customer more effectively. "Spending on digital advertising continues to rise over time. In 2016, the spending increases by 17%, reaching 9,477 million baht, and 2017 forecast is expected to increase by 24%," ("Digital Advertising Association of Thailand," 2017).

There are several research studies conducted on factor influencing customer purchase intention. The research conducted by Leung, Bai & Stahura (2015) found that customer experience on hotel social media (Facebook & Twitter) sites influence the attitude on hotel booking. The study indicated that eWOM affects customers' attitude on hotel booking. The research focuses on two social media platform; Twitter and Facebook by applying the Four Alternative Attitude-Toward-the-Ad Models in which this model does not cover the influence of eWOM trustworthiness, hotel information behavior, and purchase intention.

This study intends to examine the most influential factors on the purchase intention of consumers' perception

toward the social media of 3 - 5 star hotels in Bangkok. The social media, in this case, applies to LINE, Facebook, and Instagram. With the positive growth of tourism & hospitality sector, Bangkok now offers 909 hotels in all stars, 762 hotels contribute to 3-star to 5-star hotel. To be specific, 430 are 3-star, 241 are 4-star and 91 are 5-star. This includes international chains, local chains, and independent hotels (TripAdvisor, 2018).

Facebook becomes one of the most aggressive social media channels for hotels to make a presence of their brand among 2.1 billion active users globally on June 2017 and 57 million in Thailand ("Statista - Facebook Users by Country," 2017). Facebook ranks second of the most important influential tools for social media marketing (Peltier, 2016). Facebook becomes an engagement platform between users and brands. More than 1.8 billion people worldwide use Facebook to interact with brands, help brands to build its awareness and target the right customers that will drive up their bookings in the future (Wein, 2017). Lanz, Fischhof, & Lee (2010) claimed that hotels use Facebook to communicate and connect with their customers in five ways – 1) provide special promotions and information, 2. audience sourcing where their information will reach to the right group of people, 3. check-in at the location, 4. contest where certain type of post can go viral easily, 5. e-shopping via Facebook.

Literature reviews

Purchase intention

Leung, Law, Van Hoof, & Buhalis (2013) explains that customers' intention

made on hospitality products can be divided into three phases of travel planning process: pre-trip phase, during-the-trip phase, and post-trip phase.

Pre-trip Phase: According to Peng, Xu, & Chen (2013), it is stated that tourists' online search behaviors prior to making any decision to book are motivated from their particular needs, such as, their innovative needs, functional needs, or their artistic needs. Normally, tourists usually spend time more than 60 days on researching for hotel room prior to their traveling period and making the decision to book just prior to their arrival, which has the likelihood to come across hotel social media platforms (Leung, Law, Van Hoof, & Buhalis, 2013). Research study on Trust in Travel-Related Consumer Generated Media

During-trip Phase: User-generated content (UGC) on social media becomes a crucial source of information for travelers when looking for additional information of the destination, destination awareness and selection (Leung, Law, Van Hoof, & Buhalis, 2013). Moreover, information exchanged which included visual uploading, tagging location, or even status posting at this stage by the travelers can be concluded as an eyewitness report in real time. This kind of activities allows travelers to interact with others that can lead to information enriching of the products (Fotis, Buhalis, & Rossides, 2012). The purpose of people visited hotel's social media page is to utilize other people's experiences which also influences the attitude toward the social media page, social media experiences, and an influential source for decision making (Yoo, Gretzel, Fesenmaier, 2009).

Post-trip Phase: Travelers primary use social media to share experiences on the social network among their friends and other travelers (Fotis, Buhalis, & Rossides, 2012). From previous studies explains the three indicators that travelers used to input information on hotel social media platform; for social benefits, hedonic benefits, and functional benefits (Leung, Law, Van Hoof, & Buhalis, 2013). Moreover, the information sharing at post-trip phase can influence the whole travel activities of others where travelers will collect, evaluate, and confirm the decision-making process through social media (Fotis, Buhalis, & Rossides, 2012).

Electronic word-of-mouth (eWOM) trustworthiness

Electronic Word-of-Mouth or eWOM is referred to as an approach of modern communication to convey the information via the internet, while such information may contain either positive or negative evidences to the audience (Litvin, Goldsmith, & Pan, 2008); Leung, Bai, & Stahura, 2015) and Mishra & Satish, 2016).

The perception of eWOM trustworthiness can be examined by the credibility of the source and the communication source of consumer-generated reviews. Furthermore, the rating of a particular review can influence how people perceived the trustworthiness of the information (Wu & Lin, 2017).

Information search behaviors

According to Wilson (2000), "Information search behavior is the 'micro-level' of behavior employed by the searcher in interacting with information systems of all kinds." By seeking for information or activities to obtain and utilize information, a customer may interact with information sources such as computer-based system, newspapers, or books (Wilson, 2000).

Ramkissoon & Uysal, (2011); Fodness & Murray (1997) defines "tourist information search behavior as a process where travelers make use of various amount and types of information sources to facilitate trip planning." Ramkissoon & Uysal, (2011) describes information search for tourists is the first process where customers gather the amount of information and influence their decision-making process. According to Peng, Xu, & Chen (2013), it is stated that online search behaviors of tourists before making the decision to book are motivated from their particular needs such as their innovative needs, functional needs or their artistic needs. Furthermore, tourists search for information related to hotels, airports, casinos, beaches and map most frequently. Normally, tourists usually spend time on researching for hotel room prior to their traveling time in more than 60 days and make the decision to book just prior to their arrival (Peng, Xu, & Chen, 2013). Customers' experience while searching for destination and accommodation website also influence their behavior and decision making in relation to the length of stay and the number of attractions visited (Ramkissoon & Uysal, 2011).

In this study, information search behavior means the activity to obtain or

gather information to fulfill the understanding from the lack of knowledge. Customers usually gather information from the search engines.

Research method

This study adopts the 'quantitative approach' by distributing questionnaires as a tool to collected data. The questionnaires separated into three sections including general questions, identified factors affecting level of satisfaction towards social media and demographics questions. The questionnaires were distributed to both online and offline to group of people who engaged with hotel social media platform. The data was collected from both male and female who live in Bangkok and who are actively on social media platforms, which includes LINE, Facebook, and Instagram and those who interact with hotel social media accounts.

Data analysis

This study utilizes the descriptive statistics and inferential statistics. Trochim (2001) explains that descriptive statistics provide simple summaries of the sample and the measure. It is simply for describing the quantitative information. Inferential statistics is used to investigate the study models and examine the hypotheses (Trochim, 2001). All data collected was tested and analyzed through SPSS (Statistical Package for the Social Sciences) for an efficiently results. The reliability was tested for acceptable value of each items. Independent sample t-test is commonly used to determine the difference between two samples. An ANOVA test is used to

examine the difference with two groups or more than two group of variables.

With reliability test, all the factors, ranging from 0.765 to 0.917, indicated acceptable levels because they are higher than the baseline of Cronbach's alpha greater than 0.6.

Results of study

Data collected from total of 403 respondents. The result of this study was analyzed by SPSS and showed the following results

Total respondent was 403. Total of 232 of respondents (57.6%) were female and the remaining 171 (42.4%) were male. Respondents of age between 31-40 has the highest frequency with total of 167. Follow by age between 20 -30 total of 163 frequency, age between 41 - 50 of 62 frequency, and age of 51 or more with 11 frequency. Regarding to the monthly income level of respondents. The highest income range is THB 35,001 - THB 55,000 with 167 respondents (41.4%). Followed by income between THB 15,000 - THB 35,000 at 152 respondents (37.7%), 75 respondents (18.6%) of income more than THB 55,000, and the lowest group is income less than THB 15,000 at 9 frequency (2.2%). Most of the respondents (75.9%) were an employee in private sector. Whereas, 17.9% of the respondents worked as a government official and other (business owner) were 5% and 5% were unemployed. Most of the respondents 70% were educated up to bachelor's degree level. Lesser number of respondents in master's degree level or higher at 25.6%. Only 4.5% were educated up to high school diploma.

Table 1 Social media usage frequency

	Frequency	Percent
Facebook	4	1.0
Facebook, Instagram	4	1.0
Facebook, Instagram, Line	195	48.4
Facebook, Instagram, Line,	1	.2
Facebook, Instagram, Line, Pantip	3	.7
Facebook, Instagram, Line, twitter	3	.7
Facebook, Instagram, Line, Twitter	70	17.4
Facebook, Line	108	26.8
Facebook, Line, Instagram	1	.2
Facebook, Line, Twitter	2	.5
Instagram, Line	6	1.5
Instagram, Line, Twitter	1	.2
Line	4	1.0
Line, Twitter	1	.2
Total	403	100.0

From table 1 shows that a large number of respondents 48% were an active users of all three social media platform (Facebook, Line, Instagram). Followed by frequency of respondents who only active on two social media platform (Facebook, Line) with 26.8%. Another 17.4% were active users of four social media platform (Facebook, Line, Instagram, Twitter). Only a few numbers of respondents activated in one social media platform, only Facebook 1% and only Line 1%. This can conclude that majority of respondents are an active user in more than one social media. Therefore, the common social media platform were Facebook, Instagram, and Line among all respondents

Daily time spent on social media platform from all respondents. Most respondents 74.2% spent at more than 1 -

6 hours per day on social media platform. While 87% of respondents spent 30 minutes - 1 hour on social media and 12% of respondents spent on social media more than 6 hours a day. Another 5% of respondents only spent time on social media less than 30 minutes per day. Therefore, this can be concluded that social media platforms were constantly used daily.

Test for relationship between gender and other variables

Independent Sample T-Test and ANOVA are applied to examine the differences between independent variable (gender; male & female) towards other variables (eWOM Trustworthiness, information search behavior, and purchase intention).

Table 2 T-test for gender difference towards "I get hotel information/promotion from friends and relatives."

Information search behavior	Mean		t	Sig (2-tailed)
	Male	Female		
I get hotel information/promotion from friends and relatives.	4.56	4.88	-2.910	0.004

Table 2 shows that there is a significant difference between male and female in term of "I get hotel information/promotion from friends and relatives." As the Sig. (2-tailed) value at 0.004 which is less than 0.05. Means of male is

4.56 and female is 4.88. To concluded, female get hotel's information from their friends and relatives. As more female agree to that "I get hotel information/promotion from friends and relatives" than male.

Table 3 T-test for gender difference towards "I get hotel information/promotion from search engines."

Information search behavior	Mean		t	Sig (2-tailed)
	Male	Female		
I get hotel information/promotion from search engines.	5.32	5.61	-2.454	0.015

Table 3 shows that there is a significant difference between male and female in term of "I get hotel information/promotion from search engines." As the Sig. (2-tailed) value at 0.015 which is

less than 0.05. Means of male is 5.32 and female is 5.40. From the table above find that female get hotel information/promotion from search engines more than male.

Table 4 T-test for gender difference towards "I get hotel information/promotion from brand social media."

Information search behavior	Mean		t	Sig (2-tailed)
	Male	Female		
I get hotel information/ promotion from brand social media.	5.45	5.91	-4.191	0.000

Table 4 shows that there is a significant difference between male and female in term of "I get hotel information/promotion from brand social media." As the Sig. (2-tailed) value at

0.000 which is less than 0.05. Since the means of male is 5.45 and female is 5.91. From the table above find that female get hotel information/promotion from brand social media more than male.

Table 5 T-test for gender difference towards "I get hotel information/promotion directly from typing hotel websites."

Information search behavior	Mean		t	Sig (2-tailed)
	Male	Female		
I get hotel information/promotion directly from typing hotel websites.	5.08	5.40	-2.32	0.021

Table 5 shows that there is a significant difference between male and female in term of "I get hotel information/promotion directly from typing hotel websites." As the Sig. (2-tailed) value at 0.021 which is less than 0.05. Since the

means of male is 5.08 and female is 5.40. From the table above find that female get hotel information/ promotion directly from typing hotel websites more than male.

Table 6 T-test for gender difference towards "After reviewing the hotel social media, the likelihood of purchase this hotel is high."

Purchase intention	Mean		t	Sig (2-tailed)
	Male	Female		
After reviewing the hotel social media, the likelihood of purchase this hotel is high.	5.13	5.39	-2.269	0.024

Table 6 shows that there is a significant difference between male and female in term of "After reviewing the hotel social media, the likelihood of purchase this hotel is high." As the Sig.(2-tailed) value at 0.024 which is less than 0.05. The

means of male is 5.13 and female is 5.39. Therefore, female agreed to that "After reviewing the hotel social media, the likelihood of purchase this hotel is high." more than male.

Table 7 T-test for gender difference towards "The probability that I would consider purchasing hotel services is high"

Purchase Intention	Mean		t	Sig (2-tailed)
	Male	Female		
The probability that I would consider purchasing hotel services is high.	4.98	5.22	-2.423	0.016

Table 7 shows that there is a significant difference between male and female in term of "The probability that I would consider purchasing hotel services is high." As the Sig.(2-tailed) value at 0.016 which is less than 0.05. The means of

male is 4.98 and female is 5.22. Therefore, female is agreeing to that "The probability that I would consider purchasing hotel services is high." more than male.

Table 8 T-test for gender difference towards "If I am going to purchase the hotel services, I would consider purchasing the hotel I subscribe/like/follow on social media."

Purchase Intention	Mean		t	Sig (2-tailed)
If I am going to purchase the hotel services, I would consider purchasing the hotel I subscribe/like/ follow on social media.	Male	Female		
	5.06	5.30	-2.111	0.035

Table 8 shows that there is a significant difference between male and female in term of "The probability that I would consider purchasing hotel services is high." As the Sig.(2-tailed) value at 0.035 which is less than 0.05. The means of male is 5.30 and female is 5.06. Therefore, female is agreeing to that "If I am going to purchase the hotel services, I would consider purchasing the hotel I subscribe/like/follow on social media." more than male.

Test for relationship between demographics factors and other variables

This paper utilizes One Way ANOVA in order to compare means between salary range and age range whether it has statistically significantly on eWOM Trustworthiness, information search behavior, and purchase intention. Moreover, Post Hoc Multiple Comparison of Bonferroni is used to analyze differences between salary groups. This Post Hoc test set the significant value at 0.05.

Table 9 One Way ANOVA test result of salary toward "The information shared on social media is highly credible information for my decision-making."

Salary	N	Mean	Std. Deviation	F	Sig.
Less than THB 15,000	9	3.78	1.202	2.724	0.044
THE 15,000 - 35,000	152	4.84	.973		
THB 35,001 - 55,000	167	4.72	1.236		
More than THB 55,000	75	4.69	1.026		

Table 9 shows that there was a significant difference between salary range towards eWOM Trustworthiness in term of "The information shared on social media is highly credible information for my decision-making." As the significant value is 0.044 which is less than 0.05.

Based on Post-Hoc Bonferroni test, there are differences between salary range of less than THB 15,000 and THB 15,000 -

35,000 as their significant values is 0.033. From the mean value salary range of THB 15,000 - 35,000 agree more with the statement "The information shared on social media is highly credible information for my decision-making" than salary range less than THB 15,000. Since the mean value of THB 15,000 - 35,000 is 4.84 and salary range less than THB 15,000 is only 3.78.

Table 10 One Way ANOVA test result of salary toward “I get hotel information/promotions from brochures.”

Salary	N	Mean	Std. Deviation	F	Sig.
Less than THB 15,000	9	2.67	1.000	6.659	0.000
THE 15,000 - 35,000	152	4.00	1.410		
THB 35,001 - 55,000	167	3.58	1.573		
More than THB 55,000	75	3.21	1.318		

Table 10 shows that there was a significant difference between salary range towards hotel information search in term of “I get hotel information/promotions from brochures.” As the significant value is 0.000 which is less than 0.05.

There are differences between salary range of less than THB 15,000 and THB 15,000 - 35,000 as the significant value of 0.048. Salary range of THB 15,000 - 35,000 (mean value = 4.00) more agree with “I get hotel information/promotions

from brochures.” than salary range of less than THB 15,000 (mean value = 2.67).

Moreover, there also difference between salary range of THB 15,000 - 35,000 and more than THB 55,000 as the significant value of 0.001. Salary range of THB 15,000 - 35,000 (mean value = 4.00) more agree with “I get hotel information/promotions from brochures.” than more than THB 55,000 (mean value =3.21).

Table 11 One Way ANOVA test result of salary toward “I get hotel information/promotions from magazine, articles, and newspaper.”

Salary	N	Mean	Std. Deviation	F	Sig.
Less than THB 15,000	9	2.89	1.691	5.586	0.001
THE 15,000 - 35,000	152	4.07	1.266		
THB 35,001 - 55,000	167	4.22	1.148		
More than THB 55,000	75	3.73	1.178		

Table 11 show that there was a significant difference between salary range towards hotel information search in term of “I get hotel information/promotions from magazine, articles, and newspaper” As the significant value is 0.001 which is less than 0.05.

Based on Post-Hoc Bonferroni test, there are differences between salary range of less than THB 15,000 and THB 15,000 -

35,000 as the significant value of 0.028. Salary range of THB 15,000 - 35,000 (mean value = 4.07) more agree with “I get hotel information/promotions from magazine, articles, and newspaper.” than salary range of less than THB 15,000 (mean value = 2.89).

There also difference between salary range of less than THB 15,000 and THB 35,001 - 55,000 as the significant value of 0.009. Salary range of THB 35,001 -

55,000 (mean value = 4.22) more agree with “I get hotel information/promotions from magazine, articles, and newspaper.” than salary range of less than THB 15,000 (mean value =2.89).

Furthermore, there also difference between salary range of THB 35,001 -

55,000 and salary range of more than THB 55,000 as the significant value of 0.024. Salary range of more than THB 55,000 (mean value =4.22) more agree with “I get hotel information/promotions from magazine, articles, and newspaper.” than salary range of more than THB 55,000 (mean value = 3.73).

Table 12 One Way ANOVA test result of salary toward “My willingness to purchase the hotel service is high.”

Salary	N	Mean	Std. Deviation	F	Sig.
Less than THB 15,000	9	3.44	2.007	7.177	0.000
THE 15,000 - 35,000	152	4.88	1.158		
THB 35,001 - 55,000	167	4.82	1.168		
More than THB 55,000	75	5.25	1.079		

Table 12 show that there was a significant difference between salary range towards purchase intention in term of “My willingness to purchase the hotel service is high” As the significant value is 0.000 which is less than 0.05.

There are differences between salary range of less than THB 15,000 and THB 15,000 - 35,000 as the significant value of 0.002. Salary range of THB 15,000 - 35,000 (mean value = 4.88) more agree with “My willingness to purchase the hotel service is high” than salary range of less than THB 15,000 (mean value = 3.44).

There is also a difference between salary range of less than THB 15,000 and THB 35,001 - 55,000 as the significant value of 0.004. Salary range of THB 35,001 - 55,000 (mean value = 4.82) more agree with “My willingness to purchase the hotel service is high” than salary range of

less than THB 15,000 (mean value =3.44).

Furthermore, there is also a difference between salary range of less than THB 15,000 and salary range of more than THB 55,000 as the significant value of 0.000. Salary range of more than THB 55,000 (mean value =5.25) more agree with “My willingness to purchase the hotel service is high” than salary range of less than THB 15,000 (mean value = 3.44).

Lastly, there is a difference between salary range of THB 35,001 - 55,000 and salary range of more than THB 55,000 as the significant value at 0.049. Salary range of more than THB 55,000 (mean value =5.25) more agree with “My willingness to purchase the hotel service is high” than salary range of THB 35,001 - 55,000 (mean value = 4.82).

Table 13 One Way ANOVA test result of salary toward “If I am going to purchase the hotel services, I would consider purchasing the hotel I subscribe/like/follow on social media.”

Salary	N	Mean	Std. Deviation	F	Sig.
Less than THB 15,000	9	4.33	0.500	4.847	0.003
THE 15,000 - 35,000	152	5.16	1.124		
THB 35,001 - 55,000	167	5.12	1.080		
More than THB 55,000	75	5.56	1.165		

Table 13 show that there was a significant difference between salary range towards purchase intention in term of “If I am going to purchase the hotel services, I would consider purchasing the hotel I subscribe/like/follow on social media.” As the significant value is 0.003 which is less than 0.05.

Based on Post-Hoc Bonferroni test, there are differences between salary range of less than THB 15,000 and more than THB 55,000 as the significant value of 0.011. Salary range of more than THB 55,000 (mean value = 5.56) more agree

with “If I am going to purchase the hotel services, I would consider purchasing the hotel I subscribe/like/follow on social media.” than salary range of less than THB 15,000 (mean value = 4.33).

There also difference between salary range of THB 35,001 - 55,000 and salary range of more than THB 55,000 as the significant value of 0.026. Salary range of more than THB 55,000 (mean value = 5.56) more agree with “My willingness to purchase the hotel service is high” than salary range of less than THB 35,001 - 55,000 (mean value =5.12).

Table 14 One Way ANOVA test result of age range toward “I get hotel information/ promotions from brochures.”

Age	N	Mean	Std. Deviation	F	Sig.
20 - 30	163	3.50	1.517	2.762	0.042
31 - 40	167	3.61	1.500		
41- 50	62	4.11	1.229		
51 - more	11	3.91	1.814		

Table 14 show that there was a significant difference between age range towards hotel’s information search in term of “I get hotel information/ promotions from brochures” As the significant value is 0.042 which is less than 0.05.

Based on Post-Hoc Bonferroni test, there are differences between age range of 20 - 30 and 41 - 50 as the significant value of 0.033. Since the mean value of age 41 - 50 is 4.11 and the mean value of age 20 - 30 is 3.50. To concluded, age 41 - 50 is more agree with the following statement “I get hotel information/ promotions from brochures” than age 20 - 30.

Table 15 One Way ANOVA test result of age range toward “My willingness to purchase the hotel services is high.”

Age	N	Mean	Std. Deviation	F	Sig.
20 - 30	163	4.87	1.001	5.171	0.002
31 - 40	167	4.99	1.192		
41 - 50	62	4.92	1.452		
51 - more	11	3.55	1.695		

Table 15 show that there was a significant difference between age range towards purchase information in term of “My willingness to purchase the hotel services is high” As the significant value is 0.002 which is less than 0.05.

Based on Post-Hoc Bonferroni test, there are differences between age range of 20 - 30 and age range of 51 or more as the significant value of 0.002. Age of 20 - 30 has higher potential to purchase hotel services as age 20 - 30 (mean value = 4.87) is more agree to “My willingness to purchase the hotel services is high” than age 51 or more (mean value = 3.55).

Furthermore, there is a difference between age range of 31 - 40 and age range of 51 or more as the significant value of 0.001. Since the mean value of age 31 - 40 is 4.99 and age of 51 or more is 3.55. This can interpret that age 31 - 40 is more agree with “My willingness to purchase the hotel services is high” than age 51 or more.

Lastly, there is a difference between age range of 41 - 50 and age range of 51 or more as the significant value of 0.003. Age of 41 - 50 is more agree to “My willingness to purchase the hotel services is high” than age 51 or more” than age 51 or more. As the mean value of 41 - 50 is 4.92 and mean value of age 51 or more is 3.55.

Discussion

The profile of people who follow hotel social media. The majority tends to be female and the main respondent are aged between 31- 40. A bachelor’s degree is the educational level that most obtained. In term of the monthly income, most of the respondents tend to earn around THB 35,001 - 55,000 per month and are an employee in a private sector. Moreover, the top three social media applications used are Facebook, LINE and Instagram respectively with time spent on social media per day at the range of 1 - 6 hours.

This study aims to examine the significant difference of demographic variables on the determinants. These demographic variables included gender, age and salary level. Based on the results of this study, it is indicated that there are variations in gender for the perception toward the determinants of purchase intention, including hotel information search and purchase intention which have greater impact on female rather than male. The results indicate that there is an age variation towards hotel information search, and purchase intention. Additionally, there are variation in salary range toward all determinants.

Firstly, the results of this study shown no alignment result with Fan & Miao (2012) that eWOM effect on purchase intention has variation results in gender. Previous

studies also suggest that providing product information and consumer reviews lead to eWOM credibility. Furthermore, Fan & Miao (2012) finds that reviews, specifically by female consumers, can increase intention to purchase among other females as it creates the same understanding among gender. This is likely because male and female develop trusts in different way. Male customers likely to use adopted eWOM factors when making purchase decisions.

For the age differences, based on the results, it is shown that purchase intention has significant impact on three age level. The results are consistent with prior study in finding age differences, information search behavior and hotel purchase information. Sorce & Widrick (2005) finds that young customers tend to search for product information through online channels than older consumers. In contrast, older consumers are likely to buy more online products than younger consumers. Thus, older consumers receive the products information through offline channels. Moreover, older consumers with higher income are more likely to purchase online product (Sorce & Widrick, 2005).

On the other hand, Joines, Scherer & Scherufele (2003) argues that the information search has no significant impact on age level but has an impact on purchase intention. Search information happening on the online platform has a positive influence to motivate consumers to purchase the product. Younger consumers are significantly likely to purchase products from online searching because they tend to spend more time on online searching (Joines, Scherer & Scherufele, 2003).

Conclusion

To conclude, the research study and highlights of the key findings. In addition, the limitations of the study and recommendations for further research in the scope of purchase intention particularly in hotel industry. In conclusion, this study can achieve the study objectives that were intended to 1) to identify factors affecting purchase intention of hotel services and 2) to identify the most influential factors affecting purchase intention. The scope of study aims at 3 - 5 star hotels in Bangkok.

Research implications

Regarding academic implication, this study contributes new results concerning the relationship between all independent variables toward purchase intention in 3-5 star hotels in Bangkok context. Moreover, the result of this study also finds the differences in gender, age range and salary range on the significant variables and the purchase intention that previous studies in this context did not focus on. The findings of this study can enhance further applied research conducted in this hospitality context.

For business implications, this research study finds the differences in hotel information search towards age. Young adults tend to search for product information through social media. Older generations are also now embracing social media channel. Therefore, social media platform become the main online communication channel for many hotels, but it does not mean that hotel should be active in all of them. Hotels can limit their social media presence by defining

their target audience and their marketing budget. From the finding, it is found that most Thais are active users of three channels included Facebook, Instagram, and LINE. Each platform serves different purpose and have different type of the user demographic. For example, Instagram is a place for delivering visual storytelling where users come to view high quality visual content. Young adults tend to engage on Instagram more than other age group. Facebook becomes a core marketing channel for hotel to create an advertisement campaigns in order maximize their brand awareness and reach a wider audience. Additionally, Facebook has more potentials to generate revenue than others social media platform. LINE@ application allows hotels to directly broadcast messages to customers who are friended with the brand account. Customers who follow brands on LINE are likely to learn about new products or services. In addition, understanding the preferences and patterns of young customers towards their search behaviors can help the practitioners improve the relationship with their target customers and provide the right offers or services for their customers.

Moreover, for eWOM's trustworthiness, as found in this study, maintaining a positive eWOM can increase attention for potential customers. Even though a hotel cannot confidentially avoid the bad review but having a person to monitor the media regularly can help the hotel to

solve the problem or improve guest experiences faster. . Therefore, hotel managers should have a long term plan to develop the human resources or systems for monitoring all the reviews from their customers and provide the right solutions to solve the problems for their customers as well as to manage customer relationship and customer loyalty To conclude for hotels, it is important for hotels to conduct a social media audit in order to evaluate their social media presence comparing with competitors and evaluate the performance to see what is working and what is not.

All in all, the impact of electronic word-of-mouth is significant to the hotel performance, including supporting two-way communications with their customers and providing promotional information to attract the customers to revisit the hotels. In the competitive hotel industry, the more effective the hotels can apply their social media tools, the more profitable they can generate from the repeat customers.

Furthermore, directions for future research included the followings. Qualitative research study should conduct to understand the in-depth information about the reasons for using social media. The researchers may explore other dimensions of social media usage, including the adoption of cross-platform social media and the other factors affecting their usage, such as influences from friends and relatives.

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THE PERCEIVED RISKS AND CUSTOMER DISSATISFACTION OF ONLINE SHOPPING – A SURVEY OF THAILAND MARKET

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Abstract

This study is an investigation into how Thai online shoppers' perceptions of risk influence the level of their dissatisfaction. The purpose of this study was to identify the relationships between customer dissatisfaction and seven independent factors (all of them perceived risks): product risk, financial risk, time-loss risk, private risk, source risk, social risk, and delivery risk. This was an empirical study in which 402 Thai online users participated. Questionnaires were conducted in order to collect the primary data; this process was completed over the course of one month. During the data analysis, multiple regression was used to test each hypothesis for each perceived risk. There was an indication that customers' perceptions of product risk, financial risk, private risk, source risk, social risk and delivery risk significantly influence the level of their dissatisfaction. However, no significant relationship was found between perceived time-loss risk and customer dissatisfaction. It is argued that if Thai customers perceive online shopping to be fraught with financial risk and private risk, they are more likely to be dissatisfied with online retailers. It is therefore necessary for online marketers and retailers to understand and investigate perceptions of risk among their customers, enhance communication with customers, and improve the quality of their products and services.

Keywords: Thailand market, Bangkok market, online shopping, perceived risk, customer dissatisfaction

Introduction

During the past two decades, a revolution has occurred in marketplaces throughout the world. During the 1990s, the Internet became accessible to the general public, technology for online banking transactions evolved, and online retail websites were created. Online shopping has increasingly replaced the traditional practice of travelling to and purchasing goods in a physical retail store. However, online retail websites and transactions rely on Internet software, which may be vulnerable to hacking attacks.

Liao and Cheung (2001) have studied customers' perceptions of the risks of online purchasing. Some scholars, e.g. George (2002) and Monsuwe et al. (2004) have investigated the purchasing attitudes of online customers, while other scholars such as Abdul-Muhmin (2011) have investigated online customers' purchase and re-purchase intentions. Online shoppers are people who intend to purchase online, who browse web pages for information on specific products (Kim, 2004). Online shoppers expend effort, money and time interchanging an effort to obtain products and services that are being sold online (Chiu et al., 2009).

In Thailand, there has been a rapid development of Internet-based retail websites and an increasing number of Internet users in Thailand. The country's online environment has become one of complexity and multiformity, as well as uncertainties which that arouse dissatisfaction among customers. When online retailers fail to satisfy customers' requests and live up to their promises, they will inevitably lose customers or receive complaints from them. Richins (1983) states that firms that are failing to

retain their customers are likely to displease regular customers and will lose profits.

Perceived risk is the uncertainty associated with the outcome of a customer's purchasing decision, as viewed by the customer; it is therefore a subjective concept. Customers perceive risks differently, depending on their understanding or perception of risks, and their education background, culture, and lifestyle preferences. Some perceived risks are potential obstacles in online shopping which obstruct the development of e-commerce.

The purpose of this paper is to report on the results of a survey of perceptions of risks of online shopping by customers in Bangkok, and on how these risks influence their dissatisfaction with online shopping.

Literature review

Perceived risk

In the field of marketing research, risk comprises two components: one is uncertainty, and the other is consequence (Chen, Yan and Fan, 2015). Bauer (1960) stated that a purchase decision might have unanticipated consequences. He stated that in order to measure perceived risk, one must examine its constituent parts. Bauer was the first person to introduce perceived risk as a psychological concept, and he stated that information searching and brand loyalty are its subjective components (Bauer, 1967).

The likelihood of a customer choosing to make a purchase depends on his or her

perception of uncertainty. There are different grades of uncertainty.

Mitchell (1999) stated that consumers would prefer to avoid making mistakes than maximizing utility in their purchasing decisions.

Compared with the traditional mode of shopping 'in the high street', i.e. buying goods in brick-and-mortar physical stores, online shopping is riskier. Akaah and Korgaonkar (1988) claimed that non-store shopping customers face more perceived risks than store purchase customers. The greater the risk that the customer perceives, the less satisfied he or she will feel, and the less likely he or she will purchase or repurchase online (Pavlou, 2003). There is less retention of customers who feel more dissatisfied, and such customers are more likely to make complaints.

Academics in the field have defined eight dimensions of risk; these are described below (Jacoby and Kaplan, 1972; Jarvenpaa and Todd, 1996; Roselius, 1971; Simpson and Lakner, 1993). Some perceived risks are more prominent than others, especially in the online purchasing environment. In this study, seven types of perceived risk - performance risk, financial risk, time-loss risk, delivery risk, privacy risk, social risk and source risk - were designated as the independent variables in this study:

Perceived product risk

Perceived product (performance) risk is defined as the probability of purchasing a product that does not carry out the benefits that were promised or expected (Kim, 2010). When customers fail to assess an online product's quality accurately, then customers might receive

a product, the quality of which does not meet their expectations, and so they will perceive a risk in association with the product (Bhatnagar et al., 2000).

Perceived financial risk

Maignan and Lukas (1997) define perceived financial risk as the probability of losing money or other resources in the purchasing process. Although online shopping continues to expand and the technology has become more mature, the customer might still feel insecure about using his or her credit card or divulging his or her private information (Pallab, 1996).

Perceived time-loss risk

Time-loss risk is the total amount of time and effort that could be wasted during the online purchasing process (Hanjun et al., 2004). This includes all instances of time-loss during a whole purchasing course, such as waiting time for goods delivery, and slow download speeds online (Hassan et al., 2006).

Perceived social risk

Social risk is defined as the probability that online shopping will affect the potential buyer's way of thinking (Hassan et al., 2006) and the disapproval from that customers' social circle if he or she uses the internet as a platform to do shopping (i.e. the decline in the customer's status in his or her social group) (Stone and Gronhaug, 1993).

Perceived privacy risk

According to Youn (2009), there may be uncertainty associated with the customer's privacy, especially when he or she is sharing personal information and the online retailer stores and

processes such information using a customer information database.

Perceived source risk

This kind of risk is based on the believability of online vendors. It is the likelihood of the customer having an uncomfortable experience in doing business with an untrustworthy online seller (McCorkle, 1990).

Perceived delivery risk

Delivery risk refers to the uncertainties associated with delivery of the goods, and protection of goods during transit (risk of damage to the products); there is also the risk of goods being delivered to the wrong location (Yu et al., 2007). Claudia (2012) mentioned that many customers worry about delivery companies not delivering a product at an agreed time, or that a product might be damaged on arrival.

Customer (dis)satisfaction

Customer retention and the retainability of retailers are critically influenced by customer satisfaction (Caru and Cufini, 1999; Anderson and Mittal, 2000). Satisfaction is a changeable and unstable process as it can be changed by the level of quality of a service/product provided by a retailer (Fournier and Mick, 1999; Veloutsou et al., 2005). Giese and Cote (2007) state that a customer's sense of satisfaction with a product is first triggered when the customer comes into contact with that product.

Some aspects of a service or product might not necessarily invoke a feeling of satisfaction within a customer; however, if the product fails in terms of these aspects, the customer might be left

feeling dissatisfied. Contrarywise, some aspects of a service or product do invoke a feeling of satisfaction within a customer; however, if the product fails in terms of those aspects, the customer might still be content.

As Johnston (1995) stated, although customers might use a service or product in the same way, the outcome (in terms of their feeling satisfied or dissatisfied) vary from person to person.

The relationship between perceived risk and customer (dis) satisfaction

Wood and Scheer (1996) claimed that there is an inverse relationship between purchase probability and perceived risk. By reducing risk, retailers might be able to entice more customers to buy more frequently. On a similar note, Mitchell (1999) expounded that perceived risk is inversely proportional to purchase tendency. Perceived risk is a subjective judgment, and the emotions regarding risk are always negative as they are feelings of anxiety that can erase feelings of satisfaction (Johnson et al., 2008). So there is a connection between perceived risk and negative purchasing-related emotions that can impact upon the consumers' sense of satisfaction (Chaudhuri, 1997). In this information technology era, the online customer is often wary about security, personal information disclosure and other uncertainties that would occur only in the digital environment; therefore, the customer's risk perception is increased. As mentioned, there is a relationship between purchase tendency and perceived risk: the greater the risk a

customer perceives, the less buying intention he or she has.

In this study, the models from Masoud (2013) and Dai, Forsythe and Kwon (2014) have been adapted and combined into the model shown in Figure 1 below. Masoud (2013) examined the effect of perceived risk in online shopping, and demonstrated that the customer's purchase intention decreases when his or her perception of risk increases. Dai, Forsythe and Kwon (2014) discussed the relationships between perceived risks (product risk, financial risk, and privacy risk) and online purchase intentions: they found that perceived product risk, perceived financial risk and perceived privacy risk have a negative effect on online purchase intentions.

This study commenced on the notion that each type of perceived risk can foster a sense of dissatisfaction in the customer. Seven hypotheses were posited:

Hypothesis 1 (H1): there is a direct relationship between performance risk and online shoppers' dissatisfaction.

Hypothesis 2 (H2): there is a direct relationship between financial risk and online shoppers' dissatisfaction.

Hypothesis 3 (H3): there is a direct relationship between time-loss risk and online shoppers' dissatisfaction.

Hypothesis 4 (H4): there is a direct relationship between social risk and online shoppers' dissatisfaction.

Hypothesis 5 (H5): there is a direct relationship between source risk and online shoppers' dissatisfaction.

Hypothesis 6 (H6): there is a direct relationship between privacy risk and online shoppers' dissatisfaction.

Hypothesis 7 (H7): there is a direct relationship between delivery risk and online shoppers' dissatisfaction.

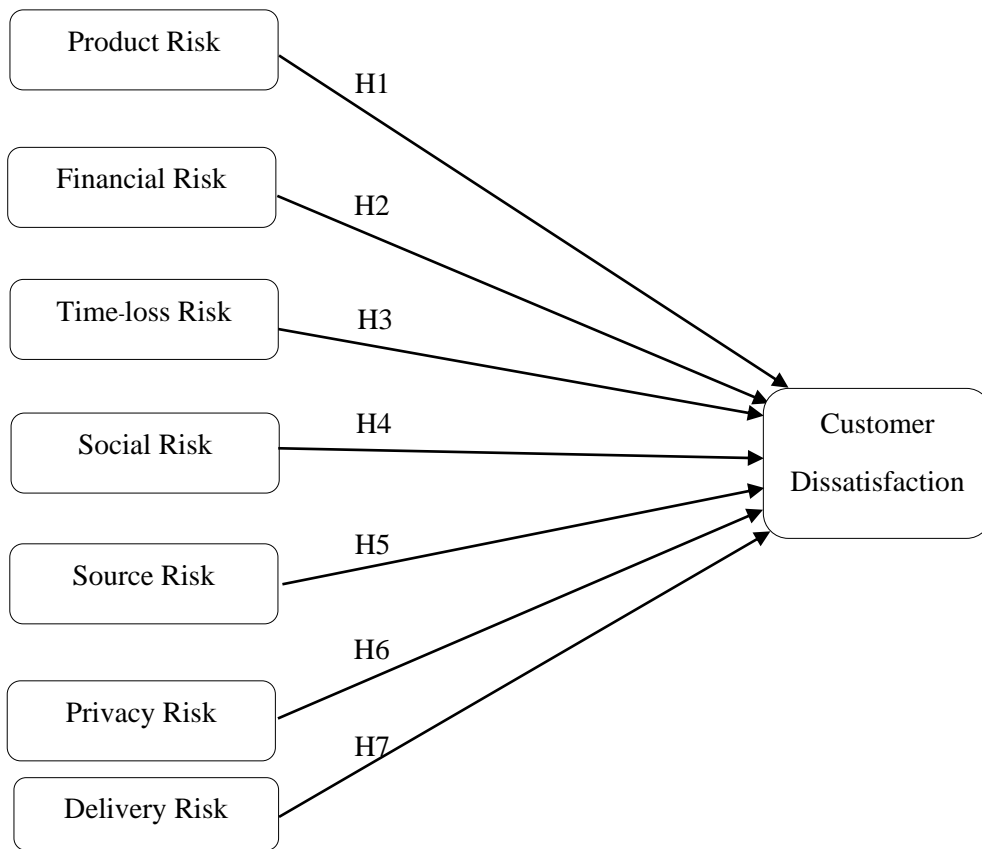


Figure 1 Proposed research model

Methodology

This was an empirical study, whereby data was collected from a sample of online shoppers via a questionnaire. The questionnaire comprised three parts:

In the first part, the respondents were asked to supply basic information including their gender, age, income and occupation. Customer shopping behavior was the focus of part two, in which the respondents were asked to specify the types of products they buy online, the

frequency at which they go online shopping, and their online shopping expenditure. In part three, the respondents were asked to evaluate their perceived risk and level of dissatisfaction.

For the first two parts, a nominal scale was used, and for the last part, a five-point Likert scale ranging from 1 to 5 (from “strongly disagree” to “strongly agree”) was used. These questionnaires were distributed to Bangkok customers with experienced of online shopping.

Reliability test

Cronbach's Alpha coefficient was used to test the reliability of the questionnaire. This is a measure of the internal reliability of questionnaire responses, an indication of the correlation among items. If the Cronbach's Alpha value is higher than 0.7, then the items in the questionnaire are deemed reliable enough for data collection to proceed. The Cronbach's Alpha values for the dimensions in this study are provided in Table 1. The questions in the questionnaire were as follows:

Product risk: there were four questions, which had been adapted from those used by Dai, Forsythe and Kwon (2014); Forsyth et al. (2006); and Hanjun et al. (2004). The questions asked such as 'not perform as expected' and 'hard to judge quality';

Financial risk: there were four questions, which had been adapted from the same sources.

Time-loss risk: there were four questions, which had been adapted from the same sources. Respondents were asked if they struggled to find the right products online, and whether or not they could communicate quickly with online sellers.

Privacy risk: there were four questions that were adapted from those used by Forsythe (2014). Respondents were asked if their personal information had been disclosed or leaked, and if they received cold calls or spam email.

Source risk: there were three questions, which were adapted from Hassan et al. (2006).

Social risk: there were three questions, which were adapted from those used by Hassan et al. (2006) and Hanjun et al. (2004). Respondents were asked if their online shopping activities met the approval of their peers.

Delivery risk: there were four questions, which were sourced from those used by Masoud (2013). Respondents were asked if products they had ordered online had been delivered later or to the wrong location.

Customer dissatisfaction: this consisted of six questions, which were adapted from questions used by Bitner et al. (1990), Bitner et al. (2000) and Srijumpa et al. (2007). Respondents were asked if they agreed with the following statements: 'Online vendor does not keep customers' personal details confidential' and 'Online vendor is unable to solve customers' problems'.

Table 1 Cronbach's Alpha reliability test results

Variables	Numbers of Items	Cronbach's Alpha
Product risk	4	0.818
Financial risk	4	0.806
Time-loss risk	4	0.850
Private risk	4	0.909
Source risk	3	0.709
Social risk	3	0.826
Delivery risk	4	0.862
Customer Dissatisfaction	6	0.899

A statistical package was used to assess the conceptual framework. Regression analysis was applied in order to test the relationship between each independent variable and the dependent variable in the framework. Multiple linear regression was applied in order to assess the seven hypotheses.

Results

The sample consisted of Bangkok online shoppers: 420 questionnaires were distributed, and 402 valid questionnaires were collected for analysis.

Demographic results

A slim majority of the respondents were women ($n = 218$, 54.2%); 184 (45.8%) were men. A majority of the respondents ($n = 195$, 48.5%) were aged between 21 and 30 years old and majority of the them ($n = 111$, 27.6%) had been educated up to under graduate level; For the occupation, the largest group of respondents ($n = 231$, 57.5%) identified themselves as employees. In terms of monthly income, the largest group of respondents ($n = 110$, 28.4%) earned between 10,001 and 20,000 Baht per month.

For the customer shopping behavior's analysis, A majority of the respondents ($n = 210$, 52.2%) said they only shopped online on average less than once per month and the biggest group of respondents ($n=164$, 40.8 %) would spend around 500-1000 Baht each time. The most frequent item that they brought and the latest purchased item were clothes.

Linear regression tests

Multitple regression was used to test the seven hypotheses, all of which were confirmed, except for the relationship between time-loss risk and customers' dissatisfaction. The model summary is provided in Table 2 below, and multiple regression results are provided in Table 3.

The data in Table 2 reflect the extent to which all the forms of perceived risk influence customers' dissatisfaction. R is the correlation coefficient between perceived risks and dissatisfaction; this value was 0.600, hence there was a reasonably strong, positive relationship. The R Square value was 0.360: therefore, 36% of the variation in dissatisfaction was attributed to all the perceived risks. The adjusted R Square value was 0.348; therefore, 34.8% of the variability in dissatisfaction could be accounted for by the model.

Detailed results for each variable are provided in Table 3: product risk ($\beta=0.117$, $t\text{-value}=2.340$, $p=0.020$), financial risk ($\beta=0.196$, $t\text{-value}=3.575$, $p=0.000$), privacy risk ($\beta=0.213$, $t\text{-value}=4.430$, $p=0.000$), source risk ($\beta=0.101$, $t\text{-value}=2.287$, $p=0.023$), social risk ($\beta=0.104$, $t\text{-value}=2.185$, $p=0.029$) and delivery risk ($\beta=0.110$, $t\text{-value}=2.139$, $p=0.033$) all shared significant correlations with customers' dissatisfaction, since in each case the p value was smaller than 0.05. However, no significant relationship was found between time loss risk ($\beta=0.063$, $t\text{-value}=1.117$, $p=0.265$) and customers' dissatisfaction.

Table 2 Model summary based on multiple regression tests.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.600	0.360	0.348	0.682

F=47.280 Sig 0.000

Table 3 Analysis of the influence of product risk, financial risk, time-loss risk, privacy risk, source risk, social risk and delivery risk on customers' dissatisfaction: multiple regression analysis results.

Variable	Customer dissatisfaction (CD)					
	Unstandard coefficients (B)	Standardized coefficients (beta)	t	Sig	Collinearity statistics (Tolerance)	Collinearity Statistics (VIF)
(Constant)	0.269		1.214	0.225		
Product risk	0.128	0.117	2.340	0.020*	0.645	1.552
Financial risk	0.215	0.196	3.575	0.000*	0.539	1.855
Time-loss	0.056	0.063	1.117	0.265	0.517	1.934
Private risk	0.190	0.213	4.430	0.000*	0.701	1.426
Source risk	0.102	0.101	2.287	0.023*	0.835	1.198
Social risk	0.083	0.104	2.185	0.029*	0.715	1.398
Delivery risk	0.108	0.110	2.139	0.033*	0.610	1.638

Note: *Significant level at 0.05

Discussion and implications for online retailers

Product risk

The result of the H1 test is consistent with findings by other researchers. Customers who perceive product risk might be discouraged from shopping online (Javadi et al., 2012, Hanjun et al., 2004 and Forsythe et al., 2006). The greater the perceived product risk, the more dissatisfied the customer will feel (Mattila, 2001). One particular problem with online shopping is that, unlike in a physical store, a customer cannot physically touch and closely inspect an actual product itself. Therefore, if a

customer orders a product online, receives it and finds that it does not meet his/her expectations, he or she will feel even more dissatisfied than if he or she had collected the product from a physical shop.

It is essential for online retailers to improve and control the quality of their products and service; they should enable their customers to examine goods before they are purchased and delivered.

Financial risk

The findings for H2 are consistent with those by Javadi et al. (2012), Forsythe and Shi (2003) and Almousa (2011). It was found that respondents were particularly concerned about credit card



number security when shopping online in Thailand.

Another concern expressed by respondents was pricing. Online retailers should set reasonable prices, or improve product and service quality so as to justify the high prices they charge. They should ensure that their payment systems are secure; otherwise, customers will become more apprehensive about card security, and customer satisfaction will decrease.

Time-loss risk

No significant relationship was found between time-loss risk and customers' dissatisfaction in this study. This finding contrasts with Naivi's (2004) argument that online shoppers are dissatisfied when the online shopping process (including product delivery) is unnecessarily time-consuming and delays occur. Interestingly, Masoud (2013) also found no significant relationship between these two variables.

The reasons why no significant relationship was found could be speculated. Perhaps it is because the lives of Thai people proceed at a relatively slow pace, and they do not mind a slow online shopping experience. Or perhaps the Internet network in Bangkok allows for high-speed surfing, and the respondents were not concerned about time-loss risk.

Nevertheless, customers are likely to become dissatisfied with slow download speeds and delayed deliveries. Online retailers should ensure that their online retail web pages can be downloaded quickly and competently, and they should be able to communicate

effectively with customers who are ordering products or are waiting for products to be delivered.

Privacy risk

The results for H4 reflect the arguments of Aldas-Manzano et al. (2011), who defined the relationship between perceived privacy (security) risk and satisfaction, and claimed that a higher level of perceived risk leads to lower satisfaction. There is much concern among customers over the risk of their personal and bank card information being hacked or leaked during online shopping activities (Tasi and Yeh, 2010). Many respondents worried that online retailers might illegally sell or share customers' personal information.

Online companies gather and exploit customer information: this is known as data mining, whereby marketers gauge their customers' preferences so that they can run ads, each of which is targeted at specific customers. There is concern among customers that personal information might be leaked, especially during virtual transactions. The customer might easily perceive this kind of risk and feel dissatisfied. Rumours abound of online retailers gathering inessential information from customers or selling customer information to third parties. Online retailers also need to ensure that their websites are protected by the latest firewalls so that they are not vulnerable to hacking attacks.

Source risk

Naiyi (2004) identified source risk as one of the important factors that managers of

online retail businesses need to consider when they plan an online marketing strategy, if they are to reduce customers' perceptions of risk and make them feel satisfied. The reason why hypothesis H5 was proved might be that Thai online shoppers are more concerned about the trustworthiness of online retailers. This could be because many Thai online sellers lack appropriate certification in terms of selling goods online, and because poor communication exists between them and their customers; these result in a loss of customer lost. Another problem might be that there is insufficient regulation of online vendors in Thailand. All online retailers and their owners should be required to provide specific details about their stores and company information, including owners' names, and an address (headquarters) of the company's physical head offices.

Social risk

In this study, social risk was also found to be a significant determining factor of customer dissatisfaction. In Bangkok, online shopping is a contentious matter; online shoppers are wary of their peers' opinions (Almousa, 2011). In Thailand, people attach great important to their social circle. Criticisms among friends can affect their decision-making as well as their satisfaction towards a certain service or product. It may be that online retailers in Thailand need to run more marketing campaigns and try to inform Thai citizens about the convenience and other merits of shopping online.

Delivery risk

Hypothesis H7 was proved in this study, which relates to the findings of Masoud (2013). However, this study was conducted in a considerably different geographical setting. Thailand's delivery services are less developed than those in China and the United States. Delivery is a critical link in the retail supply chain, and the efficiency of delivery will influence customers' perception of risk.

Online retailers should always select and contract delivery companies carefully. They should only enter into cooperation with companies with a good reputation of highly efficient delivery. Delivery companies should be able to confirm that the mailing addresses and telephone numbers of customers are correct, and they should be able to trace deliveries to check that customers have received their products.

Limitations and recommendations for future studies

In this study, six of the seven hypotheses on the relationships between each kind of perceived risk and customers' dissatisfaction were proven on the basis of answers provided by 402 respondents in Bangkok, and on regression analyses thereof. There were four limitations to this study:

Firstly, only the perceptions of online shopping customers were considered. The perceptions of other kinds of customers, and the relationships between their perceptions of risk and dissatisfaction might be different. The perceptions of risk by customers in the tourism industry, buyers of luxury goods,

and medical patients should be investigated separately.

Secondly, the variables considered in this study are not exhaustive. There are several other factors that can influence customer dissatisfaction. Other independent variables worthy of investigation include customer's expectations, trust, and attitude.

Finally, this study was limited to a fairly small sample of respondents who were resident in Bangkok, and the findings in this study cannot be applied to online shoppers in other Thai cities such as Phuket, Chiang Mai or Khon Kaen.

Conclusion

This paper is a study on the relationships between seven perceived risks of online shopping and dissatisfaction among a sample of Thai online shoppers. Direct relationships were found between dissatisfaction and six perceived risks: product risk, financial risk, privacy risk, source risk, social risk and delivery risk. There strongest influencing factors were perceptions of financial risk and privacy risk. However, a direct relationship between time-loss risk and dissatisfaction was not proven.

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THE INFLUENCE OF STRATEGIC ORIENTATION ON SME EXPORT SUCCESS: AN INVESTIGATION ON SUCCESS FACTORS OF SME EXPORTERS IN MYANMAR THROUGH PLSNC MODEL

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Abstract

The integration of ASEAN Economic Community (AEC) in 2016 raises an imperative concern with the readiness in entering into AEC successfully. Considering the important role of SMEs in Myanmar economy, in which Myanmar is new emerging country in AEC, it needs to pay attention on enhancing the readiness and success of SME exporters. Through the development of PLSNC Model, this paper aimed primarily at investigating influence of strategic orientation on SME exporters in Myanmar and also determining the relative level of influence that each factor of strategic orientation has on export success of SME exporters in Myanmar. The PLSNC model is developed based on the literature reviews of social network orientation and proactive learning culture (PLC) model developed by other scholars. Confirmatory factor analysis and Structural Equation Model (SEM) analysis were conducted by using SPSS and AMOS analytical tools to test model fit and hypotheses. The qualified responses of 410 from respondents were selected to test hypotheses of the study. Findings are consistent with the hypotheses. Results met with objectives of the study. The value that this paper offers is a well suited model to investigate the influence of strategic orientation on SME export success, especially for developing countries. Contributions of this paper includes providing a synthesized model (PLSNC) to measure export success, investigating success factors of SME exporters to reflect and make improvements by using PLSNC model. Policy makers and exporters can utilize the findings, for SME sector development, which reveals the importance of social network orientation and relative level of influence of other lower order constructs on export success.

Keywords: small and medium enterprise, export success factors, proactive learning and social network culture, strategic orientation.

Introduction

As the role of SMEs export of respective country plays significant role, scholars and practitioners of SMEs export around the world paid more attention to the key export success factors of SMEs. Some scholars examined the effectiveness of public programs which support SMEs export (Alvarez, 2004) and other scholars emphasized on managerial aspect of SMEs export success (Makrini, 2014). There are so many factors contributing to the success of SMEs export and the identified success factors presented by various scholars, based on different locations, industries, and aspects, have differences and level of the influence of identified factors on the SMEs export success are also varied. For example, the constructs such as market orientation, learning orientation, entrepreneurial orientation and social networking orientation have been used by several of scholars in previous literatures (Javalgi, Todd and Granot, 2011; Gnitzzy, Baker and Grinstein, 2014; Keskin, 2006; Ellis, 2000).

However, those specific investigations could not offer holistic approach in investigating factors influencing export success. This study fills the gap by developing an all inclusive higher order construct (PLSNC) and contributes a better framework in the field of investigating export success factors.

The theoretical background of this study mainly based on social network theory (guanxi) (Davies et al., 1995; Buttery and Wong, 1999; Park and Luo, 2001; Holmlund & Kock, 1998; Pablos, 2005; Ruzzier et al., 2006) and proactive learning culture. Proactive learning culture construct is a higher order

construct consists of three lower constructs such as market orientation, learning orientation, and entrepreneurial orientation (Gnizy, Baker, & Grinstein, 2014). Social network orientation includes building friendship, reciprocating favors, and creating trust among contracting partners and new contacts (Leung and Wong, 2001). PLSNC is a higher order construction of PLC construct and social network orientation construct because some studies have proven that social networking is really important for export success of small firms (Holmlund & Kock, 1998; Pablos, 2005; Ruzzier et al., 2006). The rationale is that conceptual framework of the study can fill the gaps what both main theories lack and utilizes merits of each theory.

The investigation on export success factors of SMEs in Myanmar was carried out in this study to have a deeper understanding of the SME exporters in Myanmar and factors contribution to their export success. The results from the investigation can be supportive in setting a solid framework for measuring the effectiveness and efficiency of SMEs exporters, SMEs support programs, and SMEs related policy matters.

Literature review

Export performance

Louter, Ouwerkerk, and Bakker (1991) explained that Export success could not be defined in objective terms, because perceptions of people are different. The conception of an excellent success made by one export manager could be considered as poor by another manager. Historical results, expectations and

objectives are used in evaluating certain results. That is why more than one indicator such as export/sales ratio, financial indicators, and meeting export objectives are used in measuring export success.

Milesi et al. (2007) constructed an export performance index (EPI) to identify highly dynamic and well positioned SMEs in external markets. Export SMEs in three countries were evaluated by using EPI. Rock and Ahmed (2008) identified limitations of previous researches in literature by pointing out inconsistencies. First, in the export-marketing field, there is not a well-established tradition based on previous findings and knowledge, regarding successful export activity, is fragmented (Aaby and Slater, 1989; Cavusgil and Zou, 1994). Zou, Taylor, and Osland (1998) developed a cross-national generalized export performance measure, also known as “the EXPERF Scale”, based on three dimensions such as financial export performance, strategic

export performance, and satisfaction with the export venture.

Proactive learning culture

Ginzy, Baker, & Grinstein (2014) stated that the role of strategic orientation culture in improving foreign launch success of SMEs is not known very well even though they constitute a significant portion of international trade. Proactive learning culture (PLC) or dynamic capability (DC) is a construct synthesized as a higher order construct consists of three lower constructs which are market orientation, entrepreneurial orientation, and learning orientation. The authors pointed out that PLC is specifically important to SMEs because they are vulnerable in risky foreign market launch as they have very limited market power and resources. As behavioral mediators of the impact of PLC on foreign market launch success, marketing program adaptation and local integration are examined (See also in Figure 1: PLC model).

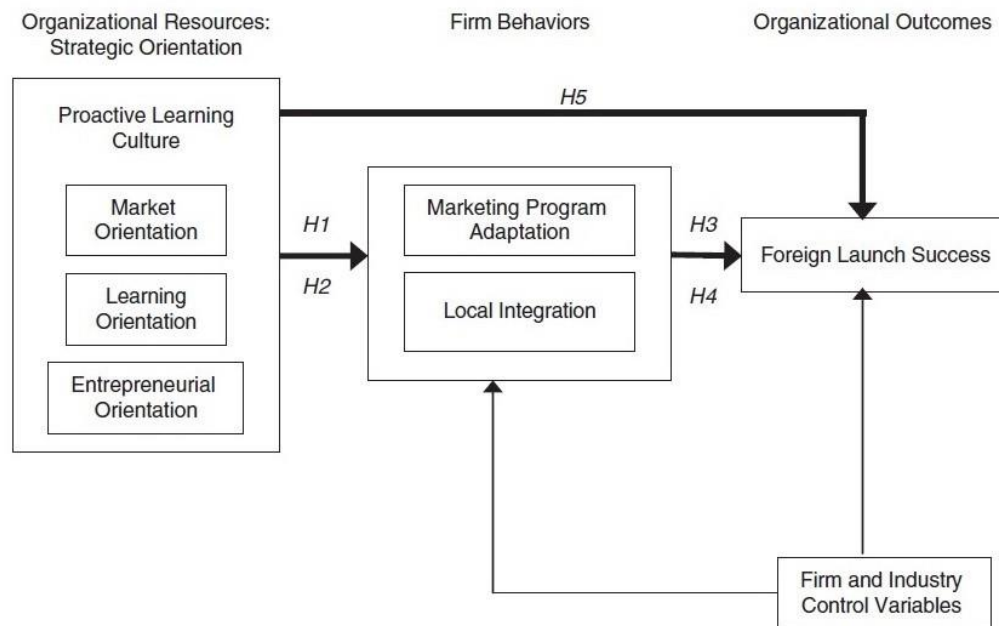


Figure 1 The conceptual model

Reviews of lower order constructs and mediating constructs of PLC model are described in the following paragraphs.

Javalgi, Todd, and Granot (2011) discussed that **market orientation** concept derived from marketing concept explaining that organization success depends on meeting and satisfying customers' needs. Creating superior customer values can grant firms sustainable competitive advantage (Narver and Salter, 1990). Findings of a previous research emphasizing on western countries showed that there is a positive relationship between market orientation and business performance (Jaworski and Kohli, 1993; Narver and Slater, 1990; Deshpande et al., 1993; Deshpande and Farley, 1996).

Miller (1983) defined entrepreneurship as "the process by which organizations renew themselves by pioneering,

innovation and risk-taking". Entrepreneurship is an exploitation of opportunity for the firm's renewal and rejuvenation (Covin and Mile, 1999). The associated traits of **entrepreneurial orientation** are risk-taking, proactiveness, and innovativeness (Atuahene-Gima and Ko, 2001; Lumpkin and Dess, 1996). Rauch et al. (2009) contended that entrepreneurial orientation is positively related to the performance of the firm. It is evident in the case of foreign launch success as an effect of entrepreneurial orientation (Zhou et al., 2007).

Learning orientation can be defined as "an organizational characteristic that reflects the value that a firm places not only on adroitly responding to changes in the environment but on constantly challenging the assumptions that frame the organization's relationship with the

environment” (Baker and Sinkula, 1999a, p.412). It is found out that strong learning orientation firms learn better, question deep-seated assumptions on fundamental operating philosophies and examine mental models guiding the decision making of the firms. Performance of the firms can be improved by the superior capabilities of the firms and demands of the external environment (Baker and Sinkula, 1999a, 2002; Liu et al., 2002; Slater and Narver 1995).

Ryans et al. (2003) stated that topics in international marketing regarding the adaptation versus standardization decision are the most widely studied. Dow (2006) highlights a need to the balance between the diversity of culture and advantages of the economies of scale. Calantone et al. (2004) and Shoham (1999) identified the requirements of successful adaptation as a keen understanding of the target market, openness for change, continuous learning, proactiveness, and risk-taking on behalf of managers. Changes in product attribute, manufacturing processes, marketing content and distribution are also associated with **marketing program adaptation**. The importance of adaptation for SMEs is demonstrated by some studies (Schilke et al., 2009).

Local integration enables firms to have access to local markets efficiently and that leads to positive effect on business performance and reducing costs of market access process (Anderson et al., 2001; Brouthers and Nakos, 2004; Eriksson et al., 1997). Keeble et al. (1998) stated about the importance of local integration to SMEs and the competitiveness that they can gain by

integrating into international markets with the aid of local partners.

The supports of local partners can be viewed as substitutable external resources for SMEs lacking internal resources.

Social network theory (Guanxi)

Social network orientation closely linked with business practices of Chinese and the concept of guanxi. Davies et al. (1995) said that the Chinese term “guanxi” is translated as “special relationship” or “connection”. Four constructs such as friendship, trust, dependence, and adaptation were developed by Buttery and Wong (1999) to reflect guanxi. Park and Luo (2001) interpreted guanxi as a concept which draws a web of connection to get favor in personal and organizational relations.

Social networks grant personal contacts in the first stage and a firm can get resources and information through social networks later on (Ellis, 2000). Several of studies proved that facilitation of social networks in cooperation of setting policies or prices, choosing modes, and hindering competition were found. That is why a better understanding and relational approach of the nature of social network are adopted as a source of competitive advantage in many situations and firms try to create, nurture and maintain social networks (Holmlund & Kock, 1998; Pablos, 2005; Ruzzier et al., 2006). Key characteristics of social networks in the previous related literature are described in the following Table 1.

Table 1 Summary of key characteristics of social networks

Key characteristics	Findings	Author
Correlated with Internalization orientation	Internalization orientation and social network orientation are significantly correlated.	Behyan (2014)
Aspects of social networks affecting financial performance	There are several of aspects such as relational, structural and resources on social networks and those are affecting the firms in terms of financial performance.	Batjargal (2003)
Quality of personal relations can produce good outcome	From the relational aspect of the social network, it is found out that mutual expectation came out from interaction and personal relations of actors and their quality can produce good economic activities and outcome.	Granovetter (1990)
Existence of relationship between interpersonal and firm factors	A model linking interpersonal and firm variables with commitment and trust was examined and developed in the relationship of international business. The important role of interpersonal and firm factors in the relationships of international business was identified.	Ahmed (2010)
An effective tool	Guanxi can be effective tool for business performance and/or for other interests.	Buttery and Wong (1999)
Relationship both in terms of personal and business is stronger in Asian business practice	The relationships in firms in Asian countries are stronger than that of western firms. The key to Asian business practice is to have a good relationship both in terms of personal and business. In the same manner, networks are needed to conduct business duties and complete transactions.	Hitt et al. (2000)
Importance of partnership and buyer-seller relationship	Increased attention of international partnership and buyer-seller relationships in exporting and international business were identified.	Cavusgil (1998); Phan et al., (2005)
Dimensions of social network	Social networks form the dimensions such as family, friendship, trust, and favor can be found in the researches and reports.	Akiko (1996); Narayan et al. (2000); Muna (1980); Cunningham and Sarayrah (1994); Sawalha (2002); Jodie and Gorrill (2007); Hutchings and Weir (2006).

Conceptual framework

There are two steps in identifying the success factors influencing successful SMEs export. First step is creating an export performance measure to know the performance of SMEs exporters (Zou, Taylor, and Osland, 1998). Second step is developing PLSNC model to identify whether there are strong relations between higher order condition (strategic orientation) and intermediary lower constructs (firms' behaviors) by employing the conceptual model of proactive learning and social network culture. The relation between strategic orientation and export success is also to be checked by applying the same conceptual model.

The PLC model has not covered social network orientation which is very important in conducting business in developing countries especially in SMEs sector. In the previous literature, relevant points were found to employ social network orientation as a variable in finding relationship with export success. For examples, social network orientation is stronger in Asian countries (Hitt et al., 2000). Significant correlation between internalization orientation and social network orientation were identified (Behyan, 2014). Batjargal (2003)

provided evidence that financial performance of firms is affected by social network.

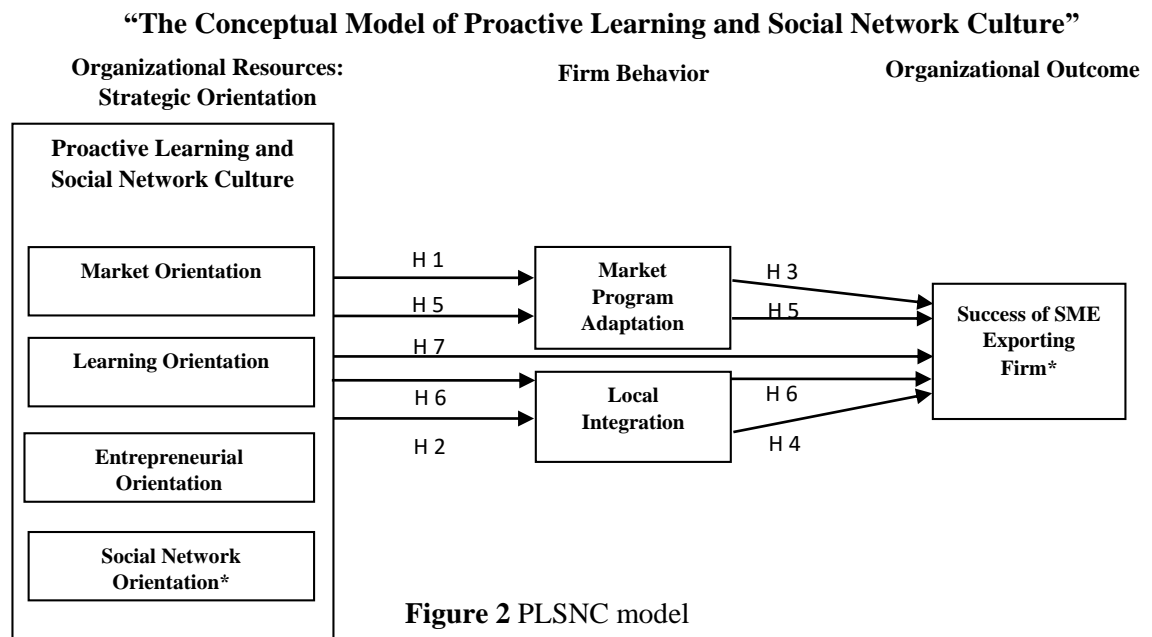
Another consideration which supports social network orientation to be included in the framework is that China is one of the major trading partners of Myanmar and business people from neighboring countries of Myanmar also conduct business with China. This shows that "Guanxi" can be a familiar concept for trading partners of Myanmar especially for those who engage in border trade.

Ginzy, Baker and Grinstein (2014) suggested that interaction between PLC and national culture should be examined. Social network orientation is relevant to be included in the framework because firms can seek expertise of local contacts regarding national culture and other contextual understanding of the business environment. Social network orientation and its relationship with export success can be found in previous studies (Behyan, 2014; Batjargal, 2003), but the inclusion of it in PLC model had not been done by other scholars yet and this study filled that gap. Therefore, PLSNC model was developed as an extended model of PLC to establish a more holistic framework. The dimensions and sub-dimensions of each construct of the model are described in table 2.

Table 2 Dimensions and sub-dimensions of each construct of the PLSNC model

Construct	Dimension(s)	References
Market Orientation	1. Acquisition of market information	Narver and Slater (1990); Kohli et al. (1993); Matsuno et al. (2002)
	2. Dissemination of market information	
Learning Orientation	1. Continuous learning	Baker and Sinkula (1999)
Entrepreneurial Orientation	1. Pursuing market opportunities	Matsuno et al (2002)
Social Network Orientation	1. Friendship	Kale et al. (2000); Wu (2008); Ring & Van de Ven (1992); Kagami (2006)
	2. Favor	Leung and Wong(2001)
	3. Trust	Ramasamy, Goh, &Yeung (2006)
Marketing Program Adaptation	1. Marketing effort	Lages and Montgomery (2004)
Local Integration	1. Connecting with local	Lages and Montgomery (2004)
Success of SME Exporting Firm	1. Financial Performance	Gnizy, Baker,& Grinstein (2014);
	2. Strategic Performance	Zou, S., Taylor, C. R. and Osland, G.E., (1998)
	3. Managerial Satisfaction	

Based on all the related literature reviews of the previous studies and dimensions of the constructs, the conceptual framework of the study was developed and configured as in the following figure (See figure 2: PLSNC model for details).


Figure 2 PLSNC model

Research methodology

The research design comprises of five main parts. First, literature review on related field of study from books, academic journals, and official publications were conducted. Second, an appropriate quantitative method was chosen. Third, primary data were collected by designing questionnaires for survey from owners or senior managements level personnel from the SME exporting firms. Fourth, pretest was conducted for the reliability and validity of the research instruments. Finally,

descriptive statistics analysis and inferential analysis were conducted based on collected data. The structure of questionnaires was developed in accordance with the conceptual framework of the study, and most of the questions were adopted or modified from previous studies conducted by other scholars (See Appendix I for details of questionnaire).

In this study, data was collected through a questionnaire of 70 items. Total of 450 questionnaires were distributed in four major cities of Myanmar as in the following table.

Table 2 Places of data collection

Yangon	150 sets
Mandalay	150 sets
Monywa	100 sets
Muse	50 sets

Distributed questionnaire were collected back from July 20 through September 18, 2015 and 410 valid questionnaires were received. Quota sampling method was employed because it reflects the composition of the sectors and business activities of the country (Zikmund, Babin, Carr, & Griffin, 2013).

Research instrument

All of the questionnaires in the study were measured by using 5-point Likert Scale. It is “a measure of attitudes designed to allow respondents to rate how strongly they agree or disagree with

carefully constructed statements, ranging from very positive to very negative attitudes towards some objects” (Zikmund, Babin, Carr, & Griffin, 2013). Pretest was conducted to assess convergent validity, discriminant validity, and reliability of constructs of the hypothesized model of the study. DeVellis (1991) said that construct reliability is the proportion of variance attributable to the true score of the latent variable. The cut-off point of Cronbach’s Alpha .7 or higher is considered reliable for a construct (Zikmund, Babin, Carr, & Griffin, 2013, p. 302). (See Table 3: Cronbach’s Alpha coefficients of Pre-test).

Table 3 Cronbach's Alpha coefficients from Pre-test

No	Variable	Amount of items	Cronbach's Alpha Value
1	Market Orientation	10	.78
2	Learning Orientation	4	.76
3	Entrepreneurial Orientation	5	.75
4	Social Network Orientation	17	.85
5	Marketing Program Adaptation	10	.78
6	Local Integration	5	.75
7	Export Success	9	.82

A questionnaire containing export success of SMEs was administered to 30 successful SME Exporters from Yangon, Mandalay, and Monywa (See Appendix II for details of the criteria of SMEs in Myanmar and demographic of respondents). They were asked to fill out the questionnaires and requested to give suggestions on any item that could be ambiguous or hard to understand or difficult to answer. Based on their comments and suggestions, some items in the questionnaires were modified or eliminated or added (Lawshe, 1975).

The researcher conducted convergent and discriminant validity of the constructs, based on the responses collected, to check the usefulness of factors of the hypothesized model of the study. Convergent validity means that the items of a specific construct should converge or share a high proportion of variance in common. Discriminant validity provides the uniqueness of a construct compared to other constructs (Hair et al., 2010).

To estimate the convergent validity among items measured, factor loadings, average variance extracted (AVE), and construct reliability are widely used. The

researcher checked the factor loadings and AVEs of the constructs of the hypothesized model. The results of the pretest indicated that factors loadings of both lower order constructs such as MPA, LI, and ES and higher order construct (PLSNC) are well above the threshold level of .7, at p-value of .001 and the AVEs of constructs are also greater than the recommended level of .5 (Hair et al., 2010).

There are three ways to test discriminant validity of constructs such as comparing the square root of average variance extracted (AVE) with the correlation between constructs, average variance extracted (AVE) with maximum shared variance (MSV), and average variance extracted (AVE) and average shared variance (ASV). The thresholds are that AVE should be higher than MSV and ASV. Similarly, the square root of AVE should be higher than inter-construct correlation. The researcher found out from the pretest that the square root of AVE of respective inter-constructs is higher than the correlation of inter-constructs of the hypothesized model of the study (Hair et al., 2010).

Data analysis

In this study, descriptive statistics analysis was conducted to explain demographic data of respondents with frequency and proportion. Agreement level of constructs of the study was also examined. Confirmatory factor analysis and structural equation model were used to test model fit and relationships between dependent variables and independent variables of the study. All the hypotheses of the study were tested by SEM solution.

Results

Correlation analysis showed that all the variables are significantly correlated with each other. The correlation between higher order construct (PLSNC) and lower order constructs such as MO, LO, EO, and SNO are highly correlated compared to other lower constructs such as MPA, LI and ES. The correlation between SNO and PLSNC stood highest (.811**) among all the correlations and which means that social network orientation carries a lot of weight in PLSNC construct. Correlation matrix of all the constructs was summarized in the Table 4.

Table 4 Correlation Matrix

	MO	LO	EO	SNO	MPA	LI	ES	PLSNC
MO	1							
LO	.429**	1						
EO	.415**	.577**	1					
SNO	.573**	.488**	.483**	1				
MPA	.470**	.391**	.371**	.508**	1			
LI	.413**	.322**	.338**	.461**	.651**	1		
ES	.447**	.358**	.323**	.464**	.658**	.563**	1	
PLSNC	.762**	.792**	.786**	.811**	.552**	.487**	.505**	1

Note1: **. Correlation is significant at the 0.01 level (2-tailed).

Note2: MO = Market Orientation; LO = Learning Orientation; EO = Entrepreneurial Orientation; SNO = Social Network Orientation; MPA = Market Program Adaptation; LI = Local Integration; ES = Export Success; PLSNC= Proactive Learning and Social Network Culture.

Confirmatory factor analysis

AMOS text output provides absolute goodness-of-fit measures: The p-value of the Chi-square (Degrees of freedom= 879) is less than .001 and which means that it is statistically significant. The Goodness-of-Fit Index (GFI), Adjusted

Goodness-of-Fit Index (AGFI), and the Comparative Fit index (CFI) stand at .900, .882, and .986, which show that the specified model fits well. The root mean square of approximation (RMSEA) is .023, which provides evidence of close fit of the model in relation to the degrees of freedom because RMSEA is less than

.05. The Tucker Lewis Index (TLI) is .984, while CFI is .986. Both belong to incremental fit indices and their values are well above the recommended threshold level of .90, which further supported the close fit of the model. The norm Chi-square (X^2/df) has a value of 1.216. This fell within the recommended range of 3 to 1 which indicated

conditional support for model fit (Carmines and McIver, 1981, page 80).

In summary, the various indices of overall goodness-of-fit for the model provided sufficient support for the results to be accredited as an acceptable representation of the hypothesized constructs and the model as a whole. (See also the Table 5 below)

Table 5 Model fit indices for confirmatory factor analysis

FIT Index	Acceptable threshold levels	Value
X²	x^2 relative to df with p-value (<.05)	Chi-square = 1.477 p-value= >.001
GFI	GFI is less than or equal to 1. A value of 1 indicates a perfect fit.	0.900
AGFI	AGFI Values is less than or equal to 1. A value of 1 indicates a perfect fit.	.882
CFI	CFI is truncated to fall in the range from 0 to 1. CFI values close to 1 indicate a very good fit.	.986
RMSEA	Values < 0.05	.023
TLI	range for TLI lies between zero and one	.984

Source: (Hair et. al., 2010)

The measures such as Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV) are commonly used to

establish validity and reliability of constructs of the specified model in respective study. The thresholds of these values are described in the following table 6.

Table 6 Thresholds of construct reliability and validity

Reliability	CR > 0.7
Convergent Validity	AVE > 0.5
Discriminant Validity	MSV < AVE ASV < AVE Inter-construct correlation < Square root of AVE

Regarding convergent validity, there are three ways such as factor loadings, average variance extracted (AVE), and construct reliability (or) composite reliability (CR) to estimate the convergent validity among items measured (Hair et al., 2010).

In the AMOS text output file, critical ratio (C.R.) represents the t-value, which is the parameter estimate divided by its standard error. Byrne (2001) mentioned that t-value greater than 1.96 or smaller than -1.96 implies statistical significance. The higher the factor loadings or

coefficients compared to their standard errors, the stronger the evidence of relationship between the observed indicators to their respective latent factors (Koufteros, 1999). Table 7, described below, shows that each item exceeds the critical ratio, all of them are above .7, at p-value .001. Therefore, it can be interpreted that all indicators employed were significantly related to their specified constructs, verifying that the relationships among the indicators and latent variables are cohesive and strong.

Table 7 Parameter estimates, standard errors, critical ratios and construct reliability

	Standardized Factor Loading	S.E.	C.R.	Construct Reliability* (CR)	
				LOC	HOC
DMI7	0.765			MO	0.816
AMI5	0.808	0.079	13.971		(PLSNC)
AMI4	0.89	0.07	16.374		
AMI3	0.791	0.072	14.591		
AMI2	0.861	0.065	17.379		
CL11	0.871	-	-	LO	
CL12	0.883	0.067	15.082		
CL13	0.878	0.069	13.906		
CL14	0.869	0.041	24.064		
PMP19	0.83	-	-	EO	
PMP18	0.872	0.049	21.399		
PMP16	0.866	0.049	21.177		
PMP15	0.836	0.049	20.115		
FV30	0.758	-	-	SNO	
TR33	0.745	0.065	15.455		
TR35	0.754	0.061	16.378		
TR36	0.731	0.065	15.312		
FS20	0.796	0.064	17.017		
FS21	0.836	0.065	17.681		
FS22	0.756	0.062	15.134		
FS23	0.786	0.065	16.407		
FS24	0.714	0.068	13.707		
FV25	0.787	0.063	16.523		
FV26	0.772	0.066	15.625		
FV28	0.745	0.063	15.647		

FV29	0.748	0.063	15.583	
MKE10	0.806	-	-	MPA
MKE9	0.804	0.056	18.939	0.946
MKE8	0.852	0.051	20.131	
MKE7	0.794	0.057	18.25	
MKE6	0.83	0.057	19.354	
MKE5	0.799	0.059	17.771	
MKE4	0.784	0.059	17.956	
MKE3	0.773	0.057	17.603	
MKE2	0.761	0.058	16.854	
MKE1	0.767	0.058	17.219	
CWL11	0.776	-	-	LI
CWL12	0.801	0.067	15.11	0.832
CWL13	0.79	0.065	15.339	
FEP3	0.778	-	-	ES
FEP2	0.735	0.064	15.354	0.887
FEP1	0.714	0.066	14.852	
SEP4	0.75	0.066	15.708	
SEP5	0.768	0.066	16.168	
SEV7	0.775	0.063	16.344	

Construct reliability* = (square of summation of factor loadings) / [(square of summation of factor loadings) + (summation of error variances)] Source: (Fornell & Larcker, 1981).

Construct reliability is the degree to which a set of two or more indicators share the measurement of a construct. Highly reliable constructs are those in which the indicators are highly inter-correlated, indicating that they are all measuring the same latent construct. The range of values for reliability is between 0 and 1. Computations for each construct are shown in the factor loadings table mentioned above. The results shown that the reliability values of the high order construct PLSNC and lower order constructs such as MPA, LI, and ES were above the recommended level of .70 (Hair et al., 2010).

Average variance extracted (AVE) is calculated as a mean variance extracted for the items loading on a construct and is a summary indicator of convergence (Fornell & Larcker, 1981). Higher variance extracted values occur when the

indicators are truly representing the latent construct. Koufteros (1999) explained that the variance extracted value is a complementary measure for the construct reliability value. Table 8, described below, shows that among the AVEs of the measures MPA has the highest value of .636, indicating that 63.6% of the variance in the specified indicators is accounted for by the construct. Each of the construct in the model had a variance extracted value that is greater than the recommended level of 50% or .5.

Discriminant validity was tested by comparing the square root of average variance extracted (AVE) with the correlation between constructs (Hair et al., 2014). As shown in following table, evidence of discriminant validity for constructs is provided by the AVE method. For instance, the highest inter-

construct correlation was found between MPA and ES and it values at .658. This is significantly lower than their individual square root of AVEs which is .720. Similarly, the values of the square roots of AVEs of all constructs were found higher than the respective values of inter-construct correlations. The results have demonstrated evidence of discriminant validity for the study constructs. (See details in the Table 8)

Maximum shared variance (MSV) of each measure was found lower than that of AVE. For example, AVE of PLSNC is .526 and the value of which is higher than that of MSV of PLSNC which is .413. In similar fashion, other constructs also

have high values of AVEs compared to their respective MSVs.

Average shared variance (ASV) of each measure was found lower than that of AVE. For instance, the value of AVE of PLSNC is .526 and which is higher than the value of ASV of PLSNC which is .384.

In summary, the overall results of the goodness-of-fit of the model and the assessment of the measurement lent substantial support to confirm the proposed model of the study. Details of comparisons of measures such as MSVs, ASVs, AVEs, inter-construct correlations, and square roots of AVEs are described in the following table 8.

Table 8 CR, AVE, MSV, ASV, Square roots of AVE and correlations of constructs

Measure	CR	AVE*	MSV	ASV	PLSNC	MPA	LI	ES
PLSNC	0.816	0.526	0.413	0.384	1.000			
MPA	0.946	0.636	0.521	0.484	<u>0.643</u>	1.000		
					.552**			
LI	0.832	0.623	0.521	0.437	<u>0.605</u>	<u>0.722</u>	1.000	
					.487**	.651**		
ES	0.887	0.568	0.518	0.438	<u>0.611</u>	<u>0.720</u>	<u>0.650</u>	1.000
					.505**	.658**	.563**	

**Average variance extracted (AVE) = (summation of squared factor loadings) / [(summation of squared factor loadings) + (summation of error variances)] Source: (Fornell & Larcker, 1981).*

*** Correlations; _ Square root of AVE*

Model adjustment and goodness of fit approach

The assessments on GOF approach for Model fit regarding SEM path analysis was conducted. AMOS text output of specified SEM analysis of the conceptual

framework of the study provided absolute goodness-of-fit measures: The p-value of the Chi-square (Degrees of freedom= 898) is at .025 meaning that it is statistically significant. The Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), and the

Comparative Fit index (CFI) stand at .907, .893, and .994, which show that the specified model fits well. The root mean square of approximation (RMSEA) is .015, which provides evidence of close fit of the model in relation to the degrees of freedom because RMSEA is less than .05. The Tucker Lewis Index (TLI) is .993, while CFI is .994. Both belong to incremental fit indices and their values are well above the recommended threshold level of .90, which further supported the close fit of the model. The

norm Chi-square (X^2/df) has a value of 1.094. This fell within the recommended range of 3 to 1 which indicated conditional support for model fit (Carmines and McIver, 1981, page 80).

In summary, the various indices of overall goodness-of-fit for the model provided sufficient support for the results to be accredited as an acceptable representation of the hypothesized constructs and the model as a whole. (See also the table 9 below)

Table 9 Model fit indices for SEM analysis

FIT Index	Acceptable threshold levels	value
X²	x ² relative to df with p-value (<.05)	Chi-square = 1.094 p-value= .025
GFI	GFI is less than or equal to 1. A value of 1 indicates a perfect fit.	0.909
AGFI	AGFI Values is less than or equal to 1. A value of 1 indicates a perfect fit.	.893
CFI	CFI is truncated to fall in the range from 0 to 1. CFI values close to 1 indicate a very good fit.	.994
RMSEA	Values < 0.05	.015
TLI	range for TLI lies between zero and one	.993

Source: (Hair et. al., 2010)

Hypothesis testing

Most of the hypotheses, H₁, H₂, H₃, and H₄, were tested based on the specified model (See details of specified model and testings in the Appendix III). The results revealed strong support for the specified model relationship (See Table of standardized regression weights). However, regarding testing hypothesis H₇, the direct effect of PLSNC on ES,

mediating variables and theirs paths were omitted to test the relationship between PLSNC and ES. The results can be seen in the following Table 10.

In testing the mediations of MPA and LI between PLSNC and ES, testing on hypothesis H₃ and H₄, separate procedures were needed to be conducted and the test results were as shown in the following Table 10.

Table 10 Model fit indices for SEM analysis

Relationship	Direct without Mediator	Direct with Mediator	Indirect with Mediator
ES←MPA←PLSNC	.615(.005)	.223 (.007)	.318(.005)
ES←LI←PLSNC	.615(.005)	.219 (.005)	.154(.009)

The results of hypothesis testing were shown in Table 11 shown as below:

Table 11 Standardized Regression Weight

Standardized Regression Weight				B	S.E.	C.R.	P
MPA	<---	PLSNC		.725	.029	13.200	***
LI	<---	PLSNC		.713	.034	11.694	***
ES	<---	MPA		.446	.064	6.322	***
ES	<---	LI		.202	.061	2.804	***
ES <---	MPA	<---	PLSNC	.318	.059	7.898	***
ES <---	LI	<---	PLSNC	.154	.028	3.280	***
ES	<---	PLSNC		.615	.028	10.489	***

Note: *** is significant at the 0.01 level (2-tailed)

S.E = Standard Error; C.R = $\beta / S.E.$; P = Significance level

In summary, the significant positive effects of proactive learning and social network culture (PLSNC) on marketing program adaptation (MPA), local integration (LI), and export success (ES) of SME exporters were found in the testing results. Similarly, the positive effects of marketing program adaptation (MPA) and local integration (LI) on export success (ES) of SME exporting firms were identified. In addition, the mediations of marketing program adaptation (MPA) and local integration (LI) provided positive effects of proactive learning and social network culture (PLSNC) on export success (ES) SME exporters in Myanmar.

Discussions

Findings of this study shed light on different levels of influences of each

construct on export success of firms in comparing and contrasting with previous studies. Studies, mostly in the United States, proved positive relationship between market orientation and business performance (Jaworski and Kohli, 1993; Narver and Slater, 1990; Deshpande et al., 1993; Deshpande and Farley, 1996). On the contrary, studies on UK companies showed the relationship was weak (Diamantopoulos and Hart 1993) and study on Saudi Arabian banks revealed that there were no support for the relationship (Bhuian, 1998). Findings from this study are in line with the results of the studies on US companies. Some studies show that entrepreneurial orientation and market orientation are complementing each other and they have impacts on export success (Georgiou et al., 2005; Hult et al., 2003; Li et al., 2008). This study also shows significant

high correlation between entrepreneurial orientation and export success and other constructs. However, among lower constructs of PLSNC, the standardized regression weight on entrepreneurial orientation construct was the lowest ($\beta = .65$) in the result output. Baker and Sinkula (1999a, 2002); Liu et al. (2002); and Slater and Narver (1995) mentioned that learning orientation has impact on performance of firms. To achieve competitive edge against rivals having superior market power and greater financial resources, learning orientation is very important for SMEs (Auito et al., 2000). In this study significant high correlations between learning orientation and other constructs were found.

In the previous literatures, significant correlation between social network orientation and internalization orientation were identified (Behyan, 2014) and financial performance of firms is affected by social network (Batjargal, 2003). One study showed that social network orientation is stronger in Asian countries (Hitt et al., 2002). Results of this study are similar to previous literatures. The level of influence of social network orientation on SME export success is the highest ($\beta = .78$) among lower order constructs of PLSNC. This indicates that social network orientation is important in making success of SME exporters.

Previous studies regarding marketing program adaptation pointed out the balance between adaptation versus standardization (Ryan et al., 2003) and some studies demonstrated the importance of adaptation for SMEs (Schilke et al., 2009). Findings from this study indicated the importance of marketing program adaptation as an

influencing factor on export success of SMEs. The construct reliability of marketing program adaptation stands .946. It was identified that high correlations of marketing program adaptation and other constructs in the model are significant. Compared to local integration, marketing program adaptation has higher impact on export success of SMEs because its regression weight is higher ($\beta = .44$). Local integration, another mediating construct, in previous studies was treated as external resources (Keeble et al., 1998) and some studies mentioned that local integration has positive effect on business performance of firms and it can reduce costs of market access process (Anderson et al., 2001; Brouthers and Nakos, 2004; Eriksson et al., 1997). This study treated local integration as the firms' ability to exploit the local integration and the construct reliability of local integration is .832. Correlations between local integration and other constructs in the model are significant and high. However, the relative level of its influence on export success of SMEs is lower than market program adaptation because its standardized regression weight is ($\beta = .21$).

In the previous literature, different measures were used to measure export success. For examples, Louter, Ouwerkerk, and Bakker (1991) used export/sales ratio, level of profitability of export activity, and relative export profitability compared to domestic sales. Zou, Taylor, and Osland (1998) employed measures such as financial achievement of export venture, strategic achievement of export venture, and managerial satisfaction on export venture to represent export success. In this study, construct reliability of export success

stands .887. Significant high correlations between export success construct and other constructs in the model were identified.

This study integrated social network orientation into PLC model. The results show that all the lower order constructs of PLSNC are highly correlated and their correlations are significant. The construct reliability of PLSNC stands .816 in the study. PLSNC has both direct effect ($\beta = .615$) on export success and indirect effect ($\beta = .21$) on export success mediated by marketing program adaptation and local integration. The standardized regression weights of the lower order constructs of PLSNC stands MO ($\beta = .72$), LO ($\beta = .66$), EO ($\beta = .65$), and SNO ($\beta = .78$). This shows that social network orientation has the highest level of influence on export success. Additionally, this evidence, standardized regression weight, proved that PLSNC construct is well suited to measure export success of SME exporters.

SMEs export success has been associated with market orientation, learning orientation, and entrepreneurial orientation to understand the effects of dynamic capability of firms on export success. Some scholars hypothesized higher order construct like proactive learning culture (PLC) and tested the relationship between PLC and export success (Gnizy, Baker, & Grinstein, 2014). There were studies focused on relationship between social network orientation and export success. Each previous research has its own merits and contributions.

However, they left rooms to be explored or for improvement. This study filled those gaps by integrating social network orientation into PLC model and PLSNC

was proven to be a well suited model for measuring export success of SMEs. In addition, Model Fit Indices of both confirmatory factory analysis and SEM analysis showed that the model is a robust one.

Contributions and limitations of the study

As an extended model of PLC (Gnizy, Baker, & Grinstein, 2014), social network orientation was incorporated into PLSNC model to measure success of SME firms. The results revealed that the effect of SNO on export success is very significant because its standardized regression weight on PLSNC construct was the highest compared to other lower order constructs such as MO, LO, and EO. Although SNO and its relationship with export success can be found in previous studies (Behyan, 2014; Batjargal, 2003), the inclusion of it in PLC model had not been done by other scholars yet and this study filled that gap. Findings of the study provide enough evidence to deem PLSNC model as a robust model to measure the success factors of the export success of SME firms especially in Myanmar.

Revealing positive significant effect of social network orientation on export success of SMEs is one of the major contributions of the study. Although similar studies had been done by other scholars previously in other regions, findings of this study provided further confirmation on the already existed theory and literature.

The last theoretical contribution of the study is that the findings of the study

reflect the perceptions of successful SME exporters in Myanmar. Export success literature about Myanmar was rarely known to most of the people and some even think that those are almost non-existent. This given situation allows the study to be perceived as a pioneer in investigating success factors influencing SME exporters in Myanmar.

The results of study can be helpful in making assessment, with PLSNC model, for the SME exporters to predict their performance in export venture. For example, lower order constructs of the PLSNC model and PLSNC model itself can be employed as success factors influencing export success of SME exporters. Consequently, SME exporters can make improvements on their market orientation, learning orientation, entrepreneurial orientation, social network orientation, and proactive learning & social network orientation for better performance of their export ventures. Policy makers can learn from the findings that learning orientation and entrepreneurial orientation of the SME exporters are relatively weak. The possible reason is that small firms can not absorb financial failure in taking risk and can not rely on public support programs to promote trade and trade finance. Consequently, they can not pursue profitable business opportunities and learning opportunities because of risk avoidance.

Three are some limitations of the study. The study only focused on SME exporters operating in Yangon, Mandalay, Muse, and Monywa. Criticisms may arise because of limited regional coverage of the study. For example, the places like Myawaddy city bordering with Thailand and Tamu city

which is quite close to India should be included in the study to gain a better balanced perspective. On the contrary, some might point out that the scope of the study is broad and it might not get results which can provide specific nature of success of SME exporters. Another issue is that the study was based on SME exporters from a range of sectors and which might yield the general results but focusing on specific industry could yield different results.

The research could not be based on financial data of the respondents because most business people want to keep their financial details secret and there is no financial database of firms. The questionnaire of the study mostly derived from previous related literature about SME export success in other countries (Maldifassi, J. O. and Caorsi, J.C., 2014). If questionnaire development was based on exploratory study of SME export success with the focus on Myanmar and exploratory factor analysis were conducted, the results could be different. Lack of or unavailability of previous literature focusing on SME export success of Myanmar also made the model and the results of the testing difficult to compare and contrast with other studies.

However, the results of analysis brought by the study can be instrumental for future research and it can be deemed as a frontier.

Recommendations for the future research

There are two main approaches to recommend for future research. In the first approach, several of modifications

on specified model in the study can be made to investigate key factors of SME export success. One way is narrowing down the scope of the study by focusing on one sector or location and conducting analysis with the model used in this study. The results could be more specific and control variables such as age of the firm, location of the firm, size of the firm, and product differentiation can be applied in doing analysis.

In the second approach, aspects such as inclusion of external factors in the model, exploring public support programs and export success of SMEs in Myanmar, and trade barriers for SME exporters can be good research directions. Effectiveness of public support programs for facilitating trade and finance, role of chambers of commerce, and macroeconomic conditions of the country can be assessed to know whether they have effect on export success (ES)

of SMEs. If both internal and external factors are incorporated to specify a model, the results would reflect a comprehensive view on export success (ES) of SMEs.

Research focusing on public support programs for facilitating trade & finance and their impacts on export success (ES) of SMEs had been previously conducted by other scholars. Similar studies in Myanmar should be done because the literature related to Myanmar focus is rarely found.

Another focus of SME export success would be investigating trade barriers for SME exporters. Understanding trade barriers for SME exporters would be helpful for policy makers and business people. Especially, people from developing countries need to have statistical indications of ways to improve policies and practices in promoting trade.

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Appendix I

Questionnaire

The purpose of this study is to learn about “**The influence of strategic orientation on SME export success: an investigation on success factors of SME exporters in Myanmar through PLSNC model**”. Your kind support by answering, completely, the questionnaire will be very helpful for the study and people who have interests in learning about SME export success literature.

Please respond to each question. The format of requested responses might vary according to the type of question. Questions may require a written answer or checking ☐ in the relevant box based on type of the question.

Part 1: Demographic

1. Location of the firm
Yangon [☐] Mandalay [☐] Muse [☐] Monywa [☐]
2. Type of ownership
Family [☐] Sole proprietorship [☐] Partnership [☐] Other [☐]
3. Type of Business
Manufacturing [☐] Trading [☐] Service [☐] Other [☐]
4. Month and Year of Establishment
(.....) Year (.....) Month
5. Amount of Capital
Up to 500 million kyats [☐] > 500 to 1,000 million kyats [☐]
> 1,000 million kyats [☐]
6. Turnover
Up to 50 million kyats [☐] >50 to 100 million kyats [☐]
> 100 to 200 million kyats [☐] >200 to 300 million kyats [☐]
> 300 million kyats [☐]
7. Number of Employees
1 to 30 [☐] 31 to 50 [☐] 51 to 60 [☐] 61 to 100 [☐]
101 to 300 [☐] 301 to 600 [☐] > 600 [☐]
8. Type of Export
Direct [☐] Indirect [☐]
9. Production Differentiation Yes [☐] No [☐]
10. Name/s of Commodities exported
.....
11. Type of Respondents Owner [☐] Manager/ In charge [☐]



From the part 2 through part 4, please indicate your perception level as a scale ranging from 1 to 5, in which by checking \checkmark in the box. Each statement is measured by using a 5-point Likert scale: 1=strongly disagree; 2=disagree; 3= neutral; 4= agree; 5=strongly agree.

Part 2: Proactive Learning and Social Network Culture (PLSNC)

Dimension	Statement (item)	1	2	3	4	5
Acquisition of market information	1. We regularly conduct research with our customers to assess the performance of our products and services.					
	2. Intelligence on our competitors is frequently collected.					
	3. Intelligence on our distribution network is frequently collected.					
	4. We frequently review the likely effect of changes in our business environment (e.g. regulation, technology) on customers.					
	5. We frequently collect and evaluate general macroeconomic information (e.g. interest rates, exchange rates, GDP, industry growth rate, inflation).					
Dissemination of market information	6. Marketing personnel in our firm/business unit frequently spend time discussing customers and preferences with other functional departments.					
	7. Our firm/business unit frequently circulates information about our markets and customers (e.g. reports, memos, newsletters).					
	8. We frequently have cross-functional meetings to discuss market trends and developments (e.g. customers, competitors, suppliers).					
	9. We frequently have interdepartmental meetings to update our knowledge of the business environment (e.g. regulation, economic trends).					
	10. New customer or market information usually disseminates quickly throughout are firm/business unit.					
Continuous learning	11. Our basic values include learning as a key to improvement.					
	12. The collective wisdom in this enterprise is that once we quit learning we endanger our future.					
	13. There is a well-expressed vision of who we are and where we are going as an enterprise.					
	14. We place a high value on open-mindedness.					



Pursuing market opportunities	15. Our firm markets new things to the market products and services.					
	16. Our firm innovate products and services before others even if that means some will fail.					
	17. Our firm initiates actions to which competitors respond.					
	18. Our firm pursues new opportunities even if that requires developing new customers and markets.					
	19. Our firm engages in bold, wide ranging acts to pursue new opportunities.					
Friendship	20. The role of relationships and personal connection between contracting firm is important.					
	21. Establishment of friendships can facilitate both formal and informal information exchanges.					
	22. Establishment of friendships a network with stable personnel to improve interpersonal relationships in the long-term.					
	23. Close relationship and good working relationship existing between partnering firms are driven by the close personal interaction.					
Favor	24. You would spend extra time on following your partner's project.					
	25. You would spend extra time on carrying out social activities with your partner.					
	26. You would give extra help to solve your partner's problem.					
	27. You would give extra high quality services or product to your partner.					
	28. You would offer extra human resources to advance co-operation.					
	29. You would offer extra discount price to your partner.					
	30. You would offer extra help to fit in with partner's need.					
	31. You would offer extra knowledge and skills to your partner.					
Trust	32. Our business partners are frank in dealing with us.					
	33. Promises made by our business partners are reliable.					



	34. Our business partners are knowledgeable about the products.					
	35. Our firm believes in the information our business partners provide us.					
Part 3: Firm Behaviors (Mediating Variables)						
Dimension	Statement (item)	1	2	3	4	5
Marketing Effort	1. We make adaptation of our size of product/ line of service to the marketing program.					
	2. We make adaptation of our product/ process design to the marketing program.					
	3. We make adaptation of our product positioning to the marketing program.					
	4. We make adaptation of our brand name and/or packaging to the marketing program.					
	5. We make adaptation of our price of product/ line of service to the marketing program.					
	6. We make adaptation of our advertising and/or sales promotion to the marketing program.					
	7. We make adaptation of our sales force structure and management to the marketing program.					
	8. We make adaptation of our upstream supply chain (parts/process suppliers) to the marketing program.					
	9. We make adaptation of our downstream supply chain (wholesalers, retailers) the marketing program.					
	10. We make adaptation of our customer service to the marketing program.					
Connecting with local	11. We rely on using or establishing local production facilities.					
	12. We rely on local distributors.					
	13. We rely on local suppliers.					
	14. We rely on a local sales force					
	15. We rely on local marketing support services (advertising, sales promotion, public relations)					



Part 4: Success or Export Performance of SME Exporting Firm						
Dimension	Statement (item)	1	2	3	4	5
Financial Export Performance	1. Our firm's export venture has been very profitable in last three years.					
	2. Our firm's export venture has generated a high volume of sales.					
	3. Our firm's export venture has achieved rapid growth.					
Strategic Export Performance	4. Our firm's export venture has improved our competitiveness.					
	5. Our firm's export venture has strengthened our strategic position					
	6. Our firm's export venture has significantly increased our market share.					
Satisfaction with Export Venture	7. Our firm's export venture has been very satisfactory					
	8. Our firm's export venture has been very successful					
	9. Our firm's export venture has fully met our expectations.					

Appendix II

SME Definitions of Myanmar

On the official website of SMEs development center established by the government of Myanmar (GOM), definition of SMEs in Myanmar is provided as in the following Table.

Table of SME Definitions of Myanmar

SME Definition according to 18.3.2015 Hluttaw confirmation(draft)			
Sr. Categories	No. of Employees	Capital (Kyats in Million)	Turn-over (Kyats in Million)
1 Small			
(a) Manufacturing sector	Up to 50	Up to 500	
(b) Labor intensive manufacturing sector	Up to 300	Up to 500	
(c) Wholesale Business	Up to 30		Up to 100
(d) Retail Business	Up to 30		Up to 50
(e) Servicing Business	Up to 30		Up to 100
(f) Except from above Business	Up to 30		Up to 50
2. Medium			
(a) Manufacturing sector	From 51-Up to 300	From 500-up to 1000	
(b) Labor intensive manufacturing sector	From 301 -Up to 600	From 500-up to 1000	
(c) Wholesale Business	From 31-Up to 60		From 100-up to 300
(d) Retail Business	From 31-Up to 60		From 50-up to 100
(e) Servicing Business	From 31-Up to 100		From 100-up to 200
(f) Except from above Business	From 31-Up to 60		From 50-up to 100

(Source: http://www.smedevelopmentcenter.gov.mm/?q=en/def_sme)

Table of Summary of Demographic Results

Demographic		Frequency	Percentage
Type of Respondent	Owner	223	54.4
	Manager/ Executive	187	45.6
Location of Firm	Yangon	150	36.6
	Mandalay	146	35.6
	Muse	20	4.9
	Monywa	94	22.9
Type of Ownership	Family	203	49.5
	Private	149	36.3
	Partnership	58	14.1
Type of Firm	Production	123	30.0
	Trading	257	62.7
	Service	30	7.3
Age of Firm	1 to 5 years	76	18.5
	>5 years to 10 years	112	27.3
	>10 to 15 years	75	18.3
	>15 to 20 years	75	18.3
	>20 to 25 years	45	11.0
	>25 to 30 years	10	2.4
	>30 to 40 years	3	.7
	>40 years	6	1.5
Capital	<500 million kyats to 500 million kyats	315	76.8
	>500 million kyats to 1000 million kyats	86	21.0
	>1000 million kyats	9	2.2
Turnover	<50 million kyats to 50 million kyats	257	62.7
	>50 million kyats to 100 million kyats	54	13.2
	>100 million kyats ot 200 million kyats	26	6.3
	>200 million kyats to 300 million kyats	73	17.8
Number of Employees	1 to 30	284	69.3
	31 to 50	50	12.2
	51 to 60	8	2.0
	61 to 100	10	2.4
	101 to 300	17	4.1
	301 to 600	41	10.0
Type of Export	Direct	192	46.8
	Indirect	218	53.2



Product Differentiation	Differentiated	370	90.2
	Not Differentiated	40	9.8
Type of Product	Rice	83	20.2
	Jade	45	11.0
	Mango	13	3.2
	Variety of Fruits	42	10.2
	Agricultural Products	106	25.9
	Furniture and Home Decoration	6	1.5
	Fisheries	8	2.0
	Consumer Goods	6	1.5
	Food Stuffs	13	3.2
	Animal Feeds	1	.2
	Garments and Clothing	69	16.8
	Others	18	4.4

Appendix III

The assessments on GOF approach for Model fit regarding SEM path analysis and the results of standardized solution of SEM for the specified model were revealed in the following figure.

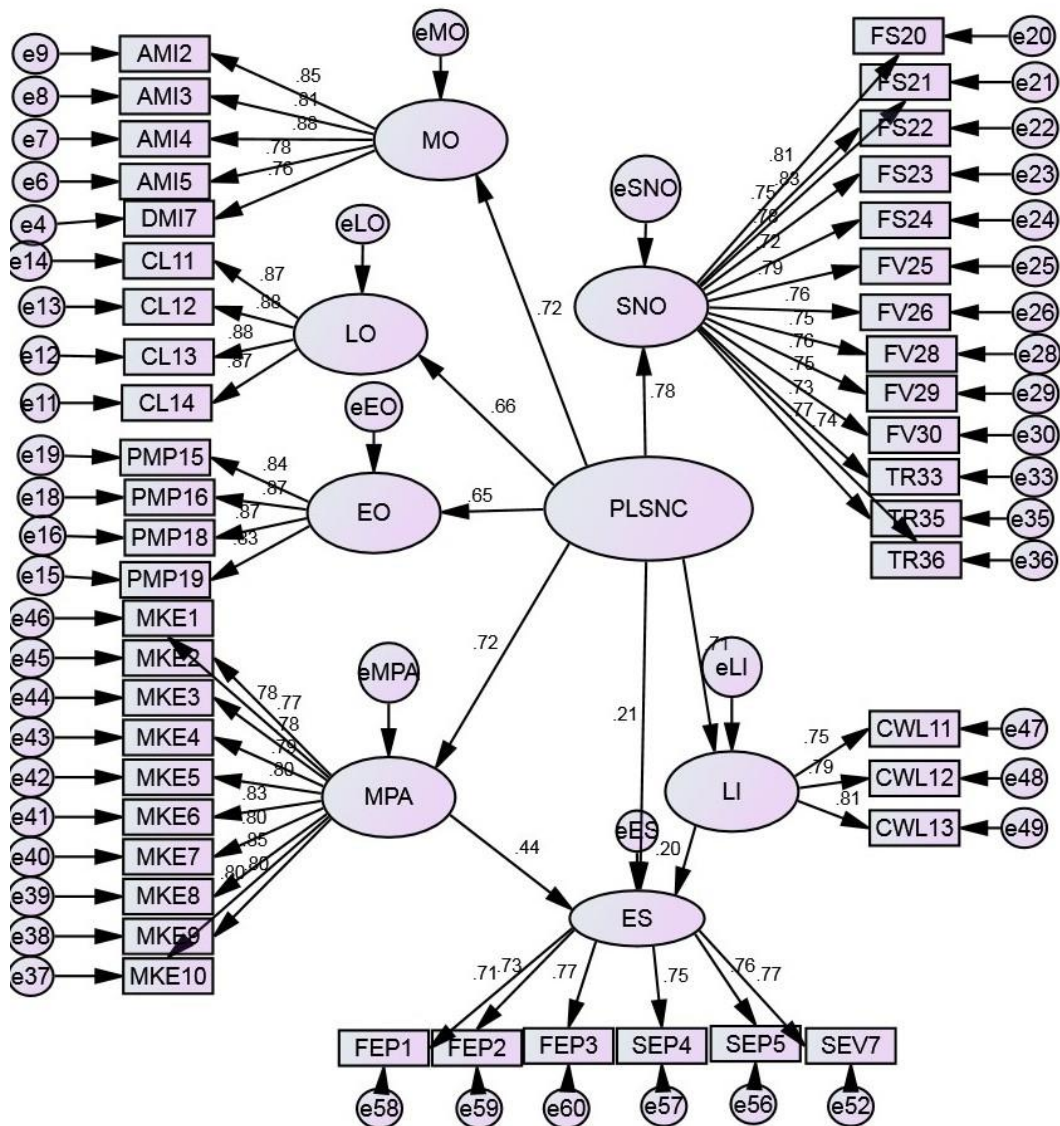


Figure of structural equation model (SEM) standardized solution

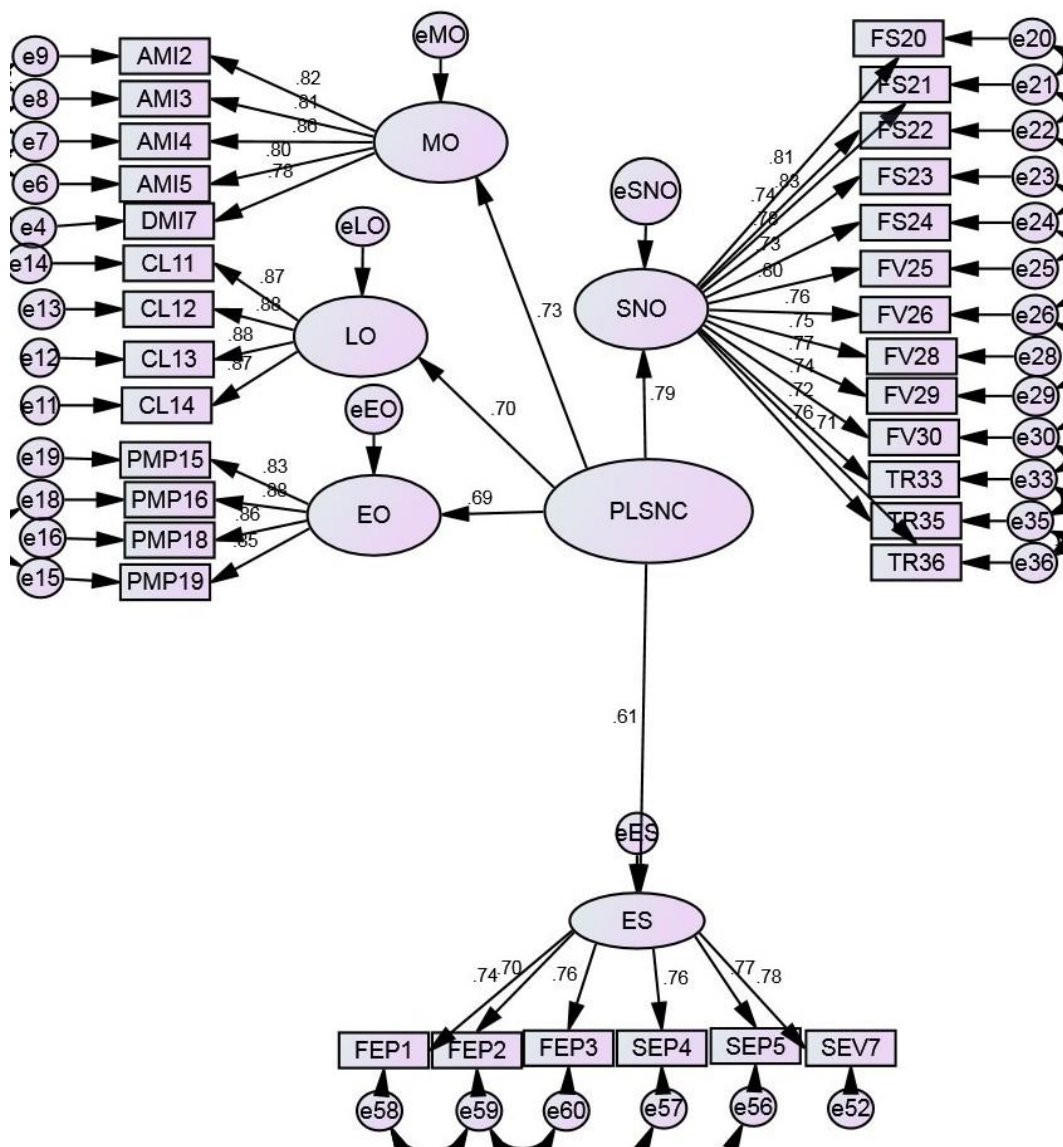


Figure of Testing on direct effect of PLSNC on ES without mediation variables

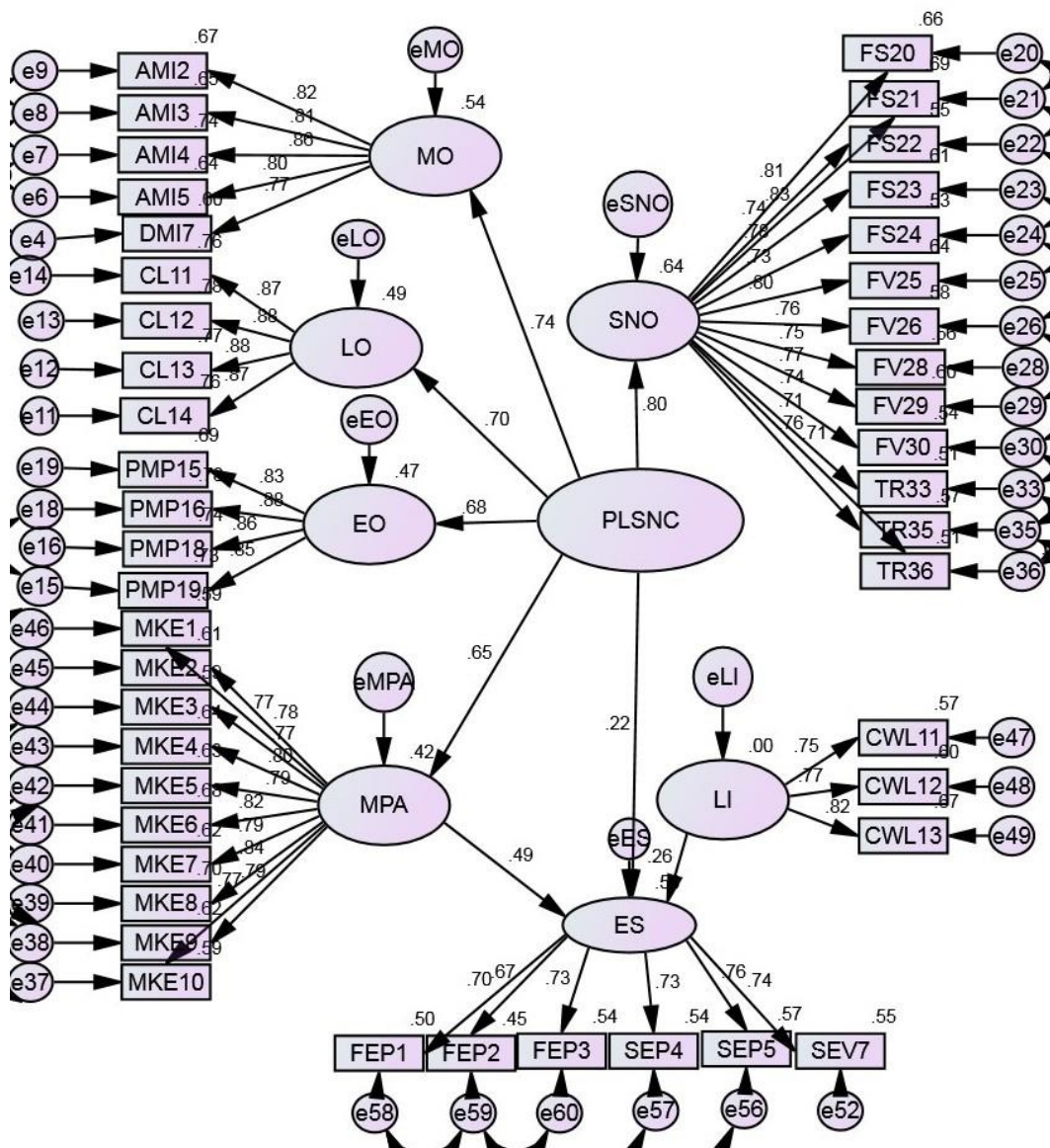


Figure of Testing on indirect effect of PLSNC on ES through the mediation of MPA

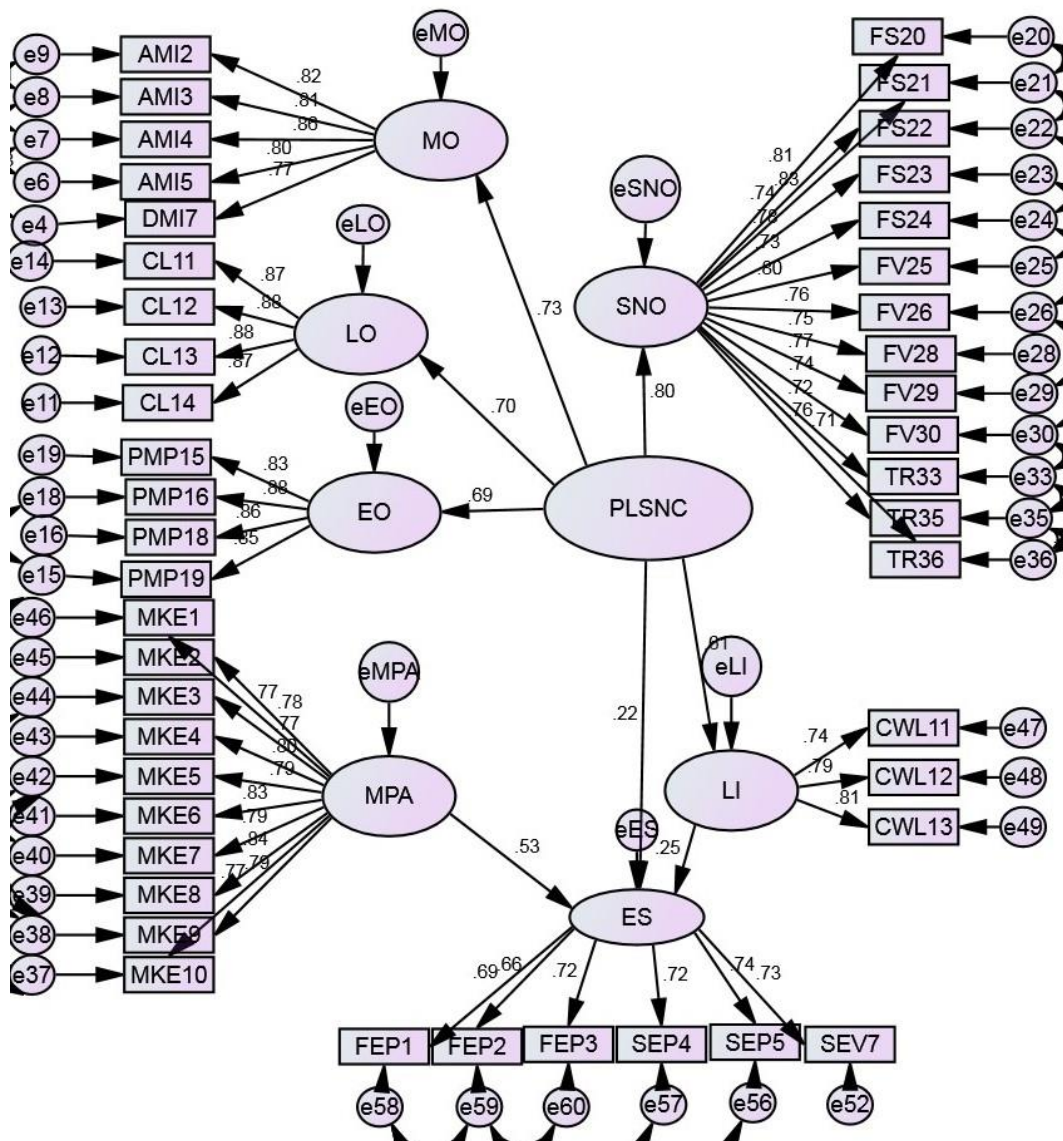


Figure of Testing on indirect effect of PLSNC on ES through the mediation of LI

THE RELATIONSHIP AMONG SOCIAL ENVIRONMENT, PERCEIVED VALUE, CUSTOMER SATISFACTION AND REPURCHASE INTENTION IN ICE CREAM FRANCHISE

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Abstract

Customers are a significant component of business activities. Customer repurchase is good news for business and customer satisfaction is an important factor that affects repurchase. This research aimed to explore the relationship among social environment, perceived value, customer satisfaction and repurchase intention in ice cream franchise. The primary data used in the study was collected through the use of a questionnaire as a tool. Data was collected in Bangkok, Thailand and the sample size of this paper is 400. The Structure Equation Modeling (SEM) is used to examine the hypothesis, and the structure relationship among social environment, perceived value, customer satisfaction and repurchase intention was analyzed using the AMOS program. The finding presents that social environment is positively related to customer satisfaction and repurchase intention. Perceived value affects customer satisfaction and repurchase intention. Also, there is positive relationship between customer satisfaction and repurchase intention. Therefore, customer perceived value is more significantly related to customer satisfaction and repurchase intention. The result of this research provides information to ice cream franchise, suggesting that cafe format ice cream franchise can improve social environment, provide good service and product to meet customer satisfaction and attract customer repurchase.

Keywords - ice cream franchise, social environment, perceived value, customer satisfaction, repurchase intention.

Introduction

Thailand's franchise industry is in a good place and has been showing an upward trend. In 2013 there were 370 franchised brands and franchising opportunities has become more and more widely available in Thai industries. Similar to most countries, Thailand's food and beverage sector is the main franchise area (Thailand franchise, 2014). Ice cream franchises make up 22% of food and beverage sector (Franchise directory, 2015). These ice cream franchises share the ice cream market and are in competition with each other. Improving customer satisfaction level and attracting customer repurchase is the challenge for ice cream franchise. This research will focus on ice cream franchise that are run in a cafe format, to study how service and environment affect customer experience and contribute to repurchase, as well as to understand the relationship between customer satisfaction and repurchase intention in ice cream franchise business. This research focuses on ice cream franchise run in a cafe format and the brand of ice cream franchise selected in research are those that are more popular and most people would be familiar with them. In Bangkok, there are 6 brands of ice cream franchises run in the cafe format and are generally known by most customers, which are Swensen's, Baskin Robbins, Cold Stone, Häagen-Dazs, Ice Monster and Bud's.

Three objective of this research are to explore the relationship among social environment, customer satisfaction and repurchase intention in ice cream franchise, to explore the relationship among perceived value, customer satisfaction and repurchase intention in

ice cream franchise, to explore the relationship between customer satisfaction and repurchase intention. This research will help the researcher accumulate relevant marketing knowledge, and provide the franchise industry with information about the relationship among social environment, perceived value, customer satisfaction and repurchase intention.

Literature review and hypotheses

Social environment, customer satisfaction and repurchase intention

Social environment is the elements in service environment (Baker et al., 1994; Sherman et al., 1997). Social environment includes service employees and customer climate (Lin & Ling, 2011). Satisfaction is the positive result of one party's overall assessment of another party (Anderson & Narus, 1984). Repurchase intention is a special type of purchase intention that reflects whether a customer would buy the same product or brand again (Blackwell et al., 2001). Service employees' expression of positive emotions helps create positive emotion in customer experience (Tsai & Huang, 2002). In the service site, customers influence each others' emotion. Positive emotion encourages positive experience, while negative emotion encourages negative feelings, emotion and behavior among customers and affects the overall service experience (Brocato & Kleiser, 2005; Huang, 2008; Moore et al., 2005). Lin and Liang's (2011) research shows that social

environment is positively related to satisfaction and even affects customer behavior intention. Social environment is considered to be the distinguishing factor between the soft and hard aspects of service delivery (Lemmink & Mattsson, 1998). Social influence arises through the personal interaction between the customer and the service employee, thus it is recognized that during service time, the social aspect of the interaction between customers and service employees can be critical (Butcher et al., 2002). The abovementioned social influence is the same concept as the concept of service environment used in this paper. The research done by Butcher et al. (2002) proposed that social influence affects repurchase intention and the result supports the hypothesis that there is a significant and positive relationship between social influence and repurchase intention. According to literature review, the hypotheses in this research are as follows:

H1: Social environment affects customer satisfaction.

H3: Social environment affects repurchase intention.

Perceived value, customer satisfaction and repurchase intention

Many previous studies have shown that perceived value is determined by the benefit-cost concept. The benefit can be economical, social or relational. Cost takes into consideration price, time, effort, risk and convenience (Grewal et al., 1998; Cronin et al., 2000; Bigné et al., 2001; Oh, 2003). Also, many previous research has shown that brand

image has significant influence on customer perceived value (Andreassen & Lindestad, 1998; Bloemer & De Ruyter, 1998; Cretu & Brodie, 2007; Lai et al., 2009; Ryu et al., 2008). Customer satisfaction is usually defined as the degree to which customers' expectations can be met by a product or service (Peter et al., 1999). Macintosh and Lockshin (1997) explain that repurchase intention is the degree of loyalty towards a brand or a specialty store. In marketing, the relationship between perceived value and customer satisfaction has been widely discussed. Perceived value has a direct relationship with customer satisfaction, and this is something that has commonly been accepted (Hume, 2008). Previous study presents the result that customer satisfaction depends on value, and perceived value is an important factor that determines customer satisfaction (Ravald & Gronroos, 1996; McDougall & Levesque's, 2000). Previous studies examined the role of customer perceived value in trying to explain customer behavior in the service industry context and found that customer perceived value positively and directly influences customer satisfaction (Patterson & Spreng, 1997; Andreassen & Lindestad, 1998). Chiou's (2004) study points out that customer perceived value is a significant driver of customer satisfaction toward internet service providers. Researchers Ryu et al. (2012) present the result that customer perceived value is indeed a significant factor that has a positive effect on customer satisfaction and that customer satisfaction is also a significant predictor of customer behavior intention. In addition, customer perceived value is a reliable predictor of customer satisfaction and consumer purchase

behavioral, which has also been proven by many research (McDougall & Levesque, 2000; Ryu et al., 2008; 2010). Perceived value was shown to influence customer behavioral intentions and it is the most important indicator of repurchase intention. An increase in perceived value during a purchase will contribute to customer repurchase in the future (Hume, 2008; Liu & Jang, 2009). Har Lee et al.'s (2011) research presents that there is a linear relationship at significant level between repurchase and perceived value. Based on the literature review, the hypotheses in this research are as follows:

H2: Perceived value affects customer satisfaction.

H4: Perceived value affects repurchase intention.

Customer satisfaction and repurchase intention

Customer satisfaction refers to customers' overall evaluation of a company's performance or service provided (Turkyilmaz & Ozkan, 2007).

Repurchase intention is a psychological process of thinking about purchasing a certain product and so it is closely related to actual behavior (Meng & Xu, 2010). Previous studies have pointed out that increasing customer satisfaction can have a positive effect on customers' repurchase behavior and even customers' intention to purchase other products (Cardozo, 1965; Chang et al., 2014). Research has identified that there is a positive relationship between customer satisfaction and future purchase intention (Oliver, 1980; Bearden & Teel, 1983; Chen, 2007). Ryu et al. (2012) and Fang et al.'s (2011) study shows that customer satisfaction is a significant predictor of customer behavior intention. Numerous previous research have also shown that customer satisfaction has a positive and direct effect on customer behavior intention, such as repurchase intention and word-of-mouth communication (Han & Ryu, 2009; Kim and Kim, 2009; Namkung & Jang, 2007; Ryu et al., 2010; Ryu & Han, 2011). And the hypothesis in this research is as follows:

H5: Customer satisfaction affects repurchase intention.

Conceptual framework of research

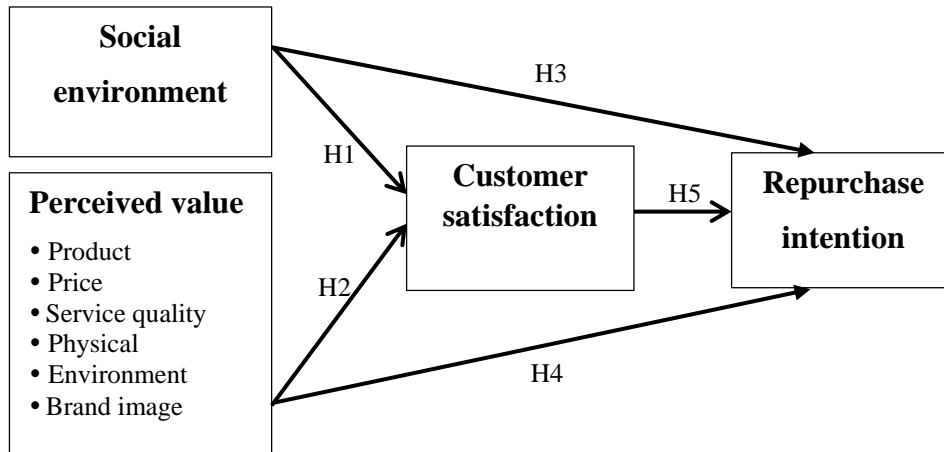


Figure 1 Conceptual framework

Methodology

Population and Sample

The researcher collected data from customers who had consumption experience in ice cream franchise stores, focusing on customers age 15-60. The population of age 15-60 in Bangkok is estimated to be 5.03 million (Population by age group, area and sex, Bangkok, 2015). The sample size for this research, calculated according to formula by Yamane (1967), is as follows:

$$n = \frac{N}{1+N(e)^2}$$

Where e = Deviation of random sampling, N = Number of population, n = Sampling size

Set sampling deviation is 0.05 therefore:

$$n = \frac{5,300,000}{1+5,300,000(0.05)^2} = 399.97 \approx 400$$

Research instrument

The questionnaire consists of 5 sections. Section 1 covers personal information, including age, gender, status, income, occupation and education level (Arnould et al., 2002). Section 2 surveys opinions on social environment and all 8 items were adapted from Tsai and Huang (2002), Brady and Cronin, (2001). Section 3 measures perceived value with five aspects: product, price, service quality, physical environment and brand image, using questions applied from Yu (2012), Thathong (2007), Koo (2003), Lin and Liang (2011), Sasmita and Suki, (2015). The questions in section 4 are designed to measure customer satisfaction using items applied from Kang et al., (2007), Greenwell et al., (2002). Section 5 surveys repurchase intention with 5 items design applied from Cronin et al., (2000), Zboja and Voorhees, (2006).

Data collection

Data for this research was collected from Thai people who had consumption experience at ice cream franchises that uses Thai language. Based on previous studies, Bangkok is separated into six zones, and six shopping malls were randomly chosen by randomly selecting one from each zone. A total of 443 questionnaires were collected from six shopping malls. 17 questionnaires were invalid could not be used for analysis, so the actual number of questionnaires used for data analysis is 426.

Data analysis

The collected data went through descriptive statistics analysis, level of agreement analysis, Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). Descriptive statistics analysis and level of agreement analysis were executed by SPSS program, Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were executed by AMOS program.

Results

The analysis result of demographic characteristic presented that of the total 426 respondents, 38.3% were male and

61.7% were female. For the age group, those aged 25-34 years made up 46.2% of the total respondents as the biggest group. For education level, 67.1% graduated with a bachelor degree. More than half of the respondents were company staff and students also formed a big proportion of the respondents. In terms of monthly income, more than 80% of respondents had a monthly income and 20.8% of respondents are considered to have a high monthly income, which is income higher than 30,000 Baht. For the brand of ice cream franchise that respondents visited most often, 79.5% chose Swensen's, making it the brand that majority of respondents visited most often.

Cronbach's alpha has been used to test the reliability of the research instruments. Cronbach's alpha is the most commonly used tool for test of reliability. Cronbach's alpha ranges from 0 to 1.00 and the higher the value the better it is. A high value means high consistency and high variance. High variance means there is a wide spread of score and easier to differentiate. Fornell and Larcker (1981) suggest that the value of Cronbach's alpha should be greater than 0.7 to be considered acceptable. The result shows in Table 1 that all of the variables have scores higher than 0.7 and some score even higher than 0.9, means there is high reliability in the research questionnaire.

Table 1 Reliability test using Cronbach's alpha

Variables	Numbers of items	Cronbach's alpha
Social employee (Se)	5	0.910
Customer climate (Cc)	3	0.831
Physical environment (Pe)	6	0.877
Product (Pro)	3	0.874
Price (Pri)	3	0.854
Brand image (Bi)	4	0.843
Service quality (Sq)	4	0.922
Customer satisfaction (Cs)	7	0.900
Repurchase intention (Ri)	5	0.916

This paper uses Exploratory Factor Analysis (EFA) to test the validity of the questionnaire. First, Kaiser-Meyer-Olkin (KMO) is used to measure the sampling adequacy, and Bartlett's Test of Sphericity is used to determine whether the sample is appropriate for variable analysis (Andersen & Herbertsson, 2003). The KMO index ranges from 0 to 1.00 and the minimum accepted value is 0.5 (Kaiser, 1974; Hair et al., 1995; Tabachnick & Fidell, 2007), and Bartlett's Test of Sphericity should be of significant level ($p < 0.05$) to be

considered suitable for factor analysis (Hair et al., 1995; Tabachnick & Fidell, 2007). Total Variance Explained shows the percentage of variables explained by all the factors (Zikmund et al., 2013). According to Hair et al. (1995) TVE value as low as 50%-60% and the TVE scores exceed the minimum value the factor considered meaningful. Validity analysis result of this research is shown in Table 2 and Table 3, the results support the good validity of the research instrument

Table 2 KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.953
Bartlett's Test of Sphericity	Approx. Chi-Square	12345.412
	df	780
	Sig.	.000

Table 3 Total variance explained

component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	16.640	41.601	41.601	16.640	41.601	41.601	4.105	10.263	10.263
2	2.738	6.844	48.445	2.738	6.844	48.445	3.969	9.923	20.186
3	1.993	4.982	53.427	1.993	4.982	53.427	3.958	9.896	30.082
4	1.860	4.651	58.078	1.860	4.651	58.078	3.823	9.556	39.638
5	1.400	3.500	61.578	1.400	3.500	61.578	3.148	7.870	47.509
6	1.266	3.164	64.742	1.266	3.164	64.742	3.012	7.530	55.039
7	1.134	2.834	67.577	1.134	2.834	67.577	2.428	6.071	61.109
8	1.116	2.790	70.367	1.116	2.790	70.367	2.418	6.045	67.154
9	1.005	2.513	72.880	1.005	2.513	72.880	2.290	5.726	72.880

Structural Equation Modeling (SEM) is a complex technique analytical tool used in quantitative analysis research to examine the hypothesis. In this research, the structure relationship among social environment, perceived value, customer satisfaction and repurchase intention was analysed by AMOS program. Before assessing the structural model, the measurement model must be first evaluated. Confirmatory factor analysis (CFA) is one form of structure equation modeling. Based on the knowledge or theory research postulates construct, CFA allows the researcher to test the

proposed theory or hypothesis of whether there is a relationship between the observed variables under the construct. CFA analysis relies on several statistical tests to determine whether the construct fits the data. Usually, chi-square/ degree of freedom (χ^2/df), goodness of fit index (GFI), Adjusted Goodness of Fit Index (AGFI), Tucker Lewis Index (TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) above parameter values are used to test the model.

Table 4 Definition of index

Model-Fit index	Recommended Acceptable level	Reference
χ^2/df	$\chi^2/df < 3$ indicates an adequate fit	Gatignon, (2003)
GFI	Ranges between 0 to 1 GFI >0.8 acceptable, GFI >0.9 good fit	Baumgartner and Hombur, (1996)
AGFI	Ranges between 0 to 1 GFI >0.8 acceptable, AGFI ≥ 0.9 good fit	Baumgartner and Hombur, (1996)
TLI	Ranges between 0 to 1 TLI ≥ 0.9 is accept value.	Hu and Bentler, (1999)
IFI	Ranges between 0 to 1 IFI ≥ 0.9 is accept value.	Bentler, (1990)
CFI	Ranges between 0 to 1 CFI ≥ 0.9 is accept value.	Hu and Bentler, (1999)
RMSEA	The bounded of RMSEA is below by 0 RMSEA < 0.05 represent excellent fit. RMSEA ≤ 0.08 as a cut off criterion.	Hu and Bentler, (1999) Browne and Cudeck,(1993) McDonald and Ho, (2002)

In order to know the relationship among social environment, perceived value, customer satisfaction and repurchase intention, the researcher tested the

hypothesis. The model fit test result is shown in Table 5 and the hypothesis testing execution is presented in Figure 2.

Table 5 Fit test of model

χ^2/df	GFI	AGFI	TLI	IFI	CFI	RMSEA
1.840	0.864	0.846	0.945	0.949	0.949	0.044

Based on the result presented in Table 5, $\chi^2/df=1.840$ (less than 3) indicates an adequate fit, GFI=0.864, AGFI=0.846 (higher than acceptable value 0.8) , TLI=0.945 (higher than 0.9), IFI=0.949

(higher than 0.9), CFI =0.949 (higher than 0.9) and RMSEA=0.044 (less than 0.05). All the indicators' values meet the acceptable value and some meet the perfect value, which proves good fit of model.

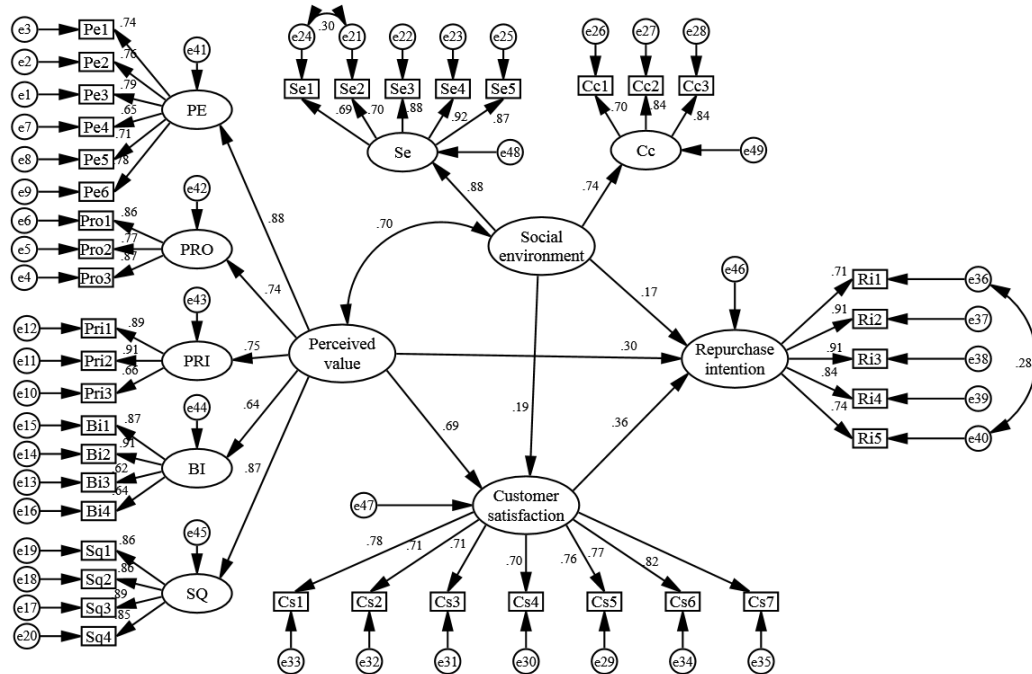


Figure 2 Structural equation modeling testing hypothesis

Table 6 Result of hypothesis testing

Hypothesized Path			STD (β)	Un.STD	S.E.	C.R. (t-value)	P	SMC (R-Square)
Customer satisfaction	<---	Social environment	0.189	0.197	0.068	2.875	0.004	0.698
Customer satisfaction	<---	Perceived value	0.692	0.841	0.092	9.141	***	
Repurchase intention	<---	Social environment	0.167	0.164	0.068	2.417	0.016	0.577
Repurchase intention	<---	Perceived value	0.296	0.340	0.104	3.262	0.001	
Repurchase intention	<---	Customer satisfaction	0.364	0.344	0.080	4.291	***	

Note: *** ($P < 0.001$) Standardized Estimate (STD); Unstandardized Estimate (Un.STD); Standardized Error (S.E), Critical Ratio (C.R.T-value), Significance Difference (P value), Squared Multiple Correlations (SMC)

In Table 6, perceived value and social environment are shown to be positively related to customer satisfaction. The R Square value is 0.698, which means that

customer satisfaction can be adequately explained at 69.8% by perceived value and social environment. Meanwhile, perceived value, social environment and

customer satisfaction have significant positive effect on repurchase intention. Perceived value, social environment and customer satisfaction can explain repurchase intention up to 57.7%. In other words, the analysis results were supportive of the hypotheses in the research.

Conclusion, discussion and recommendation

Conclusion

Before execution of hypothesis testing evaluation of the model should come first, and the model estimated result shows that $\chi^2/df = 1.840$ is less than 3, which indicates an adequate fit. RMSEA=0.044 which is less than 0.05 means excellent fit. GFI= 0.864, AGFI= 0.846 which is higher than acceptable value 0.8. The three indicators TLI=0.945, IFI=0.949, CFI=0.949 were higher than 0.9 which means it is a good fit. All the indicators presented that the model was a good fit for hypothesis testing. According to the hypothesis results shown in Table 6, all the hypotheses in this research have been accepted. Social environment significant affects customer satisfaction ($P < 0.05$). Perceived value significant affects customer satisfaction ($P < 0.001$). Social environment significant affects repurchase intention ($P < 0.05$). Perceived value significant affects repurchase intention ($P < 0.05$). Customer satisfaction significant affects repurchase intention ($P < 0.001$). The result shows there is positive relationship among social environment, customer satisfaction and repurchase intention in ice cream franchise. Perceived value is positively

related to customer satisfaction and repurchase intention in ice cream franchise. Also, there was a positive relationship between customer satisfaction and repurchase intention in ice cream franchise.

Discussion

Research model

According to the literature review, social environment is the elements of the service environment (Baker et al., 1994; Sherman et al., 1997). Zeithaml (1988) defines perceived value as a customer's overall assessment of a unit product or service based on its benefit and cost. Satisfaction is the positive result of one party's overall assessment of another party (Anderson & Narus, 1984). Blackwell et al. (2001) defined repurchase intention as a special type of purchase intention that reflects whether a customer would buy the same product or brand again. There are mainly two kinds of research models used in previous studies. The first uses social environment as an independent variable that affects customer satisfaction, and then uses customer satisfaction as an independent variable that affects behavior intention. The other uses perceived value, service quality and marketing (using two or all three) as independent variables that affect customer satisfaction, and then uses customer satisfaction as an independent variable that affects behavior intention. There is relatively less studies that look at the relationship between social environment and behavior intention and the relationship between perceived value and behavior intention. The idea for this paper was largely inspired from previous studies of

a new research model that used social environment and perceived value as independent variables that affects customer satisfaction, then customer satisfaction as an independent variable that affects repurchase intention. Meanwhile, one could also study the relationship between social environment and repurchase intention, as well as the relationship between perceived value and repurchase intention. The result presented that social environment has positive effect on customer satisfaction and repurchase intention which is consistent with a previous study that shows that social environment is positively related to satisfaction and even affects customer behavior intention (Lin & Liang, 2011). Perceived value has positive effect on customer satisfaction and repurchase intention which supports previous study that perceived value is a reliable predictor of customer satisfaction and consumer purchase behavioral (McDougall & Levesque, 2000; Ryu et al., 2008; 2010). Also, there is positive relationship between customer satisfaction and repurchase intention which consistent with previous studies that show that there is a positive relationship between customer satisfaction and future purchase intention (Oliver, 1980; Bearden & Teel, 1983; Chen, 2007). The result was consistent with previous studies, because in service industry, customer satisfaction is still a predictor of repurchase intention. There were many factors that can affect customer satisfaction and repurchase intention. Social environment and perceived value were two other factors that affect customer satisfaction and repurchase intention.

The findings of this research shows that there is higher significance in the

relationship among perceived value, customer satisfaction and repurchase intention, than the relationship among social environment, customer satisfaction and repurchase intention. The reason is that in ice cream franchise business, tangible values such as product, price, brand and service quality are still the main points of considerations for consumption by customers. Therefore, customer perceived value is more significantly related to customer satisfaction and repurchase intention. The mean scores of the variables as surveyed in the research are as follows: social environment described by service employees (mean= 3.826), customer climate (mean=3.544), perceived value including physical environment (mean=3.905), product (mean=4.123), price (mean= 3.777), brand image (mean= 4.051) and service quality (mean= 3.903). The mean score of perceived value is higher than that of social environment, which shows that in the current ice cream franchise situation, customers are more satisfied with perceived value than with social environment. Since product and brand image have the highest mean scores, this proves that ice cream franchise business is in an advantageous position. The business owner should pay more attention to developing new products to attract customers and strengthen the brand image in order to maintain the advantage in ice cream franchise market. Since customer climate has the lowest score, this means that the ice cream franchise business has to put in more effort to improve in this area in order to stand out from its competitors.

The relationship between social environment and customer satisfaction

Customer satisfaction refers to customers' overall evaluation of a performance or service provided (Turkyilmaz & Ozkan, 2007). Social influences arise through the personal interaction between customers and service employees (Butcher et al., 2002). A number of previous studies pointed out the significance of emotional display of service employees, in order to establish its relationship to customer satisfaction. Service employees' expression of positive emotions helps create positive emotion in customer experience (Tsai & Huang, 2002). Customer climate can positively influence customer satisfaction (Lin & Liang, 2011). Social environment contributes positively to customer feeling and satisfaction (Sherman et al., 1997). The result of this research shows that social environment has a positive effect on customer satisfaction. It is consistent with Lin and Liang's (2011) research that social environment is positively related to customer satisfaction.

The relationship between perceived value and customer satisfaction

Satisfaction is the positive result of one party's overall assessment of another party (Anderson & Narus, 1984). In service industries, perceived values have a positive relationship to customer satisfaction (Andreassen & Lindestad, 1998). Customer perceived value is a reliable predictor of customer satisfaction (McDougall & Levesque, 2000; Ryu et al., 2008; 2010). The hypothesis testing result presented that there is positive relationship between

perceived value and customer satisfaction. This finding is consistent with previous research which showed that perceived value directly affects customer satisfaction and perceived value is a significant driver of customer satisfaction (Chiou, 2004). Researchers Ryu et al. (2012) present the result that perceived value is indeed a significant factor that has a positive effect on customer satisfaction.

The relationship between social environment and repurchase intention

Blackwell et al. (2001) defined repurchase intention as a special type of purchase intention that reflects whether a customer would buy the same product or brand again. Social influences arise through the personal interaction between customers and service employees (Butcher et al., 2002). Social environment is positively related to satisfaction and even affects customer behavior intention (Lin & Liang, 2011). This research shows that social environment is positively related to repurchase intention, which is consistent with Butcher et al.'s (2002) conclusion that social influence affects repurchase intention and that there is a positive relationship between social influence and repurchase intention.

The relationship between perceived value and repurchase intention

Perceived value was shown to influence customer behavioral intentions (Liu & Jang, 2009). Hume's (2008) research shows that perceived value is the most important indicator of repurchase intention, and that increase in perceived value during a purchase will contribute to customer repurchase in the future. Liu

and Jang (2009) suggested that perceived value influences customer behavioral intentions and was the greatest contributor to behavioral intention. In the research purposed that perceived value has an effect on repurchase intention and the hypothesis was proven perceived value has a positive relationship to repurchase intention which was consistent with a previous study by Har Lee et al. (2011) which proposed that perceived value has a positive influence on customer repurchase intention and there was a linear relationship at significant level between repurchase and perceived value.

The relationship between customer satisfaction and repurchase intention

Oliver (1980) Bearden and Teel (1983) have identified the relationship between customer satisfaction and future purchase intention. Ryu et al.'s (2012) study shows that customer satisfaction is a significant predictor of customer behavior intention. Previous research have shown that customer satisfaction has a positive and direct effect on customer behavior intention, such as repurchase intention and word-of-mouth communication (Han & Ryu, 2009; Ryu et al., 2010; Ryu & Han, 2011). The result of this research supports that customer satisfaction is positively related to purchase intention which is consistent with Chen's (2007) research that showed that there is a positive relationship between satisfaction and continuance intention. This is also consistent with a previous study by Fang et al. (2011) which pointed out that satisfaction has a positive relationship to customer intention and satisfaction was a significant predictor of customers' repurchase intention.

Implication

Ice cream franchise business is one sector of the service industry. It aims to provide good service and products to meet customer expectation in order to attract them to return for repeated consumption. This paper studies the relationship among social environment, perceived value, customer satisfaction and repurchase intention. The research result shows that perceived value affects customer satisfaction and repurchase more than social environment. This section, based on the results, presents the dimension of perceived value with the highest level of agreement by respondents and the dimension of social environment with the lowest level of agreement by respondents. This is followed by an explanation of how the present dimensions apply to business managers of ice cream franchise.

The dimensions with the greatest contribution to perceived value

The items with the highest level of agreement by the respondents are product (mean= 4.123), brand image (mean=4.051) and physical environment (mean=3.905). This shows that product has the greatest effect on perceived value, and that ice cream and beverage as a product is widely accepted by customers in the ice cream franchise business. Business managers of ice cream franchises should focus on their product, trying to maintain or improve the quality of their products or create new products to meet customers' needs. The business manager of ice cream franchises can also consider using the price and the product to come up with a promotion, especially during the various local festivals. New products can also be

launched and promoted during special festivals to give customers the opportunity to taste more of the brand's products. Brand image was the second highest important factor relative to customer perceived value. The survey result shows that most of respondents had a high level of acceptance of the brand of ice cream franchises chosen. This provides information to ice cream franchises manager that customers do care about the brand of ice cream franchise and that they trust the brand that they chose. Ice cream franchise business managers can strengthen the brand image by paying more attention to Corporate Social Responsibility (CSR), and try to increase the brand's popularity. On the other hand, the business manager can also work on strengthening the brand image by creating a membership system that gives preferential treatment like special discounts to customers who are members, or offer special treats or offers to them during their birthdays. Physical environment has the third highest level of agreement by respondents, which means that physical environment is one of the important factors that affect customer perceived value. Ice cream franchise business managers need to pay more attention to the physical environment of the cafe. The colors and lighting should make customers feel comfortable and strange colors and dazzling light should be avoided. The store should be checked regularly and maintained well. If anything is damaged, it should be repaired or replaced immediately to ensure that the business can operate normally and smoothly during opening hours. Of course, the store should be kept clean and tidy, and there should be a pleasant scent and atmosphere in the store.

The dimension with the lowest contribution to social environment

The item with the lowest level of agreement is customer climate (mean= 3.544). This shows that customers are not very satisfied with customer climate. The business manager should pay more attention to customers' behavior, feelings and reaction to other customers in the store. More care and consideration could be taken when arranging the tables and chairs in the stores so that customers are comfortable and do not have to sit too near each other or share tables with strangers. There should also be enough space for customers to walk between tables and chairs. The interior design of the store can be improved to create a more conducive environment for customers to enjoy their time in the store.

Limitation of study

1. Limitation in data collection. Researcher went to shopping malls and collected data only on weekends. This excludes respondents who may frequent shopping malls only on weekdays.
2. Limitation of survey. Ice cream franchise in this paper include Baskin Robbins, Cold Stone, Swensen's, Häagen-Dazs, Ice Monster and Bud's. Some respondents were unable to answer the questionnaire because the ice cream cafes that they frequented were not included in this research.
3. Limitation of translation. The questionnaire was originally written in English, but the sample group is Thai consumers so the questionnaire had to be translated to Thai. Parts of the questionnaire may not have been well-

translated which may have resulted in the respondents having some difficulty or taking more time to complete the questionnaire.

Recommendation for future research

1. Future research could consider adding customer emotion to the conceptual

framework to study the relationship between customer emotion and customer satisfaction.

2. Future research could consider adding location to the conceptual framework, to study whether location affects customer repurchase intention.

3. In the future, more market research could be done on customer behavior.

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Questionnaire

My name is Zhenyi Qin. This survey is a part of my master thesis of my course of study at the University of the Thai Chamber of Commerce. This survey is based on the topic “The relationship among social environment, perceived value, customer satisfaction and repurchase intention in ice cream franchises” Your information is valuable for this topic study, and I would be grateful if you could complete this questionnaire as part of my research. The information acquired from this questionnaire will only be used for academic purposes.

Thank you for your kind help!

Section 1: Demographic profile

Please mark with a √ in the appropriate box.

1. Gender ☐ Male ☐ Female
2. Age ☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-60
3. Education level ☐ High school/lower ☐ Bachelor ☐ Master
☐ Ph.D. ☐ Others
4. Occupation ☐ Students ☐ Company staff
☐ Business owner ☐ Government officer
☐ Others
5. Monthly income ☐ No income ☐ less than 15,000 Baht
☐ 15,000-20,000 Baht ☐ 20,001-30,000 Baht
☐ 30,001-40,000 Baht ☐ 40,001-50,000 Baht
☐ Above 50,000 Baht
6. What brand of ice cream franchise have you eaten?
(please choose most often visit brand)
☐ Baskin Robbins ☐ Cold Stone ☐ Swensen's
☐ Häagen-Dazs ☐ Ice Monster ☐ Bud'd

According to the brand that you have chosen in section 1 question 6, answer the questions in section 2 – 5.



Section 2: Social environment

Base on you experience, please give your response by putting a check \checkmark in one of boxes on the scale. Each of the numbers on the scale represents:

1=Strongly disagree 2=Disagree 3=neutral 4=Agree 5=Strongly agree

No.	Service employees	1	2	3	4	5
1	The service staff used appropriate speaking voice. (example: staff speaking not too loud or not too soft)					
2	The service staff used appropriate speaking speed. (example: staff speaking not too fast or not too slowly)					
3	The service staff smiled at me.					
4	The service staff made good eye contact.					
5	The service staff greeted me in a friendly way.					
	Customer climate					
6	During my time in the store, other customers left me with a good impression.					
7	During my time in the store, other customers did not affect store's ability to provide me with good service					
8	During my time in the store, other customers' behavior did not affect my perception of store's service.					

Section 3: Perceived value

Base on you experience, please give your response by putting a check \checkmark in one of boxes on the scale. Each of the numbers on the scale represents:

1=Strongly disagree 2=Disagree 3=neutral 4=Agree 5=Strongly agree

No.	Physical environment of store	1	2	3	4	5
1	The layout of the store is good.					
2	The tableware in the store are of high quality.					
3	The color of the store is nice.					
4	There is comfortable lighting in the store.					
5	The temperature in the store is suitable.					
6	The scent in the store is pleasant.					

**Section 3: Perceived value (continued)**

Base on you experience, please give your response by putting a check \surd in one of boxes on the scale. Each of the numbers on the scale represents:

1=Strongly disagree 2=Disagree 3=neutral 4=Agree 5=Strongly agree

No.	Product	1	2	3	4	5
1	The ice cream tastes good.					
2	There is a wide variety of ice cream flavours in the menu.					
3	The ice cream is safe and hygienic.					
	Price					
4	The price is reasonable.					
5	The price is value for money.					
6	The ice cream have various price range.					
	Brand Image					
7	This ice cream brand is well established.					
8	This ice cream brand has a good reputation.					
9	This ice cream brand is well differentiated from other brands.					
10	I trust the company who owns this ice cream brand that appeared in the social media.					
	Service quality					
11	The service staff respond willingly to my requests.					
12	The service staff can explain the menu well.					
13	The service staff has good communication skill.					
14	The service staff expression politeness in service.					

Section 4: Customer satisfaction

Base on you experience, please give your response by putting a check ✓ in one of boxes on the scale. Each of the numbers on the scale represents:

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

No.	Satisfaction	1	2	3	4	5
1	I am satisfied with the service staff.					
2	I am satisfied with the other customers.					
3	I am satisfied with the physical environment.					
4	I am satisfied with the service quality.					
5	I am satisfied with the product.					
6	I am satisfied with the price.					
7	Overall, I am satisfied with this ice cream brand.					

Section 5: Behavior intention

Base on you experience, please give your response by putting a check ✓ in one of boxes on the scale. Each of the numbers on the scale represents:

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

No.	Repurchase Intention	1	2	3	4	5
1	I will purchase this ice cream brand again.					
2	I will say positive things about this ice cream brand to my friends.					
3	I will recommend this ice cream brand to my friends.					
4	I am willing to spend more on this ice cream brand.					
5	I will remain loyal to this ice cream brand in the future.					

A MODEL OF THE TOTAL INNOVATION MANAGEMENT OF PRIVATE HIGHER EDUCATION INSTITUTIONS IN THAILAND

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Abstract

This present study developed a model called a Model of the Total Innovation Management of Private Higher Education Institutions. The study starts with a critical literature review, following by the development of a conceptual framework as well as statistical examination through confirmatory factor analysis to determine construct validity and confirm the theoretical model. The findings revealed eight elements of innovation management, including strategic innovation, technological innovation, leadership, marketing innovation, cultural innovation, organizational innovation, resources, and management innovation. Last, this present study provides future research directions and managerial implication based upon the model.

Keywords: Total innovation management, Second order confirmatory factor analysis, Private higher education institutions



Introduction

Globalization has brought about limitless trading connections and new business wise. Innovation has been a key driver for both government and private sectors to maintain the long-term economic growth. This could be seen in many countries across the world, where strategic innovation has hastened economic growth, extended research bases, and developed and enhanced their capacity in global markets (Thailand Productivity Institute, 2015). However, Thailand still lacks many factors, especially products related to knowledge, technology and creativity. This can be reflected by the fact that innovative thought and intelligence has not been adequately developed in this country. Therefore, the government has given precedence on innovation which can be used to drive Thailand in 2015 – 2020 and develop the country's stability, prosperity and sustainability altogether (Office of the National Economic and Social Development Council, 2015) in agreement with Thailand 4.0 policy, a new engine of growth, which emphasizes innovation as a driver of value-based economy.

As part of the new economy development, higher education institutions are expected to develop innovative related knowledge in accordance with the demand of the labor markets (Office of the Higher Education Commission, 2007). As opposed to public higher education institutions, private higher education institutions are running with limited funds, it is quite

typical for the management team to focus on the short-term profitability rather than long-term educational quality. Therefore, this research aims to develop a model of the total innovation management of private higher education institutions in Thailand that satisfies both profitability and the quality of education.

Literature review and theoretical model

According to Charas Suwanawel. (2008), the concept of private higher education administration at present does not focus only on the operations but also the enhancement of quality in order to survive. Therefore, the competition between these institutions has tremendously increased, resulting into more business-like services, for example, the increase of short courses and new postgraduate programs, counseling services for business enterprises, and researches as merchandise available in the market. According to the literature review, innovation has been involved in the management of private higher education institutions in five aspects, including general management, academic services management, research management, financial management, and human resources management.

According to Xu, et al. (2007), the total innovation management (TIM) is a new organizational development approach for creating new markets and opportunities, promoting creativity and product invention, and developing new business strategies. It brings about better

efficiency in innovation management and higher capacity in competition and employment (Phayat Wuttirong, 2014) This approach should be applied to the management of private higher education institutions since these institutions need to adapt themselves to the changes in society and produce graduates who can

compete on the global stage. In other words, the institutions need to create their own identities and uniqueness, which can lead to individual excellence, team excellence and organization excellence, in order to increase their sustainability (Susan and Theodore, 2007).

Table 1 Literature reviewed summary of the characteristics of organization innovation

No.	Author	Year	Reviewed characteristics of organization innovation										
			1	2	3	4	5	6	7	8	9	10	11
1	Byrd.	2012							x	x			
2	Hussein Aljardali, Kaderi, Mazen and Levy-Tadjine, Thierry.	2012	x		x	x	x	x					
3	Robert A. Paton and Wagner, Richard.	2012	x		x	x	x	x					
4	Alina Filip.	2012			x	x		x					
5	Anita Crawley.	2012			x	x		x					
6	Loan-Constantin ENACHE.	2011			x	x		x					
7	Yvonne J. Moogan.	2011			x	x		x					
8	Brewer and Tierney.	2010							x	x			
9	Mario Yanez, Khalil, Tarek M., and Walsh, Steven T.	2010			x	x		x					
10	Hsuan-Fu Ho, and Hung, Chia-Chi.	2008			x	x		x					
11	Jonathan Ivy.	2008			x	x		x					
12	Holder and Matter.	2008	x	x	x		x			x		x	
13	Von Stamm,	2008	x	x	x					x			
14	Lars Engwall.	2007	x		x	x	x	x					
15	Demetris Vrontis, Thrassou, Alkis, and Melanthiou, Yioula.	2007			x	x		x					
16	Nattee Jitswang	2007	x		x					x			

17	Chai Na Pon Akrasuphachet, 2007	2007	x	x	x								
18	Felix Maringe.	2005			x	x		x					
19	Hay Group	2005	x	x	x				x	x	x	x	
20	Pasu Dejcharin	2004	x	x					x				
21	National Innovation Agency, Thailand	2004	x		x				x	x			
22	S. F. Lee, and Lo, K. K.	2003	x		x	x	x	x					
23	Kuczmarshi	2003	x	x	x					x			
24	Harvard Business School	2003	x	x			x			x		x	
25	Borins	2002							x	x			
26	Dundon	2002	x	x	x	x			x	x			
27	Tidd, Bessant, Pavitt	2001	x	x	x		x				x	x	x
28	Sherwood	2001		x					x	x	x		x
29	Debasish N. Mallick, & Chaudhury, Abhijit.	2000			x	x		x					
30	Christiansen	2000	x	x	x		x					x	
31	Malcom Getz, Siegfried, John J., and Anderson, Kathryn H.	1997			x	x		x					
32	Richard Duggan.	1996			x	x		x					
33	Higgins	1996	x	x	x		x		x	x	x	x	x
34	Adair	1996		x	x		x		x	x		x	
35	Quinn	1991	x	x	x			x		x			
36	Vrakking	1990	x	x		x			x	x			
Total			20	15	29	19	11	17	12	16	5	7	5

According to the table 1, elements reviewed of Wuttiiphong Phakdeelao (2011) are as follow; 1) culture and climate, 2) strategy, 3) technology, 4) marketing, 5) leadership, 6) organizational structure, 7) resources, 8) management, 9) reward and recognition, 10) communication a pipeline idea, and 11) network. Pasu Decharintr (2003), Xu et al. (2007), Phayat Wuttirong (2014) and Hajikarimi et al. (2013) also support these characteristics in his research of the

components of total innovation management which consisted of 1) directions and strategies for innovative organization development, 2) flexible organizational structure which supports creativity and innovation, 3) personnel with suitable roles and responsibilities, 4) teamwork, 5) innovative trainings, 6) creative working environments, 7) consistency with external factors, 8) tools and instruments supporting innovation

development, and 9) effective communication.

Additionally, to develop a model of total innovation management of private higher education institutions, the researcher had studied two major conceptual frameworks in the area of innovation management. Xu et al. (2007) formulated a conceptual framework for building up innovation culture to support total innovation management by which the main components consisted of strategic

innovation, institutional innovation, management innovation, organizational innovation, marketing innovation and technological innovation. Hajikarimi et al. (2012) developed a comprehensive systemic model of total innovation management which emphasized innovative resources gained from innovative processes. According to the literature review, a proposed model of total innovation management of private higher education institutions is developed as shown figure 1.



Figure 1 A Model of total innovation management of private higher education institutions in Thailand's conceptual framework

Methodology

This research aims to investigate the consistency of the model of the total innovation management in private higher education institutions in Thailand with

the empirical data, starting with critical literature review on private higher education institution management and innovation knowledge management. After that, all variables identified are synthesized to formulate a research framework and a measurement model.

Given the nature of the research objective and the measurement model, the positivistic approach to research is adopted for the proposed study. This section discusses the proposed data collection and analysis approaches used to answer the research questions by testing the measurement model as well as techniques to ensure the reliability and validity of the resulting findings.

A questionnaire was developed, containing measures of the eight constructs including strategic innovation, organizational structure innovation, culture innovation, management innovation, technological innovation, resource innovation, marketing innovation, and leadership. (Xu, et. al, 2003, Phayat Wuttirong, 2014, integrated from Wuttiiphong Phakdeelao, 2011) Each construct consists of more than three measurement items, in total of 44 measurement items. Each measurement item was converted into a statement for respondents. The questionnaire was

divided into two parts: Part 1 Status of Senior Advisors had questions regarding to gender, current position, affiliation / faculty /academic school/ institution/ Office, educational background, duration of work, duration of position, and age, and Part 2 Opinions regarding the suitability of elements and indicators of the Model of the Total Innovation Management of Private Higher Education Institutions in Thailand. A five-point Likert scale, ranging from (1) ‘strongly disagree’ to (5) ‘strongly agree’, was adopted to measure the eight domain constructs. The questionnaire was written in Thai because it was created for Thai respondents.

Survey questionnaires were distributed to 600 officers of 41 private higher education institutions which were members of Association of Higher Education Institutions of Thailand. In total, 257 questionnaires were returned, producing a response rate of 41.79% (see Table 1).

Table 2 Demographic Characteristics of the Respondents (N = 257)

	Frequency	Percentage (%)
Gender		
male	96	37.40
female	161	62.60
Current Position		
Administrators	82	31.90
Lecturer	64	24.90
Staff	109	42.40
Administrators / Lecturer	1	0.40
Staff / Administrators	1	0.40
Affiliation/ faculty/ academic school/ institution/ office		
Faculty	137	53.30
Department	118	45.90
Unknown	2	0.80
University		
Bangkok University	7	2.7
Western University	3	1.2
Sri Pathum University	12	4.7
University of the Thai Chamber of Commerce	11	4.3
Assumption University	11	4.3
Hadyai University	13	5.1
Rattanakabandit University	12	4.7
Siam University	14	5.4
Eastern Asia University	18	7.0
North Chiangmai University	10	3.9
Payap University	8	3.1
Krirk University	5	1.9
Fatoni University	10	3.9
North Bangkok University	7	2.7
Christian University	7	2.7
Rangsit University	5	1.9
Prantumthani University	9	3.5
Pitsanulok University	9	3.5
Asia-Pacific International university	10	3.9
Bangkok thonburi University	12	4.7
The Eastern University of Management and Technology	10	3.9
Rajapruk University	10	3.9
North Eastern University	7	2.7
Nation University	9	3.5
Thonburi University	2	0.8
Southeast Bangkok University	1	0.4
Huachiew Chalermprakiet University	11	4.3
Shinawatra University	10	3.9
Unknown	1	0.4

Education background		
Bachelor's degree	36	14.00
Master's degree	138	53.70
Doctoral Degree	82	31.90
Unknown	1	0.40
Duration of work		
Lower 3 years	19	7.40
3-5 years	44	17.10
6-10 years	54	21.00
upper 10 years	140	54.50
Duration of position		
Lower 3 years	63	26.50
3-5 years	84	32.70
6-10 years	39	15.20
upper 10 years	66	25.70
Age		
Lower 31 years	29	11.30
31- 40 years	80	31.10
41 - 50 years	100	38.90
51 - 60 years	34	13.20
upper 60 years	14	5.40

Findings

Structural equation modeling (SEM) was used to test the proposed theoretical model where factor analysis and multiple regression are combined in a single statistical procedure (Hair et al., 2006). A two-step SEM approach was employed following the suggestions of Anderson and Gerbing (1988). First, confirmatory factor analysis (CFA) evaluates the validity of the measurement models and the discriminant validity of each construct. Second, a structural model is utilized to test the hypotheses.

Measurement model analyses

Confirmatory factor analysis (CFA) was conducted to evaluate the reliability, the

convergent validity, and the discriminant validity of the constructs. Some items that have factor loading of lower than 0.50 were eliminated, so there are in total of 44 remaining items that have factor loading of higher than 0.50. Then the reliability of each construct by Cronbach's alpha was assessed. All constructs exceed the suggested level of 0.70 (ranging from 0.86 to 0.92), indicating that the constructs have acceptable internal consistency as shown in Table 2. In addition, all factor loadings are statistically significant at $p < 0.05$ and range from a low of 0.57 to a high of 0.84, supporting convergent validity as shown in Table 3.

Table 3 The measurement model of the total innovation management of private higher education institution

Constructs and measures	Factor loading (λ_i)
Innovation Strategy Element¹ ($\alpha = 0.92$)	
(si1) There is an Innovation Strategy formulation to be the core capability of the organization. (Organization Core Competency)	0.57
(si2) There is a good vision of change situation, that is the organization challenge to create innovation management.	0.62
(si4) There are a characteristic of strategies formulation (1) modifications (2) forms and (3) different methods but same direction.	0.58
(si6) There is an Innovation Strategy formulation that focus on fostering creativity for students (Student Oriented).	0.58
(si7) There is an Innovation Strategy formulation with ongoing plans and long-term.	0.64
(si9) There is an Innovation Strategy which is an open communication.	0.68
(si10) There is a vision, strategy and innovation goal towards the National level.	0.70
Organization Structure Element¹ ($\alpha = 0.87$)	
(oi1) There is a structural innovation that can integrate innovations that are flexible to change.	0.65
(oi2) There is an organizational structure with decentralized management that empowerment the people to make decisions.	0.65
(oi3) There is a strategic business unit or department responsible for innovation, such as cross-functional teams, award-winning teams.	0.70
(oi4) There is a departments project that are responsible for research and innovation development.	0.62
(oi5) A cross functional team has been established (i.e., personnel with knowledge and expertise from various fields) to create innovation.	0.74
(oi6) There is a self-managed in faculties, department, etc.	0.59
(oi7) There are various committees to drive innovation.	0.66
Innovation Culture Element¹ ($\alpha = 0.88$)	
(ci1) To encourages employees to be aware of and participate in responsibility in evaluating the organization's innovation performance	0.69
(ci2) There is a supports diverse knowledge, learns together, and accepts differences from ideas.	0.71
(ci3) To encourages employees to think courageously and accept mistakes or punishment from work without punishment.	0.67
(ci4) there are a cross-functional that promotes teamwork with a variety of knowledge and skills.	0.69
(ci7) To encouraged the Innovative Participation provides analysis of data from learners, service providers, competitive authorities and partners for the benefit of national development	0.66
(ci9) There are awards for personnel who create valuable for society or manage an efficient new service operating system.	0.61
Technology Innovation Element¹ ($\alpha = 0.86$)	
(ti1) There are an innovation develops information technology systems that are appropriate and modern for the use of institutional missions.	0.69

(ti3) There is data analytics technology development to enhance the student performance and improve learning outcomes.	0.76
(ti5) The use of technology in management such as key strategic indicators, employee details, learner information performance information and knowledge base	0.75
(ti7) To development of computer network. (Web server) that facilitates both internal and external teaching and learning	0.72
(ti8) The results of data analysis are used for continuously improvement of the institution management system.	0.75
Innovation Management Element¹ ($\alpha = 0.92$)	
(mi1) There are a flexible Value for Money and Property Management System	0.70
(mi6) There are an Innovation Management Channel for sharing knowledge and information to outsource.	0.71
(mi8) There are a training management system and development of creative and innovation skills.	0.70
(mi12) There is an activity to share information, knowledge, and experience to be used in responsible.	0.71
(mi13) There are a process management innovations allow researchers, teachers, and support staff to promote, create and improve their mission, provide new knowledge, produce new results that are beneficial to the organization and society.	0.72
(mi14) The key performance indicators of the overall organizational management innovation are defined and able to enter the marketplace	0.74
Resource Innovation Element¹ ($\alpha = 0.90$)	
(ri2) There were technological facilities and modern tools to support innovative works of all personnel and all institutes.	0.84
(ri4) There are resources to facilitate the exchange of knowledge and external cooperation and networks	0.76
(ri5) There were resources to facilitate social network construct for cooperation in a whole system such as funding, Joint Research, and cooperation among educational institutions, etc.	0.81
Marketing Innovation Element ($\alpha = 0.82$)	
(ki3) There are a new knowledge to sharing the knowledge learning for graduate students, faculty and general people.	0.64
(ki5) There are a behavioral response of the target group to improve the curriculum management process.	0.66
(ki6) There are a response behavior of employee groups in all institutes was used to improve institution development process to be effective and consistent with concept of behavioral markets.	0.84
Leadership Element¹ ($\alpha = 0.93$)	
(L1) Top executive could define vision and strategy for innovation, including participation in innovation's workforce.	0.73
(L2) Top executives allow employee to involve in innovation projects.	0.79
(L4) Top executives have knowledge and ability to manage innovation.	0.75
(L5) Top executives have an ability to administrate the personnel who had creative and innovative ideas.	0.84

(L6) Top executive have a communication capacity to clarify regarding to innovation.	0.80
(L7) Top executive contributes the innovation planning to the personnel workforce.	0.72
(L8) Top executive dared to risk and accept any mistakes or failure at work of personnel.	0.81

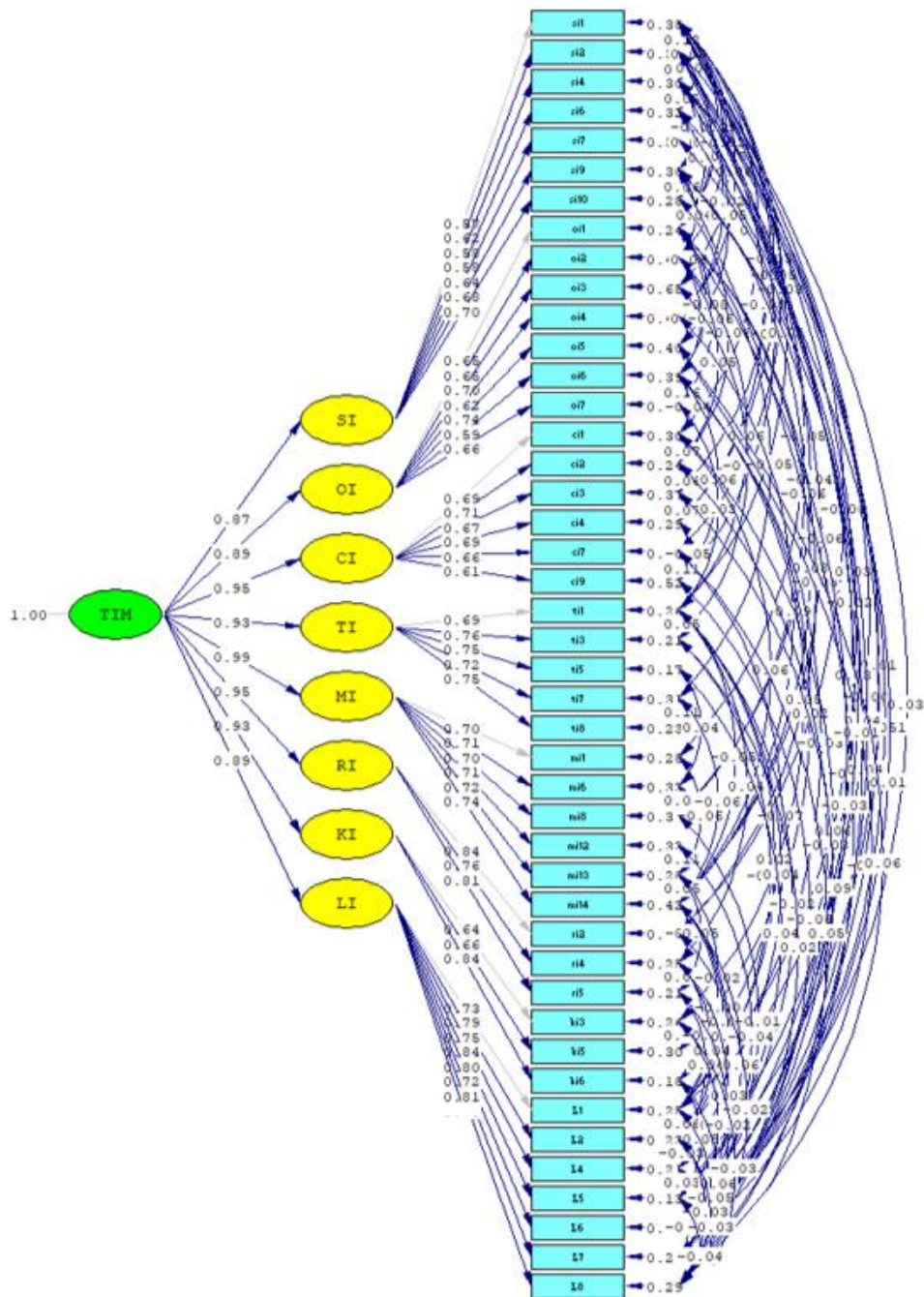
Note: ¹Please indicate how much you agree and disagree with each of the following statement. Five-point scale with 1 = “strongly disagree” to 5 = “strongly agree” as scale anchors.

α Item deleted during the scale validation process.

Testing the theoretical model

Following the establishment of measurement models, a second order confirmatory factor analysis model was then evaluated to investigate the consistency of a model’s elements of the Total Innovation Management of Private Higher Education Institution in Thailand.

The findings indicated that it does not fit the data, $\chi^2 (894) = 2127.39, p = 0.000$, $RMSEA = 0.07$, $CFI = 0.99$. An assessment of the modification indices based on theory validation proposes were used to adjust to improve model, $\chi^2 (776) = 992, p = 0.000$, $RMSEA = 0.03$, $CFI = 0.99$. Thus, the adjusted model presented in Figure 2 is considered acceptable.



Chi-Square=992.00, df=776, P-value=0.00000, RMSEA=0.033

Figure 2 Final model of the total innovation management of private higher education institution

Discussion of the findings

According to the previous section, all construct in the measurement model is significant at the 95% confidence level. This means that the model of the total innovation management of private higher education institutions consists of eight major factors as initially purposed; the major factors are including, 1) strategic innovation, 2) technological innovation, 3) leadership, 4) marketing innovation, 5) cultural innovation, 6) organizational innovation, 7) resources, and 8) management innovation.

The indicators with the highest weight included: 1) Responding to the behaviors of the employees and different agencies in order to improve the organization effectively, 2) Providing technological facilities and modern tools to support the every personnel and every agency in terms of innovation, 3) The executives can manage the organization with creativity and innovation, 4) Resources are available for building social networks in order to support the collaboration throughout the entire system, 5) The executives can manage risks and accept mistakes or failures in the workplace, and 6) The executives are able to communicate with the employees in order to clarify policies related to innovation.

According to the analysis of the empirical data, there were 8 components and 44 indicators in the model of total innovation management of higher education institutions as listed below.

The first component, strategic innovation, consisted of the transmission of vision, strategies and goals regarding innovation to different agencies in the organization. It also includes open communication, continuous planning and long-term goals. It is challenging to develop the total innovation management without vision. Additionally, strategies should be implemented to develop student-oriented creativity and organizational core competency. In this case, the executives of higher education institutions should strategically identify the unique points of their institutions to produce graduates with high quality and distinctiveness while promoting creativity and innovation.

The second component, organizational structure innovation, composed of cross-functional team and strategic business unit. The cross functional team consisted of skillful and knowledgeable personnel from diverse fields needed for developing innovation, and the strategic business unit referred to the entity responsible for innovation development. Integrated organizational structure innovation could facilitate changes, decentralization of decision making, research and development, and independent performance.

The third component, cultural innovation, involved such qualities as open-mindedness, trust, diversity, interdependency, tolerance, cross-functional teamwork, participation in goal achievement and evaluation, risk-taking, mistake and failure acceptance, data analysis, rewarding, and effective operational system. It should be noted



that supporting behaviors and open attitudes were necessary for innovation development, since they allowed and motivated the employees to make changes.

The fourth component, technological innovation, comprised of a data analysis system developed for improving the performance of students, a web server network system for domestic and overseas instructions, an effective data storage system, and other managerial technologies. These technologies could contribute to new learning approaches.

The fifth component, management innovation, amounted to the development of the practical total innovation management indicators, procedures supporting the creation of new ideas and products, activities for transferring and exchanging knowledge and experiences, innovation trainings, and flexible financial management. A practical evaluation system could continuously increase the effectiveness of the organization.

The sixth component, innovation resources, was made up of technological facilities, social network development facilities, and knowledge transfer and external collaboration facilities. Technology-seeking activities and innovative projects related to social capital required the collaboration between both internal and external stakeholders.

The seventh component, marketing innovation, included the use of behavioral reactions of employees (i.e. instructors) and the target groups (i.e.

students and outsiders) as the indicators for improving the organization and managerial processes. Having directions and goals benefited the total management system development as a whole.

The last component, leadership, referred to the executives who were able to manage creative and innovative personnel as well as willing to take risks and accepting mistakes or failures. These executives were expected to clearly communicate with and give opportunities to others. They were the key persons who specify vision, missions and strategies related to innovation. By having good leadership, it is possible to reduce unnecessary procedures and facilitate the innovative processes.

Managerial implication

This present study offers some important practical implication for organization leaders. First, the model of the total innovation management of private higher education institutions revealed that private higher education institution should pay attention to 8 aspects of innovation: strategic innovation, technological innovation, leadership, marketing innovation, cultural innovation, organizational innovation, resources, and management innovation. Secondly, to successfully implement the model, private higher education institution should emphasize the following practices: quality, personnel, leadership, organizational culture, academic potential, clear institutional

philosophy, development process and strategies, and unique proactive organization planning and implementation. Last, to sustain the innovation knowledge management, private higher education institution should integrate the concept of innovation into the organization mission statement and consider permanent organizational communication channel to promote the value.

Limitation and future research

Since literature review has clearly distinguish the management conditions of public and private higher education institutions, future research should examine the model in different context settings. Moreover, future research should also develop tools to monitor the implementation process, explore potential change resistance, and developed strategies in implementing change. Last, future research should focus on developing more tools and approaches aiming to improve student knowledge and efficiency.

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FACTORS INFLUENCING ADOPTION AND ACTUAL USAGE OF DIGITAL PAYMENT SYSTEMS IN THE ERA OF THAILAND 4.0 FOR THAI SOCIETY

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Abstract

The 20-year Thailand Digital Economy and Society Development Plan driven through Thailand 4.0 is the country's priority and a key driver to promote cashless society. It's crucial for Thailand to ensure that acceptance and adoption of digital payment systems are on track and understand where to do better after implementing the e-Payment initiative. This study aims to explore factors influencing adoption and actual usage (AU) of digital payment systems in the early era of Thailand 4.0, validate a new integrated model between the unified theory of acceptance of use of technology 2 (UTAUT2) and the innovation resistance theory (IRT) under the context of users, and investigate the mean differences of AU among different income levels. This research was conducted a quantitative analysis through a survey method in form of online questionnaire. 780 consumers who have ever used any modes of the digital payment systems from all region across Thailand were selected as target respondents for this study. The results indicate that behavioral intention (BI) to use and innovation resistance (IR) affect the usage of digital payment systems. Both BI and IR could well explain AU. There were mean differences arising from the differences of income levels toward AU. In addition, insights deriving from some defined factors were interestingly found out from this study which would benefit to concerned stakeholders.

Keywords: digital payment, digital society, e-payment, m-payment, UTAUT, UTAUT2, IRT, innovation resistance, behavioral intention, actual usage, Thailand 4.0, cashless

Introduction

The Thai government has prioritized transforming the country into “Digital Thailand” through the 20-year Thailand Digital Economy and Society Development Plan known as Thailand 4.0 aiming to drive the new S-curve industries by leveraging its well-established nationwide digital technologies and infrastructure. A decrease of 7.7% of banknote production volume in 2016 corresponded with the country’s digital payment initiative (Bank of Thailand [BOT], 2017). This leads to a commitment of Thai government to make Thailand a digital society and a hub for ASEAN aligning with the global payment direction (Thailand Board of Investment, 2016). Adoption of digital payment systems is considered being one of challenges for the country to accomplish. A success ultimately depends on the user’s acceptance and adoption of the systems. This is of interest and leads to an empirical study of the adoption of digital payment systems in the era of Thailand 4.0 to find out answers for the following research questions.

Q1: What is the situation in Thailand after implementing e-Payment initiative and what are key factors influencing acceptance and adoption of the digital payment systems?

Q2: Are there any mean differences among income levels toward actual usage of the digital payment systems at its nascent stage?

There are no existing researches found to comprehensively study a wide range of factors influencing the acceptance and adoption of digital payment systems for Thai context in the early era of Thailand

4.0. This research therefore constructed a conceptual framework to fill this gap. It explored factors influencing the behavioral intention and innovation resistance as barriers toward actual usage of digital payment systems and applied a new integrated model between the unified theory of acceptance and use of technology 2 (UTAUT2) and innovation resistance theory (IRT) to come up with statistical evidences to support the aforementioned research questions. Surprising and interesting results were highlighted and discussed in this paper. Therefore, the knowledge of factors influencing the adoption of digital payment systems from the citizens’ point of view and demographic profiles benefits to all stakeholders. It allows each party to understand in depth, perform their roles appropriately, and better formulate their strategies to strengthen the acceptance and adoption of digital payment systems in the later stages.

Digital payments are defined as electronic fund transfers. ATM transactions, transfer via a smartphone, point of sales transfer, internet and card payments are examples of digital payment systems which are dependent upon different technologies (Sivathanu, 2018). Digital payment is a mode of payment initiated through digital format which both payer and payee use it to send and receive money without involving hard cash i.e. coin and paper cash aligning with Hord (2005). All the transactions in the digital payment system are made and completed online which is also called as electronic payment (Pandey, 2017). The terms, mobile payment, mobile commerce, and contactless payment, also encompass the

definition of digital payment (Taylor, 2016).

Digital payment systems in this study are defined as all modes of payment other than cash and paper forms i.e. checks, which may or may not link to a bank account. Examples of digital payment systems are ATM, BAHTNET, credit card, debit card, e-Money (7 Card, Easy Pass, Rabbit Card, PromptPay, QR Code, etc.), internet payment, mobile payment, contactless payment, etc.

Literature review

Unified theory of acceptance and use of technology 2 (UTAUT2)

There is a number of models with different set of factors explaining how users accept and use innovations or technologies (Venkatesh, Morris, Davis & Davis, 2003; Venkatesh, Thong & Xu, 2012). The unified theory of acceptance and use of technology (UTAUT) is formulated by integrating four determinants (performance expectancy, effort expectancy, social influence, and facilitating conditions) that influence the adoption of information technology in the organizational context (Venkatesh et al., 2003). It was respectively extended other three determinants of behavioral intention and use behavior (hedonic motivation, price value, and habit) to serve the context of users known as UTAUT2 (Venkatesh et al., 2012). This study therefore considers UTAUT2 model to comprehensively explore factors influencing the adoption and actual usage of digital payment systems in Thailand.

Innovation resistance theory (IRT)

Sheth (1981) studied the innovation resistance (IR) psychology of consumers. He argued that the habit towards the existing behavior is one of factors to construct IR for adoption of innovation. Ram and Sheth (1989) therefore linked the theory of adoption with the theory of IR together by developing psychological (tradition and image) and functional (usage, value, and risk) barriers to innovation adoption. Hence, it's appropriate to combine the theory of IR as part of the conceptual framework for this study.

Performance expectancy)PE(

Performance expectancy is a scope of an individual's belief that helps him or her to gain job performance (Venkatesh et al, 2003). Five constructs pertaining to the performance expectancy and evolving in the literature from various models are perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations. Their similarities are acknowledged by some authors (Davis, 1989; Davis, Bagozzi & Warshaw, 1992; Thompson, Higgins & Howell, 1991; Moore & Benbasat, 1991; Plouffe, Hulland & Vandenbosch, 2001; Compeau & Higgins, 1995). Benefits of PE that the consumers get are personal image, economic benefits, convenience, and satisfaction (Taylor & Todd, 1995a, 1995b; Rogers, 1995) which match with the context of this study.

Effort expectancy (EE)

Effort expectancy is the ease of use experienced by the customers while using the system. The concept of EE from the existing models consists of three constructs with similar definition i.e., perceived ease of use, complexity, and ease of use (Venkatesh et al, 2003).

Cognitive efforts are required while learning and using the technology in the initial phase (Gefen, 2003; Venkatesh & Davis, 2000). The customers' expectations are improved for expected performance when they are at ease while using the mobile banking (Zhou, Lu & Wang, 2010; Hongxia, Xianhao & Weidan, 2011; Thakur, 2013; Mohammadi, 2015; Koksai, 2016; Martins, Oliveira & Popovic, 2014). Thus, the customers intend to use any kind of technology if there is less effort required (Sivathanu, 2018).

Social influence (SI)

Social influence is the consumers' perception toward belief of society that includes family members, friends, and other consumers who use the technology (Venkatesh et al., 2003). The consumers form a favorable image toward the use of technology and believe in what they can obtain from their societies as social image and status (Venkatesh & Morris, 2000; Venkatesh & Davis, 2000). SI is represented as subjective norm, social factors, and image (Venkatesh et al., 2003). Social norms are stated by Thompson et al. (1991) as a term to define their construct with its meaning similar to the subjective norm.

Facilitating condition (FC)

Facilitating condition is the degree to which an individual believes that an organizational and technical infrastructure exist to support the utilization of systems. The three constructs can explain the same i.e., perceived behavioral control, facilitating conditions, and compatibility which are formed to eliminate barriers to use the digital payment system (Venkatesh et al., 2003). Taylor & Todd (1995a, 1995b)

indicate that facilitating covers resources, software, hardware, knowledge of information, and technical support. FC will be a guideline, assistance, training provided for users when it comes to use of any technology (Venkatesh, Thong & Xu, 2012).

Hedonic motivation (HM)

Hedonic motivation is the way to measure pleasantness, fun, and enjoyment that derives from using the systems that consumers perceived. It contributes to the consumers' behavioral intention to use the technology. The critical influence of HM is from the novelty seeking and innovativeness existing in utilizing new systems (Venkatesh et al., 2012). Consumers enjoy using technology when the technology is pleasurable to use can well explain HM by Lee, 2009, Leong, Ooi, Chong & Lin (2013).

Habit (HA)

Habit is identified by the perceptual concept of doing or performing often, routinely, and regularly as repeated behavior (Venkatesh et al., 2012). If an individual keeps doing some actions regularly and is satisfied with the result, it explains the actions as habitual pattern (Venkatesh et al., 2012). A few existing researches concluded that habit contributed to BI to use information technology (Lankton, Wilson & Mao, 2010; Aarts & Dijksterhuis, 2000) and had an influence on BI when mobile payment was used (Dahlberg & Oorni, 2007). However, Raman and Don (2013) examined that habit had a negative influence towards BI. Thus, it is reasonable to apply these literatures to this study when using the system

becomes a habit for consumers to adopt the digital payment system.

Usage barrier (UB)

Usage barrier is formed when consumers feel against the innovation owing to any new systems are not well corresponded with the current ones including practices and habits (Ram & Sheth, 1989; Laukkanen, Sinkkonen & Laukkanen, 2009) confirmed that the resistance to the usage of banking technology was existing based on prior studies. UB is considered as one of the major factors that influences innovation resistance of consumers who use the innovation. Thus, the consequence of UB towards IR for the digital payment systems should be considered to prove whether it's in line with the previous studies or not.

Value barrier (VB)

Value barrier is the consumers' view from financial aspect arising from the innovation that adds value to its operation; in particular (Davis, Bagozzi & Warshaw, 1989). Innovation may fail to deliver smarter performance compared to the existing alternate systems to the users. Hence, they do not realize any value added to the new innovation (Ram & Sheth, 1989). It was reported that the banks did not provide online banking services or system features that they used to offer to the consumers (Fain & Roberts, 1997). This would be considered as VB and reasonable to examine with the IR to use the digital payment systems.

Risk barrier (RB)

Risk barrier is the perceived risks that causes damages to the consumers in areas of financial, social, physical, and psychological (Forsythe & Shi, 2003).

There are some concerns related to PIN codes, security, and privacy in the internet and mobile banking services which are considered as risk (Kuisma, Laukkanen & Hiltunen, 2007; Luarn & Lin, 2005). Confidentiality is the perceived security regarding the internet banking in addition to other risks perceived by the consumers who used the digital payment systems according to Liao and Cheung (2002). An influence of RB towards IR therefore makes sense to be focused on in this study.

Traditional barrier (TB)

Traditional barrier is realized as an obstacle deriving from norms, traditions, and any kinds of behavior which the consumers tend to present it in a way that conflict the norms maintaining in family, community, society, or groups (Herbig & Day, 1992). Innovation resistance is a consequence of disapproval of the society according to Ram and Sheth (1989). There are a few instances to well describe the barrier in this context i.e., the consumers are not familiar with electronic medium when they are paying bills (Fain & Roberts, 1997), and they prefer using traditional channel to pay their bills at the bank instead of processing it through electronic mode available (Forman & Sriram, 1991). The relationship of TB towards IR for adoption of the digital payment systems is investigated in this research.

Image barrier (IB)

Image barrier is an impediment of product features or attribute of an innovation. According to Ram and Sheth (1989), the image generally arises from the various types of information, rumors, and a general image of a certain group of people known as stereotypes. Fain and

Roberts (1997) suggested that the difficulty to use electronic and mobile services perceived by the consumers is a negative image of technology. With this adverse view, IB towards IR is included in this study.

Behavioral intention (BI)

Behavioral intention is a degree of intention of an individual to act or execute a specific behavior (Davis et al., 1989). It is also explained as the extent to which users are willing to use a technology (Carlsson, Carlsson, Hyvonen, Puhakainen & Walden, 2006; Harsono & Suryana, 2014). The subjective norm construct for behavioral intention is the most supreme antecedent (Ajzen, 1991). The theory of planned behavior (TPB) clarifies the purchase intention (Ajzen & Madden, 1986). It connects the behavior and attitude intentions together (May So, Wong & Sculli, 2005). The theory of reasoned action (TRA) is another model describes that performance of an obvious behavior is presented by the intention to carry out the behavior itself (Warshaw, 1980). There are a few researches conducted by Shih and Huang (2009) and Vatanasakdakul, Aoun & Li, (2010) emphasized that BI directly and positively influences actual usage of ERP systems. McKnight, Cummings & Chervany, 1998; McKnight, Choudhury & Kacmer, 2002, define BI as a trust construct to become trust related behaviors that accumulates and influences BI to AU (Pavlou, 2003). These views align with a context of BI to use digital payment systems for this study.

Innovation resistance (IR)

Innovation resistance is reaction of consumers towards an innovation. It creates either potential changes from a satisfactory status quo or conflict to their belief perspective. It is called as one of the critical factors for adoption of technological innovation (Szmigin & Foxall, 1998). Resistance to change, imposed by the innovation e.g. changes in adoption of digital payment systems under this study, is one aspect of innovation resistance (Gatignon & Robertson, 1989). Innovation resistance is but a special version of resistance to change (Ram, 1987). The resistance to change is any conduct that serves people to maintain the status quo in the area of pressure to alter the status quo. It is a nature of response of human being to any changes that disturb the balance of living environment or firms' actions (Zaltman & Duncan, 1977). Several studies identified resistance as the natural preference or tendency of individuals to avoid changes (Davis, 2004; Hartmann & Fischer, 2009; Lapointe & Rivard, 2005; Martinko, Henry & Zmud, 1996; Val & Fuentes, 2003; Waddell & Sohal, 1998). There are three forms of resistance which lead the consumers' response towards innovation resistance (Mirella, Nick & Wetzels, 2009). They are *direct rejection* i.e. no valuable advantage is offered by the innovation (Szmigin & Foxall, 1998), *postponement* i.e. delaying the adopting of digital payment systems to future, and *opposition* i.e. searching for more information after adopting the digital payment systems or protesting it. The most extreme form of innovation resistance is the direct rejection (Mirella et al., 2009).

Actual usage (AU)

Actual usage is defined as *frequency of usage* which is one of the two dependent variables in addition to the Behavioral Intention (BI) to use digital payment systems, and derived from the UTAUT model of Venkatesh et al. (2003). Because of the necessity from an organization, some individuals will engage in certain behaviors to help predict actual usage of technology services (Ratten & Ratten, 2007). However, others may have opinions on the technological innovation based on time required to believe in the innovation. Thus, an individual's beliefs about the innovation will be partly presented by his or her actions and attitudes towards adoption of digital payment systems (Chen & Chang, 2013). It seemed that actual usage is unlikely easy to measure, but these beliefs can be part of help evaluate the adoption behavior in this context (Ratten, 2015).

Research framework and methodology

Research objective

This study aims to explore factors influencing acceptance and adoption of

digital payment systems in areas of Behavioral Intention (BI), Innovation Resistance (IR), and Actual Usage (AU) of the systems in the early era of Thailand 4.0 after Thai government has launched the National e-Payment Master Plan to promote the digital economy across the country. Validating a new model integrated between the unified theory of acceptance and use of technology 2 (UTAUT2) and the innovation resistance theory (IRT) is also covered in this study. In addition, the researcher extends the study to investigate the mean differences of AU of digital payment systems as a result of different income levels to uniquely contribute and add value to this paper.

Conceptual framework

The conceptual framework of this study (Figure 1) is adopted from the theoretical model of Sivathanu (2018) who integrated UTAUT2 and IRT models into a single framework. The Price Value (PV) construct is not considered in this paper because the government provides an incentive of transfer fee exemption to promote both Thailand 4.0 growth model and the digital economy policy.

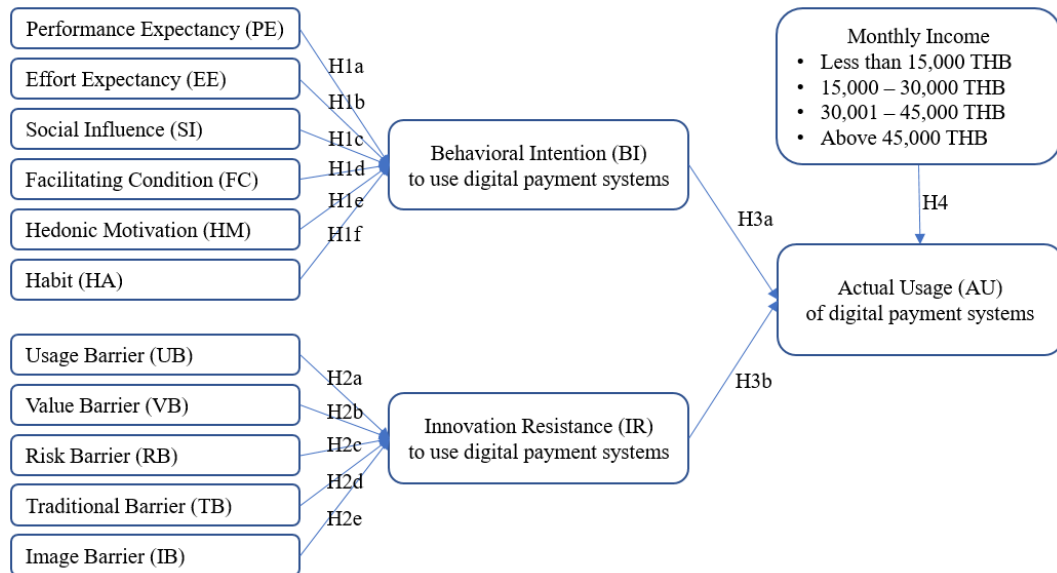


Figure 1 Conceptual Framework

This study forms fourteen hypotheses, as shown in Table 1, intended to achieve the research objective. The hypotheses are

defined to align with the conceptual framework as follow:

Table 1 Defined Hypotheses

No.	H	Hypotheses
1	H1a	PE positively significant influences BI to use digital payment systems
2	H1b	EE positively significant influences BI to use digital payment systems
3	H1c	SI positively significant influences BI to use digital payment systems
4	H1d	FC positively significant influences BI to use digital payment systems
5	H1e	HM positively significant influences BI to use digital payment systems
6	H1f	HA positively significant influences BI to use digital payment systems
7	H2a	UB positively significant influences IR to use digital payment systems
8	H2b	VB positively significant influences IR to use digital payment systems
9	H2c	RB positively significant influences IR to use digital payment systems
10	H2d	TB positively significant influences IR to use digital payment systems
11	H2e	IB positively significant influences IR to use digital payment systems
12	H3a	BI to use digital payment systems has a positive significant influence on AU of digital payment systems

13	H3b	IR to use digital payment systems has a negative significant influence on AU of digital payment systems
14	H4	There is a significant mean difference in monthly income level on AU of digital payment systems

Research methodology

This research was conducted by performing the quantitative analysis for the adoption of digital payment systems in Thailand through a survey method. The survey was carried on in form of online questionnaire to collect all required data. The convenience and snowball sampling techniques were used as non-probability sampling for the data collection. In addition, the quota sampling was also intentionally selected to find out a mean difference of AU of the digital payment systems arising from the levels of monthly income.

Measurement of conceptual framework and variables

The literature review was conducted to ensure that UTAUT2 and IRT models were appropriate for developing the conceptual framework, and to understand all variables incorporated in this study. A five-point Likert scale was applied to test all hypotheses by ranking from strongly disagree (1) to strongly agree (5) throughout this study (Barnette, 2000).

Population and sample

Consumers who are residents in all region of Thailand and have ever used any modes of digital payment systems were selected as target respondents for

this study. The total initial number of respondents who participated in the survey was 798 from various demographic profiles while at least 384 respondents are required at 95% confident level to represent 67 million people of Thai population size (Krejcie & Morgan, 1970). After validating the sample by two screening questions, 780 respondents were finally qualified to appropriately carry on the study. This is a similar sample size compared to Sivathanu (2018) who conducted an empirical study in adoption of digital payment systems in the era of demonetization in India.

Reliability test

The reliability test was established at the pilot stage when number of respondents reached 30. Cronbach's Alpha Coefficient was considered examining the reliability level of each group of items included in the questionnaire whether it is consistent and higher than 0.7 or not (Cronbach, 1951). With reference to Table 2, the Cronbach's Alpha Coefficient falls in a range between 0.748 to 0.963 which is greater than 0.7. This indicates that high internal consistency is met for all research constructs defined according to Nunnally (1978). Therefore, the questionnaire developed for this study is fully achieved the standard required for reliability test, and is acceptable to move the research forward.

Table 2 Reliability test

Second-order Construct		First-order Construct	No. of Items	Cronbach's Alpha
Behavioral Intention)BI(		Performance Expectancy)PE(	4	0.799
		Effort Expectancy)EE(	4	0.919
		Social Influence)SI(	4	0.830
		Facilitating Condition)FC(	4	0.855
		Hedonic Motivation)HM(	3	0.963
		Habit)HA(	4	0.921
		N/A	6	0.937
		Usage Barrier)UB(	5	0.846
		Value Barrier)VB(	3	0.895
		Risk Barrier)RB(	5	0.953
		Traditional Barrier)TB(	2	0.889
		Image Barrier)IB(	3	0.852
Innovation)IR(	Resistance	N/A	3	0.748
Actual Usage)AU(		N/A	4	0.889

Result and discussion

Data analysis

Multiple Linear Regression (MLR) was used as a statistical tool to analyze the hypotheses based on the conceptual framework. The first group consists of six independent variables i.e. Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Condition (FC), Hedonic Motivation (HM), and Habit (HA), and one dependent variable which is Behavioral Intention (BI) to use digital payment systems. The second group comprises with five independent variables i.e. Usage Barrier (UB), Value Barrier (VB), Risk Barrier (RB), Traditional Barrier (TB), and Image Barrier (IB), and one dependent variable

which is Innovation Resistance (IR) to use digital payment systems. The last group has two independent variables i.e. Behavioral Intention (BI) and Innovation Resistance (IR) to use digital payment systems, and one dependent variable which is Actual Usage (AU) of digital payment systems. In addition, One-Way ANOVA was used to analyze the score of mean differences of the Actual Usage (AU) of digital payment systems among the monthly income levels.

Demographic profile

This section aims to highlight the characteristics of demographic factors arising from the data that are collected from 780 respondents who are residents of Thailand and have ever used digital payment systems. Majority of

respondents is female which is two third or 67.7% of the total sample size whereas male is one third or 32.3% of the population. The respondents who participated in this study are Millennial or Gen Y (45.7%), Gen X (43.3%), and Baby Boomers (10.9%). They are from all regions across Thailand. The majority respondents live in Bangkok and Metropolitan (66.2%) followed by North (8.7%), Central exclusive of Bangkok and Metropolitan (7.7%), and South (6.5%) respectively. More than a half of respondents holds Diploma/Bachelor's Degree (56.4%) followed by Master Degree or higher (30.6%), Certificate/Secondary (8%), and less than that in a proportion of 5%. Over a half of respondents works for private companies (53.4%), followed by government (22.8%), state enterprises (5.1%) and the rest from varieties of occupation (18.7%) such as student, freelance, entrepreneur, retired people, housewife, and staff of international organizations. The monthly income levels of the respondents are very close

to each other given that a quota sampling technique is intentionally applied to this study. The major monthly income ranges are 15,000-30,000 THB (27.4%) and above 45,000 THB (27.2%) and approximately 23% each for income ranges less than 15,000 THB and 30,001-45,000 THB.

With reference to the most preferred digital payment methods that the respondents have ever used, ATM is the first rank at 80.6%, credit cards/debit cards come second at 70.2%, followed by internet payment and mobile payment which both represent the same level of preference in the third rank at 62.9%. e-Money comes next at 47.3% whereas BAHTNET stands last at 2.7% respectively. The respondents use digital payment systems mostly once a week)28.3%(and once every 2-3 days)27.3%(whereas every day comes at the moderate frequency)17.7%(. Once every 4-6 days and once a month are at the least frequencies from the survey i.e. 13.9% and 12.8% respectively.

Descriptive analysis

Pearson's correlation

Table 3 Correlation Matrix)H1a – H1f(

Variable	Mean	SD	BI	PE	EE	SI	FC	HM	HA
BI	3.8794	0.84123	1						
PE	3.9583	0.65653	0.665*	1					
EE	3.8779	0.71964	0.664*	0.617*	1				
SI	3.9173	0.74558	0.657*	0.653*	0.603*	1			
FC	3.6122	0.75628	0.660*	0.605*	0.662*	0.635*	1		
HM	3.5029	0.89264	0.714*	0.595*	0.645*	0.608*	0.634*	1	
HA	3.7750	0.91837	0.832*	0.631*	0.677*	0.608*	0.688*	0.674*	1

Note: * represents the correlation which is significant at 0.05 level (1-tailed).

With reference to the Pearson's Correlation Matrix for H1a – H1f as exhibited in Table 3, all variables have positive correlations among each other with P-value less than 0.05. According to the strength of correlations defined by the Political Science Department at Quinnipiac University)Statistic how to, n.d.(, the overall relationship between

variables has a strong positive relationship in the range 0.595-0.688 while two pairs in the matrix showing very strong relationship. Those are Hedonic Motivation)HM(and Behavioral Intention)BI(at 0.714 correlation, and Habit)HA(and Behavioral Intention)BI(at 0.832 correlation.

Table 4 Correlation Matrix)H2a – H2e(

Variable	Mean	SD	IR	UB	VB	RB	TB	IB
IR	1.7884	0.93803	1					
UB	2.4674	0.92242	0.600*	1				
VB	2.3017	0.94657	0.642*	0.722*	1			
RB	3.7523	0.90185	0.168*	0.400*	0.345*	1		
TB	3.4090	0.72551	0.082*	0.043	0.003	0.169*	1	
IB	2.3340	0.93795	0.723*	0.732*	0.677*	0.332*	0.070*	1

*Note: * represents the correlation which is significant at 0.05 level (1-tailed).*

According to the Correlation Matrix for H2a – H2e shown in Table 4, it indicates positive correlations between variables in all pairs with P-values less than 0.05 except two ones of TB:UB and TB:VB which both P-values are more than 0.05. Different degrees of relationship can be reported as follow: VB:UB, IB:IR, and IB:UB have very strong positive

relationship in the range 0.722 – 0.732. RB:UB, UB:IR, VB:IR, and IV:VB have strong positive relationship in the range 0.400 – 0.677. IB:RB and RB:VB have moderate positive relationship at 0.332 and 0.345 respectively. TB:IR, RB:IR, and TB:RB have no relationship between each other in the range 0.082 – 0.169.

Inferential analysis and multicollinearity validation

Table 5 Multiple linear regression result)H1a – H1f(, Dependent variable: BI

Standardized Coefficient			
Hypothesis	(β)	VIF	Result
H1a	0.114*	2.215	Supported
H1b	0.037	2.418	Not Supported
H1c	0.120*	2.237	Supported
H1d	0.005	2.483	Not Supported
H1e	0.186*	2.310	Supported
H1f	0.534*	2.654	Supported
R Square		0.759	
Adjusted R Square		0.757	

Note: * represents standardized coefficient (β) with P -value ≤ 0.05 .

The result exhibited in the Table 5 represents R^2 at 0.759 which means that 75.9% of all six independent variables in this first group i.e. Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Condition (FC), Hedonic Motivation (HM), and Habit (HA) could well explain the dependent variable, Behavioral Intention (BI) to use digital payment systems, at 0.05 significant level or 95% of confident level. The P -values of the independent variables, PE, SI, HM, and HA, are less than 0.05 indicate that H1a, H1c, H1e, and H1f are supported whereas other two hypotheses i.e. H1b and H1d are not supported because of P -values greater than 0.05. As a result, PE, SI, HM, and HA have statistically significant positive influences on BI to use digital payment systems at the

Standardized Coefficients (Beta) 0.114, 0.120, 0.186, and 0.534 respectively. HA has the most statistically significant positive influence on BI with Standardized Coefficient 0.534. This implies that satisfaction with favorable results and convenience offered by service providers, encouragement from society (i.e. family members, friends, and other consumers), enjoyment, and preference of using it regularly are what the consumers perceived with less effort and without seeking training and technical support while executing transactions through digital payment systems. The variance inflation factors (VIFs) were verified to validate the multicollinearity problem. All VIFs were less than 5.00. This indicates that no critical issues exist with this study.

Table 6 Multiple linear regression result)H2a-H2e(, Dependent variable: IR

Standardized Coefficient			
Hypothesis	(β)	VIF	Result
H2a	0.059	2.803	Not Supported
H2b	0.294*	2.342	Supported
H2c	-0.142*	1.237	Supported
H2d	0.066*	1.038	Supported
H2e	0.523*	2.403	Supported
R Square		0.585	
Adjusted R Square		0.582	

Note: * represents standardized coefficient (β) with P -value ≤ 0.05 .

The outcome from the Table 6 reveals R^2 at 0.585 which interprets that 58.5% of all five independent variables in this second group i.e. Usage Barrier)UB(, Value Barrier)VB(, Risk Barrier)RB(, Traditional Barrier)TB(, and Image Barrier)IB(could explain the dependent variable, Innovation Resistance)IR(to use digital payment systems, at 0.05 significant level. The P -values of all independent variables are less than 0.05 except UB which confirm that the hypotheses namely H2b, H2c, H2d, and H2e are supported whereas H2a is not supported. This result leads to a conclusion that VB, RB, TB, and IB have statistically significant influences on IR to use digital payment systems. IB has the most positive influence on IR to use digital payment systems with Standardized Coefficient 0.523, followed by VB at 0.294. Surprisingly, the result

obviously presents that only RB has negative significant influence on IR to use the digital payment systems with Standardized Coefficient -0.142. Hence, RB is considered being an inhibitor to the innovation resistance. The multicollinearity problem was also validated and found no issues similar to the previous group. This implies that financial benefit in area of cost savings together with economy benefit in area of time savings, availability of traditional modes of payment, negative image of technology in areas of features and attributes spread via word of mouth or rumors are factors for consumers to create potential changes while less concerns in security and privacy are demonstrated to adopt the digital payment systems in the era of Thailand 4.0.

Table 7 Multiple linear regression result)H3a-H3b(, Dependent variable: AU

Standardized Coefficient			
Hypothesis	(β)	VIF	Result
H3a	0.624*	1.118	Supported
H3b	-0.235*	1.118	Supported
R Square		0.539	
Adjusted R Square		0.538	

Note: * represents standardized coefficient (β) with P -value ≤ 0.05 .

The result presented in the Table 7 shows R^2 at 0.539 which indicates that 53.9% of both independent variables as intermediate ones in the last group i.e. Behavioral Intention)BI(and Innovation Resistance)IR(to use digital payment systems could explain the dependent variable, Actual Usage)AU(of digital payment systems, at 0.05 significant level. The P -values of both independent variables are less than 0.05 which also confirm that both hypotheses, H3a and H3b, are supported. This implies that BI and IR to use digital payment systems have statistically significant influences on AU of digital payment systems. With reference to the Standardized

Coefficients reported in the Table 8 for both BI)0.624(and IR)-0.235(, it leads to a conclusion that BI has a positive influence on AU of digital payment systems whereas IR, in contrast, has a negative influence on AU of digital payment systems. The multicollinearity problem was accurately validated and found no issues in line with the previous two groups. This reveals that trust accumulated for the consumers to express their intention and reaction towards an innovation as conflict to their belief affect the frequency of use of the digital payment systems because it may take time for some of them to believe and rely on the systems.

Table 8 One-way ANOVA

ANOVA					
AU					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.937	3	2.979	3.670	0.012
Within Groups	629.823	776	0.812		
Total	638.760	779			

An analysis of variance exhibited in the Table 8 above shows that the influence of mean difference of monthly income

levels on Actual Usage)AU(of digital payment systems is significant, $F(3, 776) = 3.67$, $p = 0.012$.

Table 9 Scheffe's post hoc test)Multiple comparisons(

Income Level (THB) (I)	Income Level (THB) (J)	Mean Difference (I-J)
Less than 15,000	15,000-30,000	0.256*
	30,001-45,000	0.284*
	Above 45,000	-0.180
15,000-30,000	Less than 15,000	0.256*
	30,001-45,000	-0.028
	Above 45,000	0.077
30,001-45,000	Less than 15,000	0.284*
	15,000-30,000	0.028
	Above 45,000	0.105
Above 45,000	Less than 15,000	0.180
	15,000-30,000	-0.077
	30,001-45,000	-0.105

Note: * represents the mean difference with $P\text{-value} \leq 0.05$.

The Scheffe's Post hoc Test result exhibited in the Table 9 indicates that there are statistical differences of mean scores of Actual Usage (AU) of digital payment systems between two income levels i.e. between less than 15,000 THB and 15,000 – 30,000 THB, and between less than 15,000 THB and 30,001-45,000 THB vice versa at 95% confident level. Thus, H4 is supported. This indicates that the differences of income levels of consumers influence intention of individuals to execute transactions through digital payment systems. Thus, the way to approach each group of consumers should be considered differently when launching marketing campaigns to suit each group because their levels of income matters.

Conclusion, limitation and recommendations

Discussion and conclusion

This research was conducted an empirical study to examine factors influencing adoption and actual usage of digital payment systems in the early era of Thailand 4.0 for Thai society after the launch of the National e-Payment Master Plan by the Thai government. The study was also extended to investigate the mean differences of monthly income levels of 780 respondents across the country, which influenced the actual usage of digital payment systems as a unique contribution of this paper. The conceptual framework was adopted from an integration of the unified theory of acceptance and use of technology 2 of Venkatesh et al., (2012) and the innovation resistance theory of Ram and

Sheth (1989) to test fourteen hypotheses. The results obtained from Pearson's Correlation, Multiple Linear Regression, and One-Way ANOVA lead to a conclusion of this study.

Performance expectancy (H1a), social influence (H1c), hedonic motivation (H1e), and habit (H1f) have positive significant influences on behavioral intention to use digital payment systems consistent with the existing studies (Aarts & Dijksterhuis, 2000; Kim, Park & Oh, 2008; Lankton et al., 2010; Tarhini, El-Masri & Serrano, 2016; Venkatesh & Morris, 2000; Venkatesh et al., 2003).

However, effort expectancy (H1b) and facilitating condition (H1d) do not have positive significant influences on behavioral intention to use digital payment systems. Effort expectancy becomes nonsignificant over periods of sustained and extended usage which is in line with previous researches (Agarwal & Prasad, 1997, 1998). Influence of effort expectancy will be stronger for women and older workers with limited experience (Venkatesh et al., 2003). This concludes that there is less effort required from respondents who intend to use digital payment systems in Thai society. It interprets that "Ease of Use" is the key component of designing the digital payment systems and developing its online application. Thus, system developers are still needed to assure the ease of use for the systems. With reference to influence of facilitating condition, the finding exactly aligns with the studies of Hosseini, Delaviz & Derakhshide (2016), and Tarhini, Masa'deh, Al-Busaidi, Mohamad, & Maqbleh (2017). Venkatesh (2000) also concluded that when both

performance expectancy and effort expectancy are presented, facilitating condition becomes nonsignificant on behavioral intention which is consistent with the finding of this study. In contrast, facilitating condition would have a direct influence when testing with actual usage alone. This concludes that a guidance, technical support, training would be considered as unnecessary for users in the early era of Thailand 4.0 when using the digital payment systems because they are experienced users and keen to use the systems. In addition, they perceived ease of use and benefited from convenience and were satisfied while using digital payment systems as performance expectancy and effort expectancy are presented according to Venkatesh (2000). 87% of respondents hold education degrees equivalent to bachelor's and higher is rational to support this conclusion in a way that they get to know well how the digital payment systems work. This means that education is needed to support adoption and acceptance of digital payment systems. This leaves a challenge with the government to cope up with it in a long-run.

Value barrier (H2b), risk barrier (H2c), traditional barrier (H2d), and image barrier (H2e) have positive significant influences on innovation resistance to use digital payment systems. These findings are consistent with the study of Sivathanu (2018) except usage barrier ((H2a) which has no positive significant influence on innovation resistance. This reveals that users feel that using digital payment systems are simple, user-friendly, and quicker. Development of the digital payment systems is understandable, and changing PIN codes is convenient with no harm. Hence, this

reflection makes sense and can be considered as another insight arising from this study.

The influence of value barrier arises from the awareness of consumers to be charged for transactions initiated via digital payment modes after the government has withdrawn the incentives. Thus, increasing of transaction fees must be carefully considered. The value of new digital payment systems perceived less than the existing ones is another concern.

Risk barrier (H2c) plays an inhibitor role to innovation resistance to use digital payment systems. There are two studies found negative influence of perceived risk towards behavioral intention (Tan & Lau, 2016; Wu, Liu & Huang, 2017). The finding of this study is in contrast with Sivathanu (2018) which can contribute and be considered as food for thought for Thai context where the consumers have less concerns of loss of internet connection, accuracy of input information via digital systems, making mistake in tapping the bill information, account accessing by third party, and having PIN codes with wrong hands during the early era of Thailand 4.0. This could imply that the consumers have less resistance to use digital payment system and rely more on the security protection and new designs of the systems such as QR code which can eliminate mistakes and risks. However, they are still aware of the risk while using the digital payment systems. Therefore, maintaining good security protection with innovative approaches at all time will dilute concerns in this area.

Traditional barrier (H2d) is confirmed as an influencer of innovation resistance given that the consumers still prefer

using traditional channels to pay their bills for some reasons (Forman & Sriram, 1991). One rationale would be a restriction of threshold for making one transaction via digital payment systems such as ATM. Image barrier (H2e) in areas of features and attributes of digital payment systems including images arising from word of mouth regarding difficulty to use is what consumers are concerned. It plays the most important role with the most influence on innovation resistance.

Behavioral intention (H3a) has a positive significant influence on actual usage of digital payment systems which is consistent with the previous studies (Sivathanu, 2018; Venkatesh & Zhang, 2010; Venkatesh et al., 2003, 2012). It implies that the launch of the National e-Payment Master Plan influences on actual usage of digital payment systems. Positive feedbacks of Thai citizens from frequency of use responding to this initiative in executing transactions through digital payment systems are a key success of the government and all stakeholders. Hence, the aforementioned factors should be monitored in order to promote this initiative in a sustainable manner.

Innovation resistance (H3b), in contrast, has a negative significant influence on actual usage of digital payment systems which is in line with the previous studies (Garcia & Atkin, 2002; Sivathanu, 2018). This proves that the above-mentioned barriers still exist as obstacles on actual usage of the digital payment systems in the early era of Thailand 4.0. Thus, the more the barrier of VB, TB, and IB are reduced, the less resistance will become an inhibitor similar to RB which will

support the acceptance and adoption of the digital payment systems in Thailand.

The analysis of mean differences of actual usage of the digital payment systems among monthly income levels shows that there are two groups of income levels with mean differences. Those are the income levels between less than 15,000 THB and 15,000 – 30,000 THB, and less than 15,000 THB and 30,001 – 45,000 THB vice versa. This result provides the same insight compared to the studies of Connolly & Stavins (2015) and Stavins (2016) who concluded that the income was correlated with consumers' payment behavior.

In conclusion, based on the above-mentioned results and discussions, habit (HA) should be the factor to address as it plays the most significant positive influence role on behavioral intention (BI) for Thai context, however, it may become negative influence in accordance with the research conducted by Raman and Don (2013). Hence, satisfaction of services should be seriously monitored; otherwise, it will create impact on the habitual pattern of the acceptance and adoption of the digital payment systems. In addition, image barrier (IB) which related to product features of the systems is another major factor to carefully consider because it easily creates a negative image of technology from unpleasant features of the digital payment systems.

Theoretical contribution

Behavioral intention to use digital payment systems was well explained by performance expectancy, effort expectancy, social influence, facilitating

condition, hedonic motivation, and habit as independent variables under the unified theory of acceptance and use of technology 2 model at 75.9%.

Innovation resistance to use digital payment systems was explained by usage barrier, value barrier, risk barrier, traditional barrier, and image barrier as independent variables under innovation resistance theory model at 58.5%.

Actual usage of digital payment systems was also explained by behavioral intention and innovation resistance under the unified theory of acceptance and use of technology 2 and innovation resistance theory models at 53.9%.

This is a unique contribution made to recognize the study of Sivathanu (2018) who integrated these two models for studying adoption of digital payment systems in the era of demonetization in India. The theoretical model could be recognized and adopted to appropriately carry on this research to explore factors influencing adoption and actual usage of digital payment systems in the context of Thai society.

Implication and recommendation

Given that no study exists to investigate the new integrated model arising from the study of Sivathanu (2018) regarding the adoption and actual usage of digital payment systems, this research was carried out to validate the model for the first time by comparing the findings and results from the country contexts of demonetization in India and Thailand 4.0 of Thai society under the National e-Payment framework. There is some food for thought derived from this study as

valuable insights that should be highlighted and would benefit to researchers.

This study extended the implication to digital payment service providers including commercial banks as the government's counterparts. They should conquer all existing barriers and issues influenced digital payment systems, and take all key factors influencing behavioral intention into account by playing an active role in promoting and facilitating attractive marketing campaigns to increase awareness of using digital payment systems, in particular of considering the result of mean differences of consumers' income levels that influence on actual usage of digital payment systems. The waivers of fees which have been announced recently are what Thai commercial banks introduced to promote their digital payment services. This initiative should be continuously maintained. The service providers should make the systems trendy, fun, and enjoyable to increase customers' satisfaction and motivation and serve their digital lifestyles. Promoting more on social medias to boost engagement and build professional image is recommended strengthening the social influence as smartphones are considered as a tool that the people can't live without it in the digital world.

The country economists can also benefit from this study by having the insights analyzed in depth from economist perspective in order to advise and provide inputs for the government to monitor, enhance the infrastructure, and prepare for being cashless society in the future.

Bank of Thailand as one of policy makers who is accounted for the National e-

Payment framework can utilize the findings and insights to optimize the ongoing policies and initiatives i.e. PromptPay, QR Code. Formulating new policies and enforcing cyber and security protection laws to suit and attract the citizens and all stakeholders are also recommended to mitigate unexpected risk. Maintaining incentives of fees exemption is the right scheme to promote and sustain the actual usage of digital payment systems for Thailand.

Consumers as key players and users including new entrants who are reluctant to use the digital payment systems should gain knowledge from insights of this study, especially the concern of risk which was reported as the inhibitor to innovation resistance. This highlights a very positive signal for the existing consumers and the new entrants to feel more confident with less concerns in security, privacy, and confidentiality when using the digital payment systems in the era of Thailand 4.0.

Limitation and future research directions

This research is limited with the new integrated model, the unified theory of acceptance and use of technology 2 and the innovation resistance theory, and aims to achieve the objective based on appropriateness identified. Thus, other models of technology adoption and innovation resistance should be considered carrying on the further studies. This research was conducted in the context of Thailand only. With diversity and rapid growth of disruptive technology in various dimensions, it makes sense to consider looking to different contexts in terms of countries,

cultures, FinTech, in particular of PromptPay, QR Code, Bitcoin, Crypto currencies and so on which are now considered as part of mega trend as one of directions for future studies.

Another demographic factor may be considered testing and providing an insight to benefit concerned stakeholders. For instance, education level is recommended examining for adoption of digital payment systems according to the study of Singh (2017).

Incorporating other relevant factors such as price value, trust, loyalty, and government support is also recommended coming up with new theories and conceptual frameworks in order to comprehensively understand different contexts, make differences and uniqueness, and add value to the upcoming studies. In addition, a later stage of Thailand 4.0 is highly recommended studying further before moving forward to the cashless society in the near future.

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THE INTENTION AND ADOPTION AFFECTING DECISION FOR USING ANDROID AND IOS OPERATING SYSTEM ON SMARTPHONE IN THAILAND

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Abstract

As a trend using smartphone is still ongoing popularity. People trend to adopt and work through on smartphone instead of computer. This study attempts to provide significant insight into consumer intention to use Android and iOS operating system on smartphone, it is important to understand the factors that influence and effect to the adoption of the operating system among smartphone's users. Although, previous research are extensive studies on demand of smartphone, but only a few have explored in operating system.

A total of 400 respondents answered the questionnaires in particular smartphone users who using Android and iOS operating system. Data analysis was using descriptive statistic, the level of agreement, t-test, anova, and regression analysis.

This research found that perceived ease of use is an important factor that effect on the intention to use operating system among smartphone users in Thailand. Almost users prefer to switch operating system if they perceived that another operating system is easier to use and simple to learn.

The result of this research indicated that the operating system service providers should pay more attention to improve and develop their operating system to be easy to use and user friendly. This information will be useful in both operating system and smartphone developer and marketer to consider on the significant factors affecting intention to use Android and iOS operating system on smartphone to match the need of consumer in present.

Introduction

With the rapidly growing trend in IT market. There are a lot of IT devices were increasing steadily selling in the market. For this reason, competitive in IT market devices were continuously rising up, especially in personal mobile device, such as mobile phone and smartphone. Mobile phone is one of the most widely adopted technology devices, and has become important tool in your life. More and more consumers are adopting it as their primary communication device)Nanda, 2008(. Nowadays, the mobile phone as you know is greater than in the past. There are not only using for making call, writing short text messaging services)SMS(, however there are more functions and features that provide entertainment and information. It is address as ‘smartphone’)Osman, 2012(. Technology on smartphone is a combination of computing ability and mobile phone with connectivity of the internet that use advanced operating system and allow users to install applications and offer to be constantly connected to the internet. It became a major device and a part of people’s living life)Suki, 2013(. Smartphone is the key gadgets for accessing the mobile internet)Chow et al., 2012(. It is a portable device that most people have it and carry it all the time. There are including a bigger display screen than mobile phone with a high-resolution touch screen and high performance. Currently, smartphone and apps growth have dramatically increased from previous years, due to people exchanged their feature phones to be more advanced devices.

As a trend using smartphone is still ongoing popularity. People trend to adopt

and work through on smartphone instead of computer. It was indicated that users have no longer using smartphone just only as a device for making call and texting message, but they used as multi-function devices for working, gaming, socializing, and downloading application which result in a change in usage smartphone of user behavior)Shin, 2012(. While the number of smartphone usage has continuously increasing, most users bought smartphone that run on Android OS and iOS operating system. Therefore, the main objective of this study is to identify what are the key factors affecting the intention to use Android OS and iOS operating system to lead the smartphone industry to understand what the users needed, and in order to provide the advantage and disadvantage information for smartphone industries about how to develop their products and market strategies. And also determine the direction of smartphone market in the future. The marketers will have more understanding the important factors that had affected with consumer selected using Android OS and iOS operating system on smartphone. In term of consumer, this research will help them easier to making decision to select his/her smartphone in the next time. As well as, rivals will gain information to improve their products.

Literature review

The prior research on demand for smartphones among students found that “brand name and social influence have affected to influence for increasing the demand of smartphones by aspects from friends and family members”)Suki, 2013(. Perceived of usefulness)PU(and

perceived ease of use)PEOU(were investigated that effect on human motivations affecting an adoption decision for smartphones among medical doctors and nurses)Park and Chen, 2007(.

According to several researches from Lu et al.)2003(, Park and Chen)2007(, Gao et al.)2010(, TAM)Technology acceptance model(was taken to study on the acceptance of information system to find out the factors or determinants of technology acceptance. TAM proposed by Davis)1989(that developed from TRA)Theory of Reasoned Action(, this theory was described that Social Behavior was not taken by unconscious motive)Fishvein and Ajzen, 1985(, but actions behavior was determined by behavioral intention. If intention can be predicted, the prediction of the behavior intention will be more accurate. The intention to use is mainly determined by attitude and subjective norm. Attitude is a personal factor, and subjective norm is a social factor)Hsiao, 2013(or "the person's perception that most people who are important to him or her think he should or should not perform the behavior in question")Fishbein & Ajzen, 1975(. Lu et al.)2003(said that subjective norm is equal social influence that it was significant to participate in

activities. Social Influence is interpersonal influence by friends, family, and colleagues)Christensen and Schiaffino, 2011(. There are many researchers compared the TAM with another theory. For instance, Davis)1989(was compared between TAM and TRA. And Taylor and Todd)1995(were compared between TAM and TPB)A theory of Planned Behavior(. They found that TAM was easier and have more potential to find out the factors or determinants of technology acceptance.

A technology acceptance model or TAM is a theory that was established and has a reputation as a measure of the success of the technology proposed by)Davis, 1989(. The objective of TAM is to describe and predict the acceptance of information system by assumption the factors or determinants of intention to adoption technology. There have two main elements those are perceived ease of use)PEOU(and perceived usefulness)PU(. PU is described as "the degree to which a person believes that using a particular system would enhance his or her job performance". PEOU is "the degree to which a person believes that using a particular system would be free from effort")Davis, 1989(. The model of technology acceptance was shown in Figure 1 below.

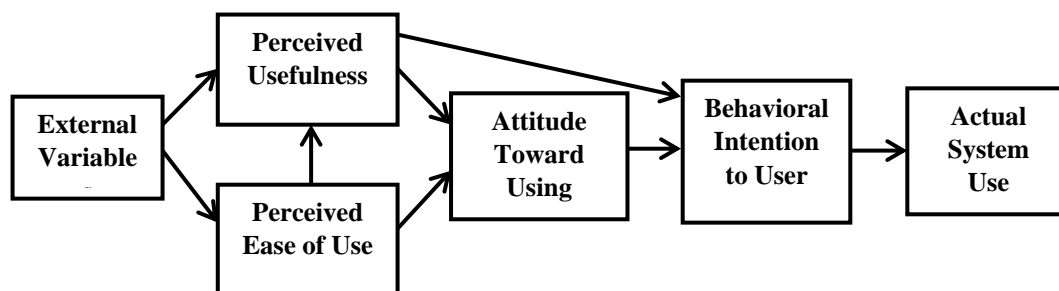


Figure 1 Technology acceptance model (TAM)

TAM has been applied as well to more general context relate to consumers' adoption and usage of technology. It explained factors to consumer choice of new media. For example individuals' Internet usage (Gao et al., 2010). Therefore, this research will be conduct by adoption TAM model to study the affect consumer intention to using Android and iOS operating system on smartphone including PU and PEOU based on the technology under study. The factors of demand affecting will be affected by different factors and different situation (Bettman et al., 2000).

While Park and Chen (2007) have found that behavioral intention to use smartphone has affected influenced by perceived usefulness (PU) and attitude toward using smartphone, PU and perceived ease of use (PEOU) positively

determine attitude toward using smartphone. And PU and PEOU were also taken to examine in the influence consumers' behavioral intention to use (IU) mobile entertainment, and there were revealed that PU and PEOU were significant and associated with consumer intention to use of mobile entertainment (Leong et al., 2013).

In addition, Perceived value has been considered an important factors that determinant the consumer's intention to purchase, and estimate of the utility of a product or service. Hsiao (2010) had explored that perceived value significantly influenced the intention to pay for social networking sites while satisfaction did not. Therefore, in analyzing the determinants which affect consumer intention to use Android and iOS have to study more related theories.

Conceptual framework

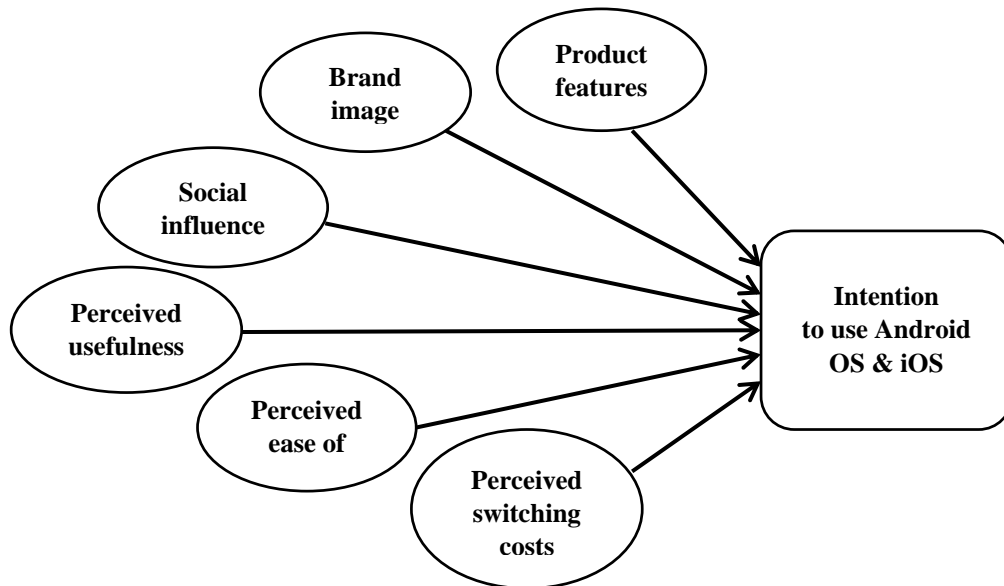


Figure 2 A conceptual model of the intentions to use Android & iOS operating system on smartphone

Product features

A product can be defined as “anything that satisfies a want or need through use, consumption, or acquisition. And features are the tangible or intangible attributes given the product by its designers”)Mullins, 2010(. The features are required to compare the advantage of product provided with competitors)Lysons, 1996(. The another have given meaning to that “A feature is an attribute of a product that to meet with the satisfaction level of consumers’ needs and wants through the owning of the product, usage, and utilization for a product”)Chow et al., 2012; Kotler and Armstrong, 2007(. Therefore, the significance is how the consumer perceives the wanted benefits into a product with features and perceives the product as satisfying a need)Mullins, Walker JR, 2010(. And the different feature has also affected a various level of customer satisfaction towards demand for smartphone)Chow et al., 2012(. According to previous research, the results indicated that the influence of the factors on the demand for smartphone were different.

The product feature is one characteristics that the consumer are looking for the product such as, appearance, ease of operation and exclusiveness, etc.)Lysons, 1996(. Nowadays, smartphones have a new product feature including touch screen, casing slimmer, and displays are become larger with high-resolution)Hamka et al., 2013; Suki, 2013; Persaud and Azhar, 2012(. According to previous research indicate that the most common product feature of smartphones was affected consumer to influence demand for using a new smartphones is a “product design”

)Osman et al, 2012(. And also became to be determinant the product choice of demand when consumer looking for a new smartphones)Mack and Sharples, 2009(. In addition, the most smartphones was chosen by consumer perception based on the attractive design rather than product quality such as Apple iPhone)Suki, 2013(.

H1. Product features has significantly influence consumer intention to using Android and iOS operating system on smartphone

Brand image

Brand is a one of the most valuable intangible assets of a firm. The American Marketing Association defines a brand as “a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors.”)Kotler, Keller, 2012(. Brand is an indicator of the product to the market)Suki, 2013(. Brands may develop sustainable competitive advantage for firms. Different brands have affected toward perceived benefits of consumers particular goods and services)John and Orville, 2010(. If the customers was impressed the brand, the firm will have more competitive advantage in the competition. In addition, brand also may influence the evaluation of consumption of the relationship of features / class rules to include the recognition of the risks and costs to create a set of considerations and decision rules used to create choice in the market.

The other researchers have distinguished that brand name as an significant tool to

enhance a product's value)Dodds et al., 1991(. The main objective of a brand name is to provide information for consumers to perceive quality of a product. The value of a brand name adds into the product its call "brand equity")Chow et al., 2012(. In marketing research, brand equity has linked brand value to the price premiums that consumers are willing to pay for accepted brands)Erdem et al., 2002(. Brand equity consists of two distinct components: functional and symbolic. The first, functional was related to the brand product's performance and involved with functional features about how the product or service meet consumers' functional need)Kotler and Keller, 2012(. The second is symbolic, it is intangible. It depend on consumer aspect of the brand, such as image association, which link only indirectly to the actual characteristic of the product)Erdem et al., 2002(. Therefore, we combine of two tend of literature to estimate consumer reservation prices that disclose the value of brand name in designed choice testing. It was indicated that brand reservation price can be classified into three components:)1(intangible brand effects,)2(utility due to objective attributes and)3(utility due to perception of brand position)Swani and Yoo, 2010(. Therefore, the price premium for strong brand has been affected with brand on consumer choice.

H2. Brand image has significantly influence consumer intention to using Android and iOS operating system on smartphone

Social influence

Social influence means the actions, reactions, and thoughts of an individual are influenced by other people or groups such as, friends, family, colleagues (Nelson and McLeod, 2005). Social influence can be interpreted that some person make another person to change his/her feelings, attitude, individual's thoughts, behaviors, and intention that results from interaction with another individual or a group (Rashotte, 2007).

Social influence can be identified three broad varieties. (1) Compliance is when people thought to agree with others, but still have own private opinion. (2) Identification is when people are influenced by someone that you're respected, such as parent or famous people. (3) Internalization is when people accept a belief or behavior, agree both publicly and privately (Kelman, 1961). According to Rashotte (2007), "Social influence is distinct from conformity, power, and authority. Conformity occurs when an individual expresses a particular opinion or behavior in order to fit in to a given situation or to meet the expectations of a given other, though he does not necessarily hold that opinion or believe that the behavior is appropriate. Power is the ability to force or coerce someone to behave in a particular way by controlling her outcomes. Authority is power that is believed to be legitimate (rather than coercive) by those who are subjected to it".

Another research found that the social influence was important when the consumers are making decision to buying something (Mourali et al., 2007). Hearing from other, its seem to be easier way to make a decision to purchase the product (Kelman, 1961). In a survey of teenager, both male and female reported

that they observe from opinion and advice by their friends based on fashion-related item and tend to buy the same clothes that their friends bought (Nelson and McLeod, 2005).

H3. Social Influence has significantly influence consumer intention to using Android and iOS operating system on smartphone.

Perceived usefulness

Perceived Usefulness is defined as the extent to which a person believes that using a particular technology will improve her/his job performance (Davis, 1989). perceived usefulness, which reflects perceptions of the performance-use contingency, has been closely linked to outcome expectations, instrumentality, and external motivation (Davis 1989; Davis et al., 1989). A significant of TAM research has indicated that perceived usefulness is a strong determinant of user acceptance, adoption, and usage behavior (e.g., Davis 1989; Davis et al. 1989; Mathieson 1991; Taylor and Todd 1995a, 1995b; Venkatesh and Davis Forthcoming, 1961). Therefore, perceived usefulness has been defined as a way to make consumers believed in mobile services and useful in daily activities. The figure 2.1 indicated factors obtained from TAM. It explained as when perceived usefulness has increased. The consumer will have attitude toward using a smartphone. This is influenced their intention to use. For example, user intention to play games was affected by user perceived playfulness. A study of physicians' adoption of a mobile system in Finland found that perceived usefulness (PU) was an important role in physicians' intention

to use the mobile system (Han et al., 2006; Harkke, 2006). Under a wireless internet communication has affected the consumer acceptance via mobile technologies. User intention is to perform general task by perceived usefulness (Park and Chen, 2007).

H4. Perceived Usefulness has significantly influence consumer intention to using Android and iOS operating system on smartphone.

Perceived ease of use

Perceived Ease of Use is defined as the degree to which a person believes that using the system will be free from effort (Davis, 1989). Perceived ease of use has been indicated to have an effect on intention via two causal: (1) a direct effect on intention and (2) an indirect effect on intention via perceived usefulness. The direct effect recommends that perceived ease of use could be a possible catalyst to increasing the likelihood of user acceptance. The indirect effect is described as stemming from a situation where, other things being equal, the easier a technology is to use, the more useful it can be (Davis et al., 1989). Therefore, we must interpret differences in both the direct and indirect effects of perceived ease of use on intention. Perceived ease of use can be defined as the issue of navigational easiness on the smartphone services and provide of personalized elements. User also intend to use smartphone in general tasks is influenced by perceived ease of use (PEOU). Perceived ease of use would have an ability impact on attitude toward smartphone. Perceived ease of use is the users' acknowledge that it's easy to

deployment. No need a lot of knowledge and ability to use (Park and Chen, 2007).

H5. Perceived ease of use has significantly influence consumer intention to using Android and iOS operating system on smartphone.

Perceived switching costs

Switching costs are defined as the costs associated with changing from one service provider to another in conceptualized both monetary costs (Ruyter et al., 1998) and non-monetary costs (e.g. time and psychological effort expended) (Dick and Basu, 1994). Furthermore switching costs must be involved in the switching process. Consumer perceive significant barrier with changing from “search costs, transaction costs, learning costs, loyal customer discounts, customer habit, emotional cost and cognitive effort, coupled with financial, social, and psychological risk on the part of the buyer” (Fornell, 1992).

Switching cost also refers to the rising cost that “one-time costs facing the buyer switching from one supplier’s product to another” (Porter, 1980). The costs of switching providers tend to be higher for services. From the customer perceptions have perceived switching cost of the time, money, and effort with changing from one alternative to another. Consumer often feel tentative to switch suppliers after they perceived switching costs composed of search costs, transaction costs, learning costs, loyal customer discounts, customer habits, emotional costs and cognitive effort (Yen et al., 2011). As the customer perceived switching costs of an activity increased,

such as the relearning business procedures and developing new personal relationships, it will reduce buyers’ motivation to search for new supplier (Burnham et al., 2003).

Switching cost is also as mediator in linking between satisfaction and loyalty. It is a one of the strategically advocated for encouraging on customer loyalty through by the supplier will make customer to perceive offers superior value or a more positive brand than its competitors, and make users to remain loyal in their product and services (Wang and Wu, 2012). Switching costs are barriers that make ease or difficult to change the services provider. Therefore, perceived switching costs have positive effect on intention to use android and iOS operating system. H6 is the study proposed the hypothesis as follows:

H6. Perceived switching costs has significantly influence consumer intention to using Android and iOS operating system on smartphone

Research methodology

Survey instrument

The instrument in this study consisted of two parts of a questionnaire (see Appendix). The first part contained the characteristics and demographic data of respondents pertaining to their gender, age, status, occupation, income, the use of a smartphone, and perception on Android and iOS operating system.

The second part contained items used to measure the independent variables. There were adapted from previous literature and measured on a 5-point Likert scale from strongly disagree to

strongly agree. Product features was measured by seven items adapted from Suki)2013(and Hsiao)2013(, Brand image was measured by four items adapted from Suki)2013(, Hsiao)2013(, and Salinas and Perez)2009(, Social influence was measured by four items adapted from Suki)2013(, Perceived usefulness was measured by six items adapted from Park and Chen)2007(, Perceived ease of use was measured by six items adapted from Park and Chen)2007(, Perceived switching cost was measured by three items adapted from Wang and Wu)2011(, and the intention to use was measured by five items adapted from Suki)2013(, Park and Chen)2007(, and Hsiao)2013(.

Data Collection

The main data techniques used in this research study will survey a sample of 400 smartphone users by contribution the paper questionnaires and online questionnaires via Face-to-Face, Online and Social Network. Before contribute the questionnaire need to screen the respondents that's important. The researchers usually inquired respondents first to ensure that they use or using Android's smartphone and iOS's smartphone by asking them. The Cronbach's alpha for reliability analysis is 0.78.

This study investigated the factors that effect on the intention to use Android and iOS operating system from the total 400 questionnaire surveys separated by the Android users of 175 people and iOS users of 225 people. For the demographic population was shown the result of gender that female are higher than male from the respondents by their

status are almost a singer. The summary of age categories has found that the majority was in 26-35 years old range, which more than an a half were the private officer by having the average of income in 15,000-20,000 baht range. In addition, the research found that the result from the sample of brand has the majority in Apple brand, follow by the Samsung brand while has the minority in other brands. In the total, the majority respondents have the average smartphone usage time around 6-10 minutes per time and the most popular function is chatting. It has got the highest rating among the other functions while the sms/mms function has got the lowest rating in use. Beside that the result from all questionnaire has found that the almost a half of respondents have had an experiences of using both operating systems. The evaluation of Android OS satisfaction has shown the rating in "satisfy" level and iOS as well. Regarding from the majority of Android respondents who have experience on iOS have given the reason that if iOS has more application than Android OS, their will switch back to iOS while the iOS respondents also have given the reason that if Android OS has the ease of use system than iOS, their will switch back to Android OS.

Analysis and results

Summary results

Prior to assessing model fit and testing the hypotheses, the validity of the characteristics and demographic data, the use of a smartphone, and perception on Android and iOS operating system contained in the following.

Table 1

Characteristics (N = 400)		Android OS	iOS	Total
		Percent	Percent	Percent
Gender	Male	38.9	30.2	34
	Female	61.1	69.8	66
Age	22-25 years old	32.6	38.7	36
	26-35 years old	37.1	44.4	41.3
	36-45 years old	14.9	12.0	13.3
	46-55 years old	10.9	4.9	7.5
	Over 55 years old	4.6	0.0	2.0
Status	Single	67.4	80.4	74.8
	Married	30.9	18.7	24
	Divorce	1.7	0.9	1.3
Occupation	Government officer/ State enterprises officer	28.0	18.7	22.8
	Private officer	54.3	61.8	58.5
	Entrepreneur/ Business owner	6.9	14.7	11.3
	Hirer	10.3	4.0	6.8
	Housekeeper	0.6	0.9	0.8
Income	Lower 15,000 baht	18.3	12.4	15.0
	15,000-20,000 baht	23.4	28.9	26.5
	20,001-30,000 baht	20.0	24.0	22.3
	30,001-40,000 baht	16.6	10.7	13.3
	40,001-50,000 baht	5.1	8.0	6.8
	Over 50,000 baht	16.6	16.0	16.3
OS	Respondents	43.8	56.3	100
Brand	Apple (iPhone)	0	56.3	56.3
	Samsung	69.1	0.0	30.3
	LG	6.3	0.0	2.8
	Lenovo	4.0	0.0	1.8
	Other	20.6	0.0	9.0
Avg. usage/time	less than 1 minutes	1.7	0.0	0.8
	1-5 minutes	18.3	16.0	17.0
	6-10 minutes	21.1	20.9	21.0
	11-15 minutes	14.9	17.8	16.5
	16-30 minutes	18.9	18.2	18.5
	31-60 minutes	7.4	14.2	11.3
	Over 1 hour	17.7	12.9	15.0
Experienced on both OS	Used to	40.6	44.9	43.0
	Never	59.4	55.1	57.0
Rating Satisfy from both respondents	Not very satisfy	2.9	1.7	
	Not satisfy	4.7	4.1	
	Medium satisfy	37.2	18.6	
	Satisfy	37.2	39.0	

Very satisfy	18.0	36.6
Total	100.0	100.0

The levels of agreement

The levels of agreement of all variables from Android OS and iOS operating system respondents are almost described

as agree except the switching cost and social influence. The following data analysis results are presented in terms of mean and standard deviation from the respondents on table 2.

Table 2

Item	Mean	Std. Deviation	Level of Agreement
Product Features	3.79	0.7134	Agree
Brand Image	3.95	0.7284	Agree
Switching Costs	3.22	0.9290	Neutral
Social Influence	3.06	1.0158	Neutral
Perceived Usefulness	3.56	0.9324	Agree
Perceived of use	3.81	0.8790	Agree
Intention to use	3.68	0.8914	Agree

Hypothesis testing

The analysis outcome of t-test found that the gender hypothesis is dependent on intention to use on both operating systems respondents. It means that a difference genders have an effect on the intention to use Android OS and iOS. Meanwhile, the hypothesis of who are experienced in both operating systems is independent on intention to use. It means that the respondents who are experienced in difference operating system have no effect on the intention to use Android OS and iOS.

The analysis result of Anova among the demographic factors has found that all demographic factors are independent on

the intention to use which included age, occupation, and income. It means that a difference of age, occupation, and income have no effect on the intention to use Android and iOS operating system. In addition, the result of brand found that a different brand have an effect on the intention to use which are between Samsung's brand and Apple's brand. The result of the average usage per time found that a different average usage per time has no effect on the intention to use Android OS and iOS. Regarding to the respondents who are experienced on both operating system, a different response from switching to another OS variable and not switching to another OS variable have not effect on the intention to use Android OS and iOS.

Table 3

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	-.502	.139		-3.600	.000
Product features	.284	.064	.227	4.465	.000
Perceived ease of use	.281	.043	.277	6.535	.000
Perceived usefulness	.166	.037	.173	4.493	.000
Social influence	.110	.027	.125	4.069	.000
Brand image	.227	.062	.185	3.640	.000
Perceived switching cost	.067	.029	.070	2.267	.024

$R = 0.850$ $R^2 = 0.723$ *Adjusted R Square* = 0.719 $F = 171.088$ *Sig.* = 0.000

Hypothesis testing is based on regression analysis using SPSS. H1-H6 test the intention to use Android OS and iOS operating system on smartphone. Table 3 provides the results of hypothesis testing with R^2 , standard coefficient, and significance. Regarding to the result, this study confirms that all factors hypotheses was supported on attitude toward the intention to use Android and iOS operating system on smartphone. Perceived ease of use and Product feature had significant effects on intention to use (Standardized Coefficients = 0.277 and 0.227; below the level of significant or the alpha level ($\alpha = 0.05$)).

Conclusion, discussion and implication for business

Empirical analysis across a sample of 400 respondents via regression analysis was executed in examining the effect of

product features, brand image, perceived switching cost, social influence, perceived usefulness, and perceived ease of use on the intention to use Android OS and iOS operating system on smartphone among Thai users. Results disclosed that product features affected the positive intention to use Android OS and iOS operating system on smartphone among Thai people, thus supporting H1. The first is confirmed as the most determinant factor, followed by the perceived ease of use, perceived usefulness, social influence, brand image, and perceived switching cost.

As expected, product features was found to have a significant effect on the intention to use Android OS and iOS operating system on smartphone among Thai people. This portends that smartphone users who are particular about product features are more likely to have positive intention toward using Android OS and iOS operating system. The finding result is consistent with preceding discovery by Chow et al., 2012

and Kotler and Armstrong, 2007 opinioned that “A feature is an attribute of a product that to meet with the satisfaction level of consumers’ needs and wants”. Most of the users are likely to select operating system of smartphone that are multi-functions and useful. Besides that, they will only choose their favorite operating system of smartphone. For example, Android and iOS are the most preferred operating system of smartphone.

According to this study, the smartphone users in Thailand have chosen the operating system by his/her perspective. Further investigation of the study uncovered that the increasing intention to use Android OS and iOS operating system among Thai people is also affected by perceived ease of use, perceived usefulness, social influence, brand image, and perceived switching cost respectively.

Perceived ease of use – The researcher found that respondents have a willing to use an easy operating system by the questionnaire result so the perceived ease of use is one of the factor have affected consumer and this is a common opinion. Perceived ease of use is the users’ acknowledge that it's easy to deployment. No need a lot of knowledge and ability to use (Park and Chen, 2007). Perceived ease of use would have an ability impact on attitude toward smartphone.

Perceived usefulness - Perceived Usefulness is defined as the extent to which a person believes that using a particular technology will improve her/his job performance (Davis, 1989). A significant of TAM research has indicated that perceived usefulness is a strong determinant of user acceptance, adoption, and usage behavior (e.g., Davis

1989; Davis et al. 1989; Mathieson 1991; Taylor and Todd 1995a, 1995b; Venkatesh and Davis forthcoming). All these factors indicating respondents will insist to using the OS which they think is useful in their job and also improve their job performance that is fit for our result from research.

Social influence – Researcher found that social influence also is a main factor for consumer select operating system, consumer is affecting by their friends and family. Another research found that the social influence was important when the consumers are making decision to buying something (Mourali et al., 2007). Hearing from other, its seem to be easier way to make a decision to purchase the product (Kelman, 1961). In a survey of teenager, both male and female reported that they observe from opinion and advice by their friends based on fashion-related item and tend to buy the same clothes that their friends bought (Nelson and McLeod, 2005).

Brand image – In particular, on price premium research indicated that brand name has influenced with high price, but It is not effect with consumers, consumer are willing to pay for high price to get the high quality brands or positive brands (Erdem et al., 2002) that is mean the brand image is more important than other aspects and researcher have got the same conclusion from questionnaires which is consumers prefer the recognize brand even the operating system.

Perceived switching cost - That is making it difficult to switch to another service, such as mobile phone number may have to be kept in touch with the business or switching your smartphone is required to re-learning in each function and feature. Switching costs should

consider both past investments lost and the potential adjustment costs in establishing a new relationship (Burnham et al., 2003). Therefore, respondents feel inconvenience to switch to another operating system. They will keep to using the original system as our researched.

According to the result of hypotheses testing, perceived ease of use is the most effect on the intention to use operating system on smartphone. Smartphone users prefer to switch operating system if they perceived that another operating system is easier than their used. This research has provided information for service provider and developer/programmer that they should pay more attention to improve and develop their operating system to be easy to use and user friendly. This is according from the standardized coefficients value in regression analysis. And the result of analysis of the level agreement from questionnaire insists that most respondents have interested in from two questions as follows: "Android OS/iOS is quickly to start learning on usability" and "I found that Android OS/iOS is easy to use". How to make the operating system being more well-known in the smartphone users, especially the users who have a little knowledge in operating system. Therefore, company should increase the channels introduce a new technology and create opportunity that consumer can try and learn more about operating system.

In addition, product feature also has effect on the intention to use operating system on smartphone. The most respondents have more concern two points in questionnaire as follows: "I like the functions on Android OS/iOS" and

"The features and applications on Android OS/iOS are useful". Company should pay more attention to improve functions, features, and applications to be suitable for consumer and more attractive. Beside that conclusion from questionnaire release the intention to use operating system also depend on the brand image. The most respondents have a same opinion about Android and iOS operating system are reliable and internationally recognized. This is according from the level of agreement analysis. So, company should keep a good performance and continue to expand the brand influence.

Moreover, this research discovered that gender have effect on the intention to use operating system by males are more intention than females. Therefore, males are a big target of operating system market. The company or operating system service providers should to be focus on the male. And differences of age, occupation, and salary income have no effect on the intention to select operating system. Further information from this study found that 172 respondents who have experienced in using both operating system by having 71 of Android users and 101 of iOS users. A statistically discovered that 39 of Android users would like to return to iOS operating system by giving the reason that "iOS has more application supported", meanwhile 32 of Android users left still would like to keep continue using Android OS by giving the reason that "iOS or iPhone have a high price." On the other hand, 92 of iOS users would like to return to Android operating system by giving the reason that "Android operating system is easy to use.", at the same time 9 of iOS users left still would like to keep continue using



iOS by giving the reason that “Android OS is difficult to use and have a slow response system. Therefore, researcher has opinion that this information will be

useful on both service providers of operating system to improve their operating system to meet the needs of smartphone users.

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MANAGERIAL AND ORGANIZATIONAL ISSUES IN A POST-ACQUISITION MEDIUM-SIZE FOOD MANUFACTURING COMPANY IN SOUTHERN CHINA

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Abstract

Acquisition is a common strategy for expansion and diversification. Nonetheless most research on this topic focuses on selective geopolitical areas or on cross-cultural issues. This article investigates a cross-regional acquisition within China. It shows how the redevelopment of organizational strategies during the post-acquisition phase may affect various human resource management issues. It argues that the introduction of certain management techniques can only deal to some degree with differences in organizational cultures. It highlights the need for a careful examination of the extent changes in routine organizational practices are necessary and desirable as a part of an acquisition.

Introduction

Acquisition is a common strategy for expansion of small and medium-sized companies; it is also for large corporations a way of diversifying into new sectors (Schraeder and Self, 2003). Acquisition however is not without risk, as it is an event of instability that will significantly influence many organizational aspects, including human resource management (Nikandrou et al., 2000). Organizational change as a result of acquisitions presents a considerable challenge in itself and tends to be aggravated by pronounced differences in existing organizational cultures (Stahl et al., 2004).

Research on acquisition is plentiful; it nonetheless tends to be restricted to Western Europe or North America, or involves companies with headquarters in these places branching out to markets elsewhere. There is a distinct lack of research that investigates cross-regional acquisitions in Asia, especially with a focus on organizational change and its consequences in terms of human resource management.

This article investigates the acquisition of a mid-size regional company in Southern China by a Chinese corporation, which itself is part of a large Pan-Chinese investment groups. It aims to show the effects of this acquisition, which was largely driven by market diversification efforts, in terms of organizational behaviour and human relations. It specifically will draw out how redeveloping an organizational strategy during the post-acquisition phase affects various human resource management issues. It finally will argue that the introduction of certain

management techniques can only deal to some extent with differences in organizational cultures that may result in partial and transitory arrangements.

Literature review

Acquisition is a popular form of enterprise development. There is a vast range literature that highlights human relation issues in terms of change during and after acquisition (e.g. Cartwright and Cooper, 1993; Hubbard and Purcell, 2001; Nikandrou et al., 2000; Schraeder and Self, 2003; Schuler and Jackson, 2001; Schuler and Jackson and Luo, 2004; Stahl et al., 2004; Weber, 1996 et al.). Some authors focus on specific cross-border acquisitions and the cross-cultural elements this may involve (e.g. Stahl et al., 2004).

Overall, acquisition almost always is a considerable interference with harmonious culture, and often leads to a “clash” of cultures (Cartwright and Cooper, 1996). Organizational culture is considered to have an effect on acquisitions, in particular when different types of culture meet. It affects the management styles and employee behaviour, notably in the acquired company. The influence of organizational cultural on the acquired company is significant, as it is often contested and can involve the loss of senior management (Hambrick and Cannella, 1993; Nahavandi and Malekzadeh, 1988). However, there is usually a marked difference in terms of growth between young or small organizations and large or mature ones; the former mainly grow organically while the latter achieve the bulk of their growth through acquisitions (Davidsson

et al., 2010). This often relates to different predispositions management may have towards growth in a company (Wiklund et al., 2010).

Marks and Mirvis (1985) show that after acquisition, there is a tendency in which people think “Us” versus “Them”, as differences in modes of operation and management become apparent. Conventional thinking results in employees of an acquired company attaching certain significance to their previous culture, seeing it as superior to the new culture. Cameron and Green (2009) argue that culture clashes manifest themselves in a range of signs, including stereotyping, glorifying the past, making comparisons, and selective information sharing. Stereotyping emphasizes differences, rather than focusing on commonalities. The past is glorified in notions that juxtapose old practices with new ones; while the new is seen unfavourably, weak and, inferior whereas the old as positive, valuable, and superior. Attitudes towards sharing information can shift from cooperation towards coalition (Cameron and Green, 2009).

Barriers that occur in the post-acquisition phase are characterized by unclear prospects, uncertain goals and objectives, and lack of communication (Nguyen and Kleiner, 2003). Authors such as Bennis and Nanus (2007) have highlighted any new vision must be practical and credible to stand a chance of succeeding in developing an adequate acquisition strategy. While some of the discussion in the literature focus on strategic fit (e.g. Lubatkin, 1983; Lubatkin and Lane, 1996), others highlight leadership and communication (e.g. Stahl et al., 2004).

Human relation factors are a key issue for acquisition; seminal texts have established the significant effect this has in terms of understanding acquisition (e.g. Kimberly and Quinn, 1984; Bueno and Bowditch, 1989; Cartwright and Cooper, 1992). Messmer (2006) points out that those affected by acquisition might experience emotions ranging from fear and confusion to acceptance and excitement. Employees may feel overwhelmed by a perceived lack of control during acquisition (DeNisi and Shin, 2005) and the increase in uncertainty (Van Dick et al., 2006). It can result in low productivity and employee grievances (Nguyen and Kleiner, 2003). In other words, changes that may occur during acquisitions threaten the existing values, structure and social identity of an organization (Bartels et al., 2006).

Pritchett (1987) suggests that employee training is the best way to create a common orientation that may facilitate the acquisition process. While some commentators advocate reward mechanism to motivate and retain staff (Beckhard and Pritchard 1992) and creating emotional connection between management and staff (Schweiger et al., 1987; Ashby and Miles, 2002), other commentators however are more sceptical. Alvesson and Willmott (2002) for example argue that an organizational regulation of employee's identities is a precarious and often contested process, as people are ‘not reducible to passive consumers of managerially designed and designated identities.’ (2002 p. 621).

Methodology

The research undertaken for this case study investigates management decisions

and organizational behaviour surrounding the acquisition of a medium-size food manufacturer in Southern China. It deploys a qualitative approach in form of an in-depth analysis that aims to provide accounts containing some level of “thick descriptions” (Geertz, 1973). As such it aims to draw out the context of this acquisition, while specifying internal relationships in detailed and self-referential ways. It is not generating a “General Theory”; instead it provides ways to generalize within this case, with the aid of an intelligible perspective that is interwoven with wider concepts that have emerged within existing academic discussions in management and organization studies (Epifanova and Hild, 2015).

This form of relatability characterizes case studies (Bassy, 1981). Yin (2002) argues that a case study approach allows to show that each case can incrementally be built upon, as each subsequent similar case attempts to replicate elements of the prior ones. Moreover, case studies often show rare situations (Small, 2004); most empirical investigations in the literature on acquisition are either focusing on takeovers that occurred in North America or Western Europe, or between North American and Chinese organizations. Detailed cases of cross-regional acquisitions in China are rare and under-explored.

While the underlying methodology is a case study approach, this study utilizes interviewing techniques (Small, 2009). The conducted interviews were a combination of in-depth interviews and a type of group interviews. The latter were not focus group interviews as such, where with the aid of an intercessor, informal discussions occur within a

group of people (Zikmund et al., 2009). Instead in line with Chinese group culture, one of the authors interviewed groups of six to eight people, where individual members of a group responded as they saw fit. Rarely did group members engage in discussion with each other, but presented their take on the issues, while trying not to overtly contradict other group members. This was mostly done with shopfloor workers and supervisors. Even for many of the in-depth interviews with executives and senior management, another one or two people were present and occasionally commented or elaborated on the issues discussed between the interviewee and main respondent.

The interviews were standardized and non-scheduled (Briggs, 1986), deploying a list of 14 conversation topics (related to change, working practices, and HR issues) that aided the interviewer in responding in non-directive ways, while maintaining some focus as the narratives unfolded. The interviews were conducted in Chinese and were audio recorded and transcribed. This provided the source for a thematic analysis; themes in this sense are patterns across collected data that are important to the description of a phenomenon and are associated to a specific research question (Daly et al., 1997). A summary translation in English was subsequently undertaken. Quotes used in this article are translations of verbatim transcript excerpts that render meaning of the source into the target language; in terms of its translation techniques, it tends to be closer to dynamic rather than formal equivalence (Nida and Taber, 1969).

The interviews were conducted in two phases. The first phase of interviews

aided the process of refining the research directions and was more explorative; these interviews were restricted to the acquired company. The second phase, resulted in a more focused interview schedule and included both the subsidiary and the parent company—i.e. the acquiring company. Access to both companies was facilitated by personal connections of one of the authors; senior management in both were aware of this

research project and either welcomed it or did not object to. The names of the two companies and the names of the people quoted in this article are pseudonyms. A total of 61 people were interviewed, including senior management, middle management, workers, and former employees. The following table shows details of the selection of interviewees who are quoted in this article.

Table 1 Description of selective interviewees

	Age	Years of job experience	Position
Mr Ho	53	28	Director of technology centre from food company, GSF
Mr Li	47	17	Director of product department from food company, GSF
Ms Gu	45	18	Directors of production area from food company, GSF
Mr Liu	43	13	Directors of production area from food company, GSF
Mr Li	41	10	Staff of production area from food company, GSF
M. Chen	38	9	Staff of quality control department from food company, GSF
Mr Liang	32	5	Staff of quality control department from food company, GSF
Mr Chen	42	13	Senior executive, Bingafu Group

Analysis

The analysis of the interview data resulted in three key themes. The first theme showed how the acquisition Guangxi Soybean Foods Company (GSF) led to a change in strategy and operation. While many of these changes were questioned or even resisted, there was a certain normality and constructiveness regarding the surrounding discussions. By contrast the second theme showed a clash of cultures

and ideas about how things ought to be done that directly affect the work atmosphere and staff morale. Fundamentally opposing values and their underlying beliefs led to entrenched and resenting positions that recreated mutual distrust and suspicion.

The third theme showed how the introduction of formal management techniques promised not only better performance, but also an increase in fairness for individual career



advancement. The combination of a mere partially fulfilled promise of fairness, the deeply unsettling clash of cultures, and the newly trained workforce resulted in high levels of resignations in the post-acquisition phase.

Changes in strategy and operation

After Bingafu Group acquired Guangxi Soybean Foods Company (GSF) major changes occurred in the subsidiary. This entailed a complete transformation of GSF organizational and financial strategy. The new overall directive was an implementation of a short term strategy to drastically increase profits, expand market shares and to have the listed company at an international stock exchange. Bingafu appointed an external consultant, with substantial acquisition expertise, to implement these changes.

In particular the new strategy aimed to achieve 130 million RMB in earnings for the first year, and 180- 250 million RMB for the second year after the takeover. To contextualize this, prior to the takeover, GSF's total annual revenue had never exceeded one hundred million RMB and the company was not really known as a brand outside its Southern region. Senior managers and executives felt that the new strategy was unrealistic if not grandiose. They saw the proposed measures as far too drastic and too expeditious. They envisaged a much more gradual "reform" and had serious reservations about the market opportunities for their products.

We've worked in this company for many years and know the rules of the industry... We understand the limitation of our consumer group in terms of soya bean products. This short-term target, as set by

the new leader—this layman—we feel is not achievable. (Mr Ho, director of technology centre and Mr Li, director of product department, GSF)

It is striking how these two interlocutors portray the newly appointed head of the subsidiary as not understanding the situation. This was not an isolated instance, but appeared a variation of common responses that were voiced throughout the organization including its support functions. As such it presented a subversive mode that aimed to resist the new measures.

The [new] professional manager is a bit arrogant because of his experience of integration in other company, but it is his first time to participate in an acquisition in the food industry. (Mr Li, director of product department, GSF)

By contrast, executives from Bingafu justified the new strategy as a purposelessly aimed way of expansion that had worked before in the "natural" order of acquisition, where control is exerted by the buyer.

In our opinion, if there are no high ambitions the company cannot develop. Our group has grown rapidly in recent years through merger and acquisition... It is why they were acquired by us. We are the acquirer! (Mr Chen, senior executive, Bingafu Group)

Although it remains open to speculation whether strategists at Bingafu really believed that these targets can be met, it had fundamental organizational consequences. It not only led to disapproval and subsequent resignations of many long-term employees, but also to a substantial redesign of operational and tactical directions.



Hitherto the takeover, Guangxi Soybean Foods business or product “philosophy” empathized on the quality of the raw materials and final products, with relatively little concern for cost and speed of production. After the takeover, product formulas were altered to reduce production costs; this change was modelled on a local competitor that produces similar foods by deploying a more low cost operation method. While some senior managers saw these developments as positive, others were more sceptical.

After the professional manager arrived, he made a new plan which improved the product formula to reduce costs. (Mr Ho, director of technology centre, GSF)

To reduce production costs, the professional manager has made a wrong decision by saving on [raw] materials, which result in an even bigger loss. (Ms Gu and Mr Liu directors of production, GSF)

Similarly there were concerns about the outsourcing of in-house processes for refining raw materials. It was felt that this was a loss of control over the much prized quality of used ingredients. Yet as some of the company's processing line became increasingly dated and less reliable, running certain in-house processes had become a risky endeavour.

Our defective equipment cannot deal with some raw materials sufficiently... so outsourcing is a good way to maintain quality while lowering risk. (Ms Gu, director of production, GSF)

By contrast, there was much less objection about cost reduction through technological changes in the production line, as a result of investment that allowed replacing dated shopfloor

equipment. Likewise, the investment in the workforce by improving their skills through training them how to operate the new equipment was seen as positive by the workforce.

We are delighted with the present measures to improve the production technology... because this is the most feasible way to reduce costs in the current situation. (Mr Li, Ms Chen, Mr. Liang, and others, staff of product department and quality control department from food company, GSF)

Many of the employees at GSF were hoping for more gradual changes that entailed substantial investments that would lead to an increase in the production efficiency and workers' skills, while maintaining a high standard in product quality. However that organizational transformation went far beyond these narrow aspects appeared neither fully anticipated nor much appreciated.

Clash of cultures and ideas

While indeed it is debatable how best to improve a medium-size company that struggled to make profits, it is apparent that this acquisition was characterized by organizational ruptures and discontinuities. Guangxi Soybean Foods Company, prior to the acquisition by the Bingafu Group, was a regional company in Southern China that was built on tradition and local values that fitted the pace of life in this autonomous region.

The whole atmosphere of the enterprise was like a family. Our management model was the “milk of human kindness”. (Ms Li, staff, HR department, GSF)



We were not perfect... but before [the acquisition] we worked happily and felt we belonged here. (Mr Mo, director of import and export department, GSF)

This stands in sharp contrast to the organizational culture of the parent company. While the representatives of Bingafu aimed to portray themselves and their groups as ambitious and aspiring, many people at the acquired company felt their ways of doing things were imposing if not pugnacious.

Our group is a comprehensive big group and also has other acquisition experience; they must follow us. (Mr Pan, deputy general manager, Bingafu Group)

We have worked in this company for a long time... Why should we follow them? (Mr Liu, director of HR department, Ms Li, Ms Huang, Ms Peng and others, HR staff, GSF)

Such differences could well be construed as a "conservative" organizational culture being confronted with "aggressive" culture, in the classical "us" versus "them" fashion. Yet it seems to points to a much deeper indifference in terms of prevailing values. It led to bitterness and resentment among the employees of GSF, as they felt their views of the work-life seemed not to fit any more in the new practices. Notably here were the abolition of the company sponsored daily breakfast and the annual social gathering. For Bingafu it was inconceivable as to why the company ought to run at breakfast kitchen and feed the staff in collective gatherings, or sponsor a lavish dinner party for its employees, whom it pays wages and salaries. It was beyond acknowledging that these routine practices of gathering

were manifestations of some form of fellowship—that employees have something in common, as they collectively valued sharing interests and feelings, fostering friendly and collegial relationships.

Most of us believe that the employees' breakfast not only means filling the stomach, but also lets the staff to start work communication over breakfast... (Mr Liang, Mr Zheng, Mr Liu, and other production staff, GSF)

The annual meeting just like the family reunion dinner; it's a symbol of unity...

(Mr Liang, Mr Zheng, Mr Liu, and others production staff, GSF)

The tremendous importance both shopfloor workers and management placed on these common actives seemed lost on the parent company. It was an unnecessary expenditure that did not fit into their plans and seemed alienating to their own practices.

At Bingafu Group and its subsidiaries we don't have [common] breakfast [provision]. They [Guangxi Soybean Foods] are a subsidiary of us; for that reason we cancelled the breakfast and annual social [gathering]... These were the measures to reduce manpower and production cost. (Mr Chen, operations manager, Bingafu Group)

Although it is beyond the scope of this research to contextualize the savings made by these measures in the overall expenditure, the position of the parent company on this issue is strikingly blunt. There is a noticeable absence of dialogue, appeasement, or compromise. Employee motivation, a sense of belonging, and an overall organizational atmosphere seem either irrelevant, or



supposedly ought to be fostered, by completely different means than eating together as people do in many places across China.

Chances for staff development or a human resource dilemma?

The takeover by Bingafu Group led to the introduction of new management techniques replacing the relatively loose rules for reward and punishment that had hitherto existed at Guangxi Soybean Foods Company. Yet unlike the highly contentious situation about possible strategic directions, the debates surrounding these new techniques were far less hostile and more constructive. The implementation of performance indicator and staff quality assessment combined with staff training plans, was generally not resisted; although some felt it was a quite a speedy change or that this was quite a formal approach.

The implementation of PI and QA is a good way for correcting the employees' work attitude, especially for those who have become lazy... (Mr Ho and Mr Chen, directors of technology centre, GSF)

It's a good point to implement these modern management tools, but it might not be suitable to implement at this early stage... (Ms Peng, Mr Shi, Mr Cai, and others production staff, GSF)

Nonetheless, it was acknowledged that these techniques needed to be tailored to the company's specific situation. It resulted in a rather normalized debate as to what is suitable for managing in each unit.

The performance appraisal standard is divided into two parts: daily standard

criteria and specific functions standard... But some standards are not suitable for the core functions of the department. (Ms Li, Mr Ho and Mr Liu and others department managers, GSF)

The implementation of modern management tools still needs to be adapted... (Mr Chen, operations manager, Bingafu Group)

The new management techniques that were based on a set of defined standards promised a sense of fairness and objectivity. Some managers at GSF saw this as a chance to reduce the existing forms of nepotism and favouritism, especially in terms of job promotion and career advancement. Nonetheless, for some these hopes were crushed as they felt that many key positions were filled from the parent company rather than from within the subsidiary.

New managers are often chosen from Bingafu and hardly come from our staff. Although they have implemented performance indicators and quality assessment, there are still some excellent staff who cannot get promoted. (Ms Li, Mr Ho, Mr Liu, and others, managers, GSF)

Management has always been monopolized by people from Bingafu; most staff have realized that there's no chance of advancement for their future in this company. (Mr Wang, Mr Liu, Ms Chen, Mr Mo and other production staff, GSF)

It consequently led to further dissatisfaction and resignations of core function staff. Although people had initially welcomed the new skills training they received after the takeover, it subsequently became regarded as a mere advantage for finding employment

elsewhere. Especially younger staff readily left as opportunities arose elsewhere. While the new management techniques were not resisted as such, it was the perceived contradiction in the light of the absence of a genuine merits-based logic that appeared to have caused resentment and resistance.

Discussion

According to Bennis and Nanus (2007), strategic visions ought to be perceived by organizational members as practical and credible. Unclear and unrealistic visions however can lead to organizational disruptions, including a significant loss of skilled employees. Meaningfully conveying new ideas is particularly important if differences in organizational cultures are very pronounced (Stahl et al., 2004). For the staff at Guangxi Soybean Foods Company it was not clear or logical as to why the transition had to happen so drastically and why a gradual “reform” could not be possible. As Kilmann et al. (1985) point out change of organizational culture is not easily accepted at individual level. Yet it is even considerably more difficult if the logic behind change is not clear or too alienating.

Although adequate vision and management skills are crucial for developing an acquisition strategy as Haspeslagh and Jemison (1991) highlight, it is important to examine how fundamentally different these two are organization were. While this acquisition can easily be portrayed as a story of mismanagement, we would like to point to the enormity of the task that this particular takeover entailed. Ashkanasy and Kavanagh (2006) argue that a fast

pace of change is not necessarily beneficial as organizational cultures are transformed. We suggest the greater the differences, the slower the pace has to be for smooth transitions. Nonetheless, smooth transitions are not a higher value per se. Ruptures and turbulences can indeed be a strategy of change that however usually result in notably different organizational forms and often comes at high cost at personal, organizational, and social level.

While it is debatable how desirable such a strategy is, the implications are empirically discernible. Seminal texts, including Cartwright and Cooper (1996) and Kilmann (1985), have highlighted that acquisitions are a considerable interference with organizational culture and almost always lead to some form of cultural “clash”. Moreover, as Wiklund et al. (2010) argue, the work atmosphere in small and medium-sized firms is often affected by growth; while the attitude of management towards growth is a significant factor, management's belief (or disbelief) in growth tends contribute to a positive (or negative) atmosphere as expansions happen. It is precisely this lack of support by management through its predisposition of being sceptical about (rapid) growth that seems to have aggravated the “normally” problematic situation that acquisitions always entails.

In this sense, Guangxi Soybean Foods seems to be affected in a manifold way. At the surface or artefact level in Schein's (2010) terminology of organizational culture, a regional medium-size food company that previously had been supported by the local government is confronted with the ways of a large holding corporation. Their values of “family-like”, harmonious work

relationships contrast with the beliefs in efficiency and performance-driven action that dominate the acquiring company. Their underlying fundamental assumptions (Schein, 2010) of “tradition” on one side and “fast progress” on the other side seemed to have created sharply opposing perspectives. Yet, as management is significantly implicated and entrenched in these cultural differences, they are not mobilizing employees to embrace the new ideas.

As Alvesson and Willmott (2002) highlight organizational change is usually contested; yet, if the champions for change are not there or are seen as incredulous outsiders in the first place, the already monumental task of transforming culture is unrealistic and inevitably results in disorganization and sudden discontinuities. As Nahavandi and Malekzadeh (1988) point out assimilations tend to be more disruptive than cultural integration; however unlike merges, acquisitions can hardly be characterized as integration. The consequences in terms of organizational stability and human resources are considerable (Hambrick and Cannella, 1993). As Hofstede (1980) points out forced change is never welcome and the feeling of a lack of control will usually result in negative reactions by organization members (DeNisi and Shin, 2005). For most of the original employees at Guangxi Soybean Foods the takeover had a strong flavour of assimilation that crystallized in classical “Us” versus “Them” thinking (Marks and Mirvis, 1986) and glorified the past (Cameron and Green, 2003).

Indeed the implications for human resources are predictable and the

acquired company experienced a wave of en mass resignations in the post-takeover phase. Nguyen and Kleiner (2003) and Marks and Mirvis (1985) have shown how organizational change can lead to significant stress for employees, because of feelings of losing control and helplessness, which in turn results in low productivity and grievances. Yet, it is noteworthy that the new management techniques of performance indicators, quality assessment and staff training did not significantly improve staff motivation and moral. While employees did not object to these measures per se, some even saw cautiously welcome them, it did not create a momentum that could have meditate the effects of the cultural clash.

Charman (1999), like many others, argue that human resource management ought to be a change champion, by facilitating training and skills development that nudges people into the desired direction. However, while this might be the case in some situations, evidence from this study indicates that if the overall tenor is not right—if the clash is too fundamental—such measures will not work. People are not easily duped into accepting views that are significantly different from their own. In the end, they may comply somehow and in pragmatic ways, but may leave as soon as alternatives arise.

This form of instrumental thinking appears even more pronounced in terms of the offer for training and skills development when it is not combined with a realistic prospect of career advancement. Beckhard and Pritchard (1992) show that merit-based reward systems can be a motivating factor for employees. Of course if such a system priorities candidates from the acquiring

company over the acquired one, it might be a counter-productive measure in terms of motivating employees. It can increase mistrust and perpetuate low productivity (Schweiger et al., 1987).

The prime objective of the introduction of these HR measures might well have been the development of a workforce that can adequately operate the new production line technology, which the final investment by the acquiring company made possible. Nonetheless, HR-related investments for training a skilled workforce may not be underestimated, as they require substantial resources. Hambrick and Cannella (1993) argue that the ability to retain a core workforce and key executives is an important determinant in ensuring the long-term success of an acquisition.

While it appears that employees adopted a much more instrumental perspective following the takeover, it could indeed be construed as a reflection of the company's new pragmatic vision for its own profitable end. It introduced formal processes that are somehow essential for running a technologically advanced production line, while not necessarily rooting out favouritism and nepotism. It consequently had no real effect on reducing the clash of organizational cultures and led merely to a higher job mobility of those employees who sought employment elsewhere.

Conclusions

This article has shown how a mid-size food company in Southern China had undergone considerable organizational change as a result of an acquisition by a large holding company that aimed to

expand into this market sector. It showed how a distinctly regional company with a conservative business outlook and beliefs in family-like values was suddenly confronted with the ways of a holding corporation with an ambitious and efficiency oriented and profit-driven organizational culture.

The subsequent clash of organizational cultures that this study documented was considerable. By doing so this study contributed at empirical level to a wider understanding of acquisition in terms of cross-regional takeovers in China; most existing research is either centred on Western Europe and North America, or cross-border acquisitions. At conceptual level this study supports Ashkanasy and Kavanagh's (2006) view the pace of change is of tremendous importance in terms of organizational cultures. We advance this view and suggest that the greater the differences the slower the pace has to be for smooth transitions, while acknowledging that rapturous and turbulent change can be a deliberate strategy that nonetheless comes at high cost at personal and organizational levels.

Moreover, we suggest that the introduction of certain management techniques can smooth over existing human relation issues that arise from differences in organizational culture. While we generally agree with the notion that management's own predisposition towards growth (Wiklund et al. 2010) can affect the work atmosphere, there are limits to the extent management can make a difference. We suspect that if differences are too vast, because of diverging fundamental assumptions (Schein 2010), the efforts by management to improve workplace

atmosphere and staff morale may largely be irrelevant. At best it will lead to pragmatic outcomes that will only hold momentarily, as a high staff turnover—including a considerable loss in HR and individual investments—remains a constant possibility.

Management practitioners are of course well advised to assess cultural differences between the organizations in case of an acquisition. However, more

importantly it remains questionably how much change in terms of day-to-day human resource management practices is necessary or desirable for redeveloping overall strategic directions. The subtle diversity of places such as China, and many other nation states, inevitably influences organizational culture; yet the extent to which different ways of doing things would directly matter for a company's strategic vision needs to be carefully evaluated case by case.

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MODEL OF RELATIONSHIP OF FACTORS INFLUENCING THE PERFORMANCE OF THE FOOD AND BEVERAGE BUSINESS IN THAILAND

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Abstract

The purposes of the research entitled, “Model of relationship of factors influencing the performance of the food and beverage business in Thailand” were to study factor influencing business operational results of food and beverage industry in Thailand, the direct, indirect and overall influence of a causal relationship model and to ascertain the validity of developed model in comparison with the available empirical data of food and beverage industry operational results in Thailand. The relationship between developed model and empirical data of business operations of food and beverage industry in Thailand was also under the study. Total 300 section head and higher up of food and beverage industry were selected as research samples from the reliable stock listed companies. SPSS computerized program is engaged in analyzing and processing the collected questionnaires, having statistical significance 0.05. Data were analyzed using are Frequency, Percentage, Mean, and Standard Deviation or S.D., Confirmatory Factor Analysis, and Coefficient Correlation of research model with the empirical evidence.

The research findings suggest that changes in strategic pattern, operational model, technology and innovation had direct positive effect on the organization atmosphere and its operation, having statistical significant level .01. The dynamic environment and the competitive environment also displayed the direct positive influence over the organization atmosphere and the operational results, having the statistical significant level .01, whereas the organization atmosphere received overall influence from the business environment. Furthermore, the operational results also received the direct influence from business environment, changes in business through the organization atmosphere, having the calculated influence of 0.34 and 0.13 in which the statistical significant level was at .01.

This suggests other influence factors had influenced over the operation, for example, changes in business and business environment.

Keywords: correlation model, result of business operation, food and beverage business

Statement of research

The findings from the food and beverage business situation in the 3rd quarter 2016 reveal that the production and distribution of such products in Thailand has decreased as compared to same period last year. As the region suffered from the drought, causing the overall production reduced substantially, especially sugar, grains and starch. This is coupled with Thai fishing industry has strictly followed the New Fishery Law to rectify IUU Fishing situation that the European Union issuing yellow warning to Thailand in which the impact can be seen on the reduction of illegal fishing and in turn decreasing fish products and food exporting industry during the 3rd quarter 2016. This is also the direct result from drought and the reduction of raw materials, especially, sugar, rice, cassava and oil palm. Moreover, China as Thailand trade partner has not fully recovered from economic downfall, slow down the order from Thailand (Grassroots Research Center Government Saving Bank, 2017).

Nonetheless, the foods import in the 3rd quarter, 2016 increased from last year some period from raw materials shortages and insufficient fish product in the country leading to more import of raw materials, especially, fresh and freeze Tuna. The export and import of non-

alcoholic beverage during the 3rd quarter, 2016 are increase from prior year same period as well, having the major export market in CLMV countries that required more import of non-alcoholic beverage from Thailand due to economic expansion (Grassroots Research Center Government Saving Bank, 2017). Then, the outlook for food and beverage industry during 2016 seems brighter by having the following support factors 1) State Promotion Policy such as the establishment of Food Inn polis and the setup of the economic zone along the border is ery likely to support the food and beverage industry expansion and 2) the economic and trade expansion among CLMV countries consistently caused more demand on consumption goods , especially food and beverage 3) The potential growth in tourism and heath care created the overall increase demand in food and beverage 4) the recovery of Thai shrimp production from EMS may increase the export on fresh prawn, freeze and processed prawn and 5) the United States of America has adjusted Thailand status from Tier 3 to Tier 2 (Watch list), improving image of products from Thailand (Grassroots Research Center Government Saving Bank, 2017) . Nonetheless, the risk factors that required close attention, namely, the economic recovery of China, Thailand trade partner which is still fragile and may influence

importing food and beverage to China. The GSP conditions from the European Union caused Thai export products paying tax at the new rate, causing Thai products price higher than other countries. The findings also reveal that the food and beverage businesses increase average income of 15% per year in the past five years which is considered higher than GDP Growth at average 4-6%, but the net profit is relatively low at 3-5 % in which the entrepreneurs must change their techniques by increasing incomes and reducing cost effectively. It is expected that in 2017, the net income and profit of food and beverage would expand in the same direction as the expansion in tourism sector that also support the expansion of food and beverage industry as well (Department of Business Development, 2017).

From various literature review and reviewing documents and texts, many investors were found investing in the food and beverage businesses from thinking that it was uncomplicated business to operate. As a matter of fact, it may be one of the popular businesses of this decade. Nonetheless, the record indicated that many new business entrants each year closed down and left the business suddenly, mainly from lower incomes than expected, high cost and inadequate reserve that eventually unable to burden the loss, especially the rising cost of raw materials and other related costs, coupling with increasing in operation costs.

The food and beverage business seems to generate “high income from daily sale, but the “profit” may be only small percent as compared to total sales. If the business owner spent sale amount carelessly, regardless of initial cost, the

business may fail. Often, problems in the food and beverage business caused by the flexible sale amount in each time period. For example, foods seasonal sale is rather difficult to forecast due to influence from external factors such as, economic status, social and political as well as consumer preferences which affected incomes. As for solution to the problems, the entrepreneurs must adapt to changing in strategy to follow-up on the assessment on time. Because “personnel” are the most important element in the operation, organization must hire personnel with well knowledge and expertise to work with. Once the organization acquired competent personnel, next in line is to plan " good management” because management is the key of business operation.

As seen, the food and beverage business operation is required not only capital investment, but also the entrepreneur or owner must concentrate on leading the organization successfully to the set goal, especially during the fierce competition period. This is the time when the entrepreneurs need to assess own capacity to find strength , weakness that should be improved at all times to ensure the survival of business, and reaching the set goal in business operation effectively and efficiently.

From the aforementioned reasons and literature review, the researcher is interested in studying the Model of relationship of factors influencing the performance of the food and beverage business in Thailand. The research findings can be used as the basic data for improving and developing the administrative procedures, thus making the operation in this area more effective and efficient. Moreover, the concerned

agencies can adapt the research outcomes to set up policy at Microeconomic and Macroeconomic levels in order to increase competitive advantages among the entrepreneurs of food and beverage businesses effectively until achieving the efficiency in practice.

Research objective

1. To study factor influencing business operational results of food and beverage industry in Thailand.
2. To study the direct, indirect and overall influence of a causal relationship model influencing business operational outcomes of food and beverage industry in Thailand
3. To ascertain the validity of developed model in comparison with the empirical data of food and beverage industry operational results in Thailand.
4. To develop a causal relationship model influencing business operational outcomes of food and beverage industry in Thailand.

Research framework

There were four significant factors involved in the formulation research conceptual framework as follows:

1. Business modification base on the concept of Swapna & Raja (2012); Corbett (2015) with three sub-components comprised of modification in strategy, operation, technology and innovation.
2. Business environment employed the conceptual framework of Jansen et al.(2006) with two sub-components , namely dynamic environment and competitive environment.
3. Organization structure based on the theory of Stringer (2002) with six components, namely organizational structure, performance standard, job responsibility, recognition, support, and affiliation.
4. Operational results based on the concept of Kaplan & Norton. (1996) on Balanced Scorecard with four sub components, namely, financial, customers, internal business process, learning and growth.

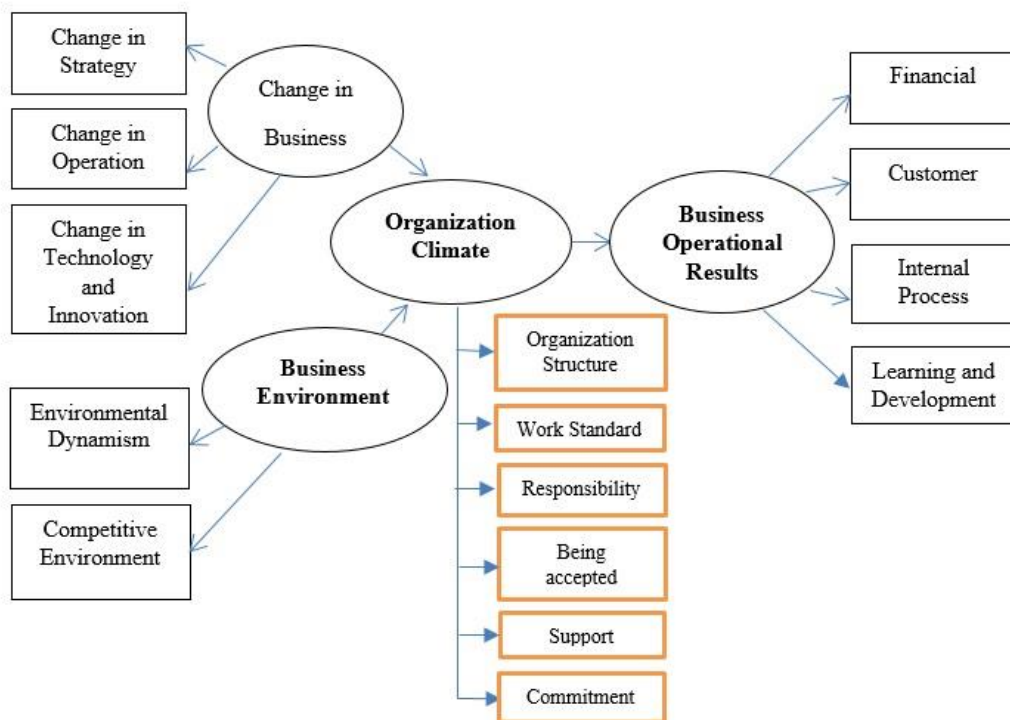


Figure 1 Conceptual framework “Model of relationship of factors influencing the performance of the food and beverage business in Thailand”

Concepts and relevant theories on business change

Karin Vey (2017) had interestingly described the organization abundant with sales support factors or factors related to productivity as having the advantages over others even with the personnel working in the same environment 5-10 years ago in comparison with the organization that fully trained personnel as well as implementing new working methods in the current operation.

Ranna Bhatt (2017) mentioned that human in the past ventured into trade from the need to feed the family by

trading homemade products with other necessities. For example, during the Agricultural Era, man traded rice for pork. Soon, man has evolved into using machineries to aid production when the market demand exceeded production capacity. Nonetheless, the use of machineries from the Machinery Era up to now was not much different as seen from the saturation of technological growth at present. Most companies engage computerized system in the operations, including the use of Internet for communication and identical machineries in manufacturing products. Man at present had crossed over from the development era and technological

investment to Human Capital Era. If the organization wants to create the distinction, it must begin with changes in personnel section. Moreover, the concept of business change is the new definition that the entrepreneur must be aware of and carefully considered the area of change, usually involving new business approach to ease decision making in certain event that may lead to change in business. As one can see that the business structure is built from four significant components, namely, business strategies, business model, operational model and competency. According to Swapna & Raja (2012); Corbett (2015), change in business comprised of three sub components, namely, strategy, operational model, technology and innovation. Changes in these subcomponents had led to great impact on business survival and growth. Then, the business organization should prepare for abrupt changes as well as responding to the stimulus swiftly and accurately, both short and long term period, including the implementation of information technology to enhance efficiency in each operation based on the assigned business roles such as financial matters, marketing, operation and human resources. Each interesting discipline was incorporated into the Strategic Operations for improving and retaining the organization competitive ability. The technological adaption required knowledge, understanding and experiences in defining the harmonious practical direction between the organization structures, strategy and information technology in which all segments are complex and elaborate. Therefore, the executive is the key person leading the organization to success or failure. At present, information technology besides support

effective operation, it helps the organization to define own strategy. If the executive is able to apply information technology appropriately with the operation, it is not only creating a portfolio, but also leading to the organization effectiveness. Therefore, the researcher decided to apply the business concept of Swapna & Raja (2012); Corbett (2015) who mentioned three sub components involved with change in business, namely, strategy, operation, technology and innovation in this study.

Relevant concepts and theories on business environment

Jose Rodriguez Terceno (2017) gave the interest explanation of the Environment of Business as one of the social units that obstructed business independent existence. It is then absolutely necessary to be aware of the environmental factors that may affect business operation both positive and negative aspects. The business environment are divided into 2 groups as follows: (1) internal environment the controllable environmental factors within the organization such as, man, machinery, building, location, knowledge, other systems and (2) external environment is the uncontrollable factors. Nonetheless, these environmental factors have created significance impacts on the organization operation in which classified as (2.1) operating environment that directly impact the business and also impacted by the business such as , the government, community, raw material suppliers, competitors, customers, trade union, third party and Trade Association and general environment with extended

boundary, but none of its impact directly affected the company, instead it may send the impact through the operation surrounding as well as influencing the long term business decision. These are economy, social and political and technology. According to Wheel and Hunger (2004), business environment comprised of Internal Environment and External Environment which divided into Internal Environment) and (2) Task Environment. Meantime Sunee Vanthanakomol Silpujaru (2009) gave an interesting explanation on business environment that it may affect the process in defining the organization strategy and objective, business direction and risk, including the influence over the design and functions of information control system, communication system and tracking system. Internal environment is divided into three areas such as marketing, technique and finance, whereas the external environment is the uncontrollable factor that influence marketing system by creating business opportunity or threat and 3) Macro Environment. Furthermore, Jansen et al (2006) mentioned the business concept comprised of environmental dynamism and competitive environment. The environmental dynamism is unstable and often change reflecting the level of environmental dynamism, but still displaying the unpredictable characteristics under the environmental dynamism involving technological changes. Furthermore, the environmental dynamism makes the current products obsolete and urgently needs new products development. As for the competitive environment, it may reflect

the fierce market competition among organizations through number of competitors and the competitive dimension. Business organization operating under fierce competition would face severe pressure to increase work efficiency and productivity as well as reducing product price to compete with the competitors. Therefore, it is necessary for the organization to seek new technology and production methods to respond to the need of such organization. The aforementioned statement suggests many academic experts and researchers have given the directions and theories on business environment. The researcher is then applied many theories and concepts, particularly adapting the Behavioral Theory of the Firm by Jansen et al. (2006) that comprised of environmental dynamism and competitive environment in in this research.

Relevant concepts and theories on organization climate

Organization climate is a significant variable in the study of human organization as to link between the visible characters of organization such as structure, rules, leadership model, and performers' behavior. Organization climate plays important role on how one feeling toward performance as the clear reflection which influence on the performer behavior and attitude (Stringer, 2002). Yenen, V. Z., Öztürk, M. H., and Kaya, Ç. (2014) further commented that the organization climate was not only helping to identify employee's behavior in the organization, but also involved in forming expectation

model among the organization members towards other components. The layout of members' expectation on the organization components helps members to form good attitude toward the organization and maintain organization loyalty. Therefore, the organization climate should be the first and foremost concern if the executive desires to change or improve the organization because it reveals the organization culture from the past to present. The concept of Snape, E., & Redman, T. (2010) is coincided with Kaya, Ç. and Ceylan, B. (2014) opinions on each and every executive putting the emphasis on organization climate because it helps the executive planner making better decision. Besides being the proposal or response to satisfaction of practitioners, it helps to increase the organization efficiency in order to achieve the organization goal quicker. Steers & Porter (2002) mentioned the organization climate as the major variable to analyze individual work behavior, and the organization efficiency and effectiveness. Nonetheless, it may not be completely accurate if one failed to consider the internal environment that plays major role in defining members' attitudes and work behavior. Generally, the organization climate comprised of six significant components comprised of (1) Structure refers to the employee perception of the organization having good structure with clear explanation on employee roles and responsibilities. The organization structure should be concise and clearly identified each and every employee tasks and responsibilities as well as who is in authorize to make decision because a well-organized

structure can motivate the employee to perform his task and (2) work standards make the employee realize that the organization aims for employee's good performance in so that he could be proud working with high organization standards. This way the employee would constantly search for know how to improve his performance. Moreover, low standard reflects the employee's low expectation from work and (3) Responsibility involved the employee understanding the company trust and empowered him to carry on working independently without frequent supervision from the superior as well as fully aware of the consequences from his own performance under the set standards, whereas (4) being accepted is when a person realized that he would earn the reward from the organization for his good performance. By accepting, the individual expected to receive the reward from his good performance or punishment when he performed poorly. Nonetheless, low acceptance occurred when an employee performed well but had never received any reward and (5) support is defined as the personnel perceived members' trust and encouragement. High level of support is when the personnel learned that he is a part of efficient team work and the support is always available from the team members and supervisors. Moreover (6) commitment is defined as the personnel sense of pride for being a part of the organization and the commitment level to complete the task per set objective. Meantime, Snape, E., & Redman, T. (2010) concluded that the organization climate helping the members to identify

expectation model including other components. Organization climate is also a good determinant on attitude and satisfaction towards the organization. When dealing with the organization improvement, one needs to consider changing the organization climate first.

According to Peng, J. C., & Chiu, S. F. (2010), they stated that the organization climate has become the crucial factor for organization, executive and organization members. Therefore, the first and foremost factor required change is the Organization Climate which is coincided with the work of Snape, E., & Redman, T. (2010) , Therefore, the organization climate is not only crucial for executive and other organization members, but also motivating the members to perform and satisfy with the assigned tasks. If any organization focused in this area and adapted with the organization management to mix and match the current period, the organization would gain the flexibility that create work harmony between the employees and executives because both sides realized each other needs and satisfactions. Finally, the organization goal can be achieve effectively. Therefore, in this research, Stringer (2002) theory was employed with six components, namely, organization structure, work standard, work responsibility, being accepted, support and commitment.

Relevant concepts and theories one operational results

Likert (1977) had explained the Linking Pin Theory as comprised of (1) overlapping *work units* that would

increase work efficiency as well as motivating members to work harder and (2) every organization unit employed work units in which the supervisor/manager has the task to create unity within the organization and (3) Plan and solve problems as a teamwork to involve team members in decision making so all members would satisfy with the outcome, leading to group bond and acceptance. In this Linking Pin Theory, the organization administrative function would emphasize on team work, participate in decision making, job satisfaction and executive role for the organization to operate effectively. Meantime, Gulick & Lydall (1973) the educational theorist on an administrative principles proposed the Strategic Management process for the executive in seven significant functions , namely, Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting, so called briefly as “POSDCORB”. Meantime, Kaplan and Norton (1996) gave the interesting explanation that the Balanced Scorecard (BSC) is the system or an administrative process that based on KPI, a key mechanism. Kaplan and Norton gave the latest definition on the Balanced Scorecard “ as the management tool leading to the Strategic Implementation based on the Measurement to help the organization members working toward same goal and alignment and focused on the success of the organization “. The concept of Balanced Scorecard invented by Professor Robert Kaplan at Harvard University and Dr. David Norton, the management consultant who had studied and surveyed the cause of USA stock

market downfall in 1987 and found that majority of USA companies relied on the financial indicator mainly. Therefore, both proposed the concept in organization assessment by considering the indicator in four Perspectives, instead of judging only one side. All four perspectives are Financial Perspective, Customer Perspective, Internal Process Perspective and Learning and Growth Perspective. After all, the Balanced Scorecard helps bringing the organization management to tangible practice because in preparation for Balanced Scorecard, one must start with the strategic process. These are the strategic procedures to derive at Strategic Themes and the making of Strategy Map which reveals the casual relationship of objectives under all four perspectives of Balanced scorecard (financial perspective, customer perspective, internal process perspective and learning and development perspective). These objectives must be agreeable and support the organization main vision, and strategic themes before identifying the indicator, purpose, plan, project, and objective of each aspect in order to complete the development process as well as the development of Corporate Scorecard. From the literature review, the researcher had adapted Balanced Scorecard Theory of Kaplan & Norton (1996) comprised of (1) Financial Perspective (2) Customer Perspective (3) Internal Process Perspective and (4) Learning and Development Perspective to use with this research.

Population

Research population comprised of the 23,317 section heads and higher up of 35 food and beverage related companies listed in the Stock Exchange of Thailand (SET 2017).

Research samples

Research samples were section heads and higher up of food and beverage related companies listed in the Stock Exchange of Thailand (SET 2017). LISREL was employed to seek appropriate sample size, including the use of Structural Equation Modeling (SEM). To define the sample proportion, the suggested Rule of Thumb by Hair et.al (Hair, et al., 1998) was employed in which most statistical analysts on pluralism used 20 times variable. The researcher used 15 variables and the appropriate sample size of 30. The outcomes were applied in data analysis with Structural Equation Modeling (SEM). Since numbers of population in each organization were uneven, the researcher applied Proportional Stratified Random Sampling on each level per total population. The final samples were 300 samples.

Data collection process

1. The researcher prepared a letter to request cooperation in collecting data from sample group through the questionnaires.

2. The questionnaires accompanied a requested letter to collect response in answering the questionnaires. The researcher self-administered and collected data and mailed some to the samples who had been working in the food and beverage business. In certain cases where the questionnaires had not been returned, the researcher would follow-up for the 2nd and 3rd time though various venues. For example, questionnaire sets with similar questions were sent with follow-up phone inquiry and follow-up manually to ensure the most completed data.

3. Total 300 set of returned questionnaires were subjected for analysis through the following steps:

1) Data validation was performed by the researcher checking on data accuracy and completion.

2) Data was coded by the researcher.

3) Data analysis was done with Computerize Statistical Program SPSS.

Data analysis

The finding based on the hypothesis and empirical data suggest that the outcomes of Model of relationship of factors influencing the performance of the food and beverage business in Thailand (direct, indirect and indirect influence) coincide with the empirical data as shown in Figure 2.

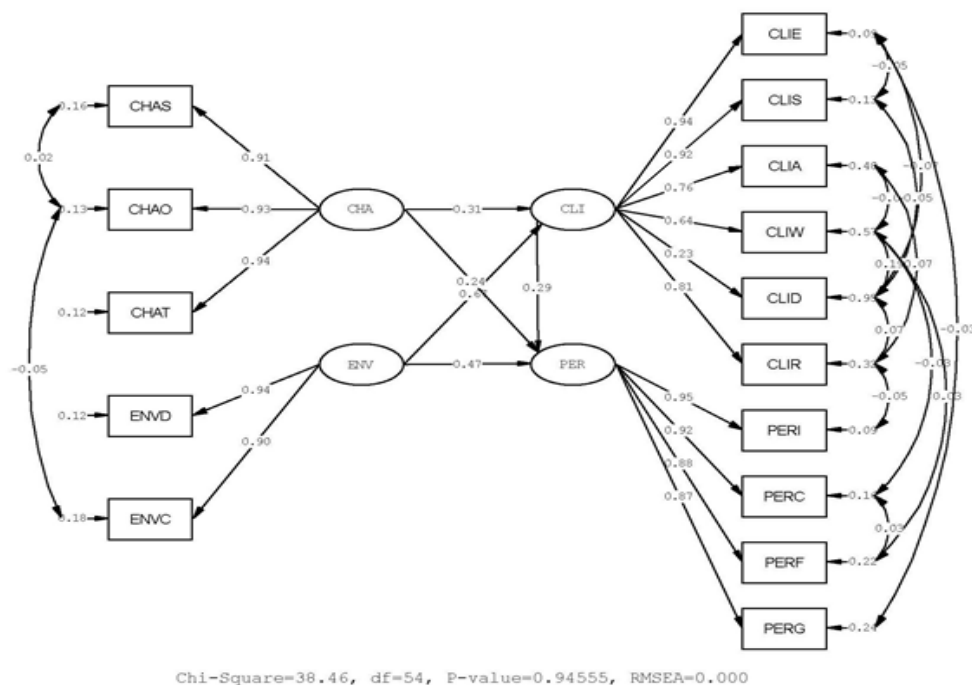


Figure 2 Analysis of Model of relationship of factors influencing the performance of the food and beverage business in Thailand

To sum up the direct and indirect influence on variables:

1. Change in business has the direct positive influence on the organization climate and operation, having the direct influence 0.31 and 0.24, respectively with the Statistical Significance 0.01.
2. Change in business environment has the direct positive influence on the organization climate and operation, having the direct influence 0.67 and 0.47, respectively with the Statistical Significance 0.01.
3. Change in business has the direct positive influence on the organization climate and operation, having the direct influence 0.29, respectively with the statistical significance 0.01.

Results discussion

Summary of analysis results aimed for answering the research objectives as follows:

Objective No.1 To study factors affecting operation in the food and beverage business in Thailand

Due to limited working space for LISREL program, the researcher is unable to analyze the Confirmatory Factor Model based on 15 sub-components and 73 indicators in just one time. Therefore, the researcher decided to divide the analysis into 4 models by considering the relationships between sub-components and indicators as well as

selecting appropriate program for major analysis:

1) Business change model

Business change variables comprised of 3 components, namely, change in strategy, change in operation model and change in technology and innovation in which the researcher had validated correlations between all 3 components of work process in 3 pairs.

It was found that the variable correlation differed from zero with the statistical significant level .01 for all 3 pairs, which indicated extremely high correlation level, between 0.869-0.882. Analysis results of Matrix Correlation with Bartlett's Test of Sphericity yielded Bartlett's Test of Sphericity Chi-Square = 941.060, $df = 3$, $p = 0.000$ which was differed from zero with the statistical significant level .01. This suggests that the Matrix Correlation of observed variable was not Identity Matrix and the variables had enough correlations to assist in the analysis of components, whereas the index of Kaiser-Mayer-Olkin (KMO) = 0.778 indicated the appropriateness of variable for the component analysis.

The model analysis yielded Chi-Square = 0.00, $df = 0$, $p = 1.00000$, RMSEA = 0.000, GFI = 1.00, AGFI = 1.00 which indicated that the business change model correlated with the empirical evidence.

After considering the sub-components of work process, the findings suggest 3 variables played significant part to indicate the organization atmosphere, arranging from the most to the least

significant. These are change in operation model, change in strategy and change in technology and innovation, respectively, having the component weighted equaled to 0.78, 0.73, 0.72, respectively with the co-variation of the business change indicator for 88, 89 and 86, respectively.

2) Business environment model

Business Environment variable are comprised of dynamic environment and competitive environment. The researcher had validated correlation between 2 variables of human capital. The findings suggest that the correlation of observed variables displayed differences from zero with statistical significant level .01 and all were highly correlated with each other equaled to 0.842.

The analysis of Metrix correlated with Bartlett's Test of Sphericity yielded Chi-Square = 467.202, $df = 1$, $p = 0.000$ which differed from zero with statistical significant level .01. Therefore, it suggests that the Matrix Correlation of variables is not Identity Matrix. The variables had ample correlation to analyze components and Kaiser-Mayer-Olkin (KMO) = 0.550 which suggested the appropriateness ($KMO > 0.500$) of variables to assist the component analysis

Analysis results yielded Chi-Square = 0.00, $df = 0$, $p = 1.000$, RMSEA = 0.000, GFI = 1.00, AGFI = 1.00 which indicated the consistency with the empirical evidence. After considering the sub-components of human capital, the findings suggest 2 variables played significant part to indicate the

organization atmosphere, arranging from the most to the least significant. These are competitive environment, dynamic environment, respectively, having the component weighted equaled to 1.00, 1.00, respectively with the co-variation of the business environment indicator for 86 and 83, respectively.

3) Organization atmosphere model

Six variables of organization atmosphere are consisted of the organization structure, standard of work, work responsibility, gaining acceptance, receiving support, and commitment. The researcher had validated correlation between six variables of organization atmosphere. The findings suggest that the correlation variables displayed differences from zero with statistical significant level .01 and all 6 pairs were highly correlated with each other from 0.664 to 0.888. The analysis of Metrix correlated with Bartlett's Test of Sphericity yielded Chi-Square = 1699.012, $df = 15$, $p = 0.000$ which differed from zero with statistical significant level .01. Therefore, it suggests that the Matrix Correlation of variables is not Identity Matrix. The variables had ample correlation to analyze components and Kaiser-Mayer-Olkin (KMO) = 0.897 which suggested the appropriateness ($KMO > 0.500$) of variables to assist the component analysis. Analysis results yielded Chi-Square = 0.84, $df = 5$, $p = 0.97428$, RMSEA = 0.000, GFI = 1.00, AGFI = 1.00 which indicated the consistency with the empirical evidence. After considering the sub-components of business network all 15 pairs, the

findings suggest 6 variables played significant part to indicate the organization atmosphere, arranging from the most to the least significant. These are receiving the support, commitment, organization structure, responsibility, work standard and being accepted, respectively, having the component weighted equaled to 0.69, 0.67, 0.63, 0.59, 0.53 and 0.44, respectively with the co-variation with the atmosphere indicator for 74, 74, 77, 99, 98 and 73, respectively.

4) The variables of operation component are comprised of 4 parts, namely, financial, customers, internal process, learning and developing. The researcher had validated the correlation between all 4 pairs of components and the results found correlations between 4 pairs of operation result components. The findings suggest the differences from zero with statistical significant level .01 for all 4 pairs with extremely high correlations, between 0.824-0.900

The analysis of Metrix correlated with Bartlett's Test of Sphericity yielded Chi-Square = 1407.712, $df = 6$, $p = 0.000$ which differed from zero with statistical significant level .01. Therefore, it suggests that the Matrix Correlation of observed variables is not Identity Matrix. The variables had ample correlation to analyze components and Kaiser-Mayer-Olkin (KMO) = 0.858 which suggested the appropriateness ($KMO > 0.500$) of variables to assist the component analysis.

Analysis results yielded Chi-Square = 0.79, $df = 1$, $p = 0.3415$, RMSEA = 0.000, GFI = 1.00, AGFI = 0.99 which

indicated that operational results measurement had the goodness to fit with the empirical evidence. After considering the operational results for all 4 pairs, the findings suggest 4 variables played significant part to indicate the organization atmosphere, arranging from the most to the least significant. These are internal process, financial, customers, learning and developing, respectively, having the component weighted equaled to 0.70, 0.70, 0.69 and 0.68, respectively with the variations of indicators on technological competent for 87, 84, 88 and 79, 99, 98 and 73, respectively.

Objective No. 2 To study the direct and indirect influence of correlated factors over operational results in the food and beverage businesses of Thailand. The operational results received the highest overall influence from change in business and environment, having influence on both as equaled as 0.49. Next is the organization atmosphere with the influence value 0.47, having the statistical significant level .01

After considering the direct influence, the findings suggest that the organization atmosphere had received the highest influence from the business environment, with the influence value .71, followed by change in business, with the influence value 0.28 and the operational results received the highest direct influence equaled to 0.47, with change in business and business environment with influence values of 0.36 and 0.16, having the statistical significant level .01.

After considering the indirect influence, the findings suggest that the organizational results had received the highest indirect influence from the business environment, through the organization atmosphere, with the influence value .34, followed by receiving indirect influence from change in business, through the organization atmosphere, with the influence value 0.13, having the statistical significant level .01. Considering both direct and indirect influence over such variables, summary could be done as follows:

(1) Change in business had the direct positive influence over the organization atmosphere with the influence value 0.28, having the statistical significant level .01 (2) Change in business had the direct positive influence over the operational result by having identical influence value of .01 (3) the business environment had the positive influence over the organization atmosphere, with the influence value 0.71, having the statistical significant level .01 and (4) the business environment had the positive influence over the operational results, with the influence value 0.16, having the statistical significant level .01 (5) Organization atmosphere had the direct positive influence on the operational results equaled to 0.47, having the statistical significant level .01. Furthermore, the operational results received the highest level of indirect influence from business environment and change in business through the organization atmosphere with influence value of 0.34 and 0.13, respectively, having the statistical significant level .01.

Objective No. 3 In order to validate GFI of the constructed model with the empirical evidence from the operational results of food and beverage business in Thailand.

Business environment, organization atmosphere and operation results with Maximum Likelihood and the computer program LISREL 8.72 in order to compare GFI between the developed model and the empirical evidence. The researcher had considered the statistical value comprised of Chi-Square, χ^2/df , CFI, GFI, AGFI, RMSEA and SRMR in which the initial analysis results indicated that Goodness of – fit index was inconsistent and disagreed with the empirical evidence or it had not met the set criteria by considering the following values $\chi^2 = 337.16$, $df = 84$, $p\text{-value} = 0.000$, $CFI = 0.99$, $GFI = 0.87$, $AGFI = 0.81$, $RMSEA = 0.100$ and $SRMR = 0.022$. The researcher had conducted Model Modification, using Model Modification Indices (MI) and proceeding with adapting parameter to be more lenient with the initial agreement, allowing the miscalculation in correlations until the GFI agreed with the empirical data. The details of Model Modification to match Model fit to match the empirical data indicated in the first model modification improvement in correlations between cli6 and cli5, that is χ^2 reduced from 337.16 to 270.20 and RMSEA was reduced as well from 0.100 to 0.087. This shows that the approach on model modification to achieve the goodness to fit with the empirical evidence worked quite well and had not disturbed the concepts and theories in the

research because the modification aimed at the miscalculation of empirical evidence standard instead of changing the correlation direction between variables in the model.

After considering the GFI of model, the findings suggest model had goodness to fit with the empirical evidence, having GFI for 6 index equaled to $\chi^2/df = 0.839$, CFI = 1.00, GFI = 0.98, AGFI = 0.96, RMSEA = 0.000 and SRMR = 0.0095. To conclude, the Structural Equation Modeling (SEM) had GFI with the empirical evidence.

Research outcomes suggest the following findings:

There are four significant components influencing business operational results of food and beverage industry in Thailand, namely, change in business, business environment, and business climate, including business operation. The analysis results also reveal that the constructed model is coincided with the empirical evidence and contained all statistical significance. Change in business has three sub-components, namely, strategies, operation and technology an innovation. As for business environment, there are two sub components, namely, the environmental dynamism and the competitive environment. For the organization climate, there are six subcomponents as follows: structure, standards, responsibility, being accepted, support, and commitment. As for the operational results, there are four sub components as follows: Finance, customer, learning and development. The internal process suggest that when the executive practiced according to the principles of major and

minor components, these would influence the performance of the food and beverage business in Thailand.

This study employed the theories related the model of relationship of factors influencing the performance of the food and beverage business in Thailand. The components of the model found matching various concepts and theories under the study. The result analysis suggests three sub components involved, namely, change in business, change in operation and change in technology and innovation. Regarding the business environment, there are two sub components, namely, environmental dynamism, and competitive environment. The organization climate comprised of six components as follows: structure, standards responsibility, being accepted, support, and commitment. As for the operation, four sub components are comprised of financial aspect, customer, learning and development, internal process which had coincided with the empirical evidence. This concept is coincided with the work of Patcharapun Buddhakarn (2011) on problems and threats in the organization management with Balanced Scorecard by the Bangkok Revenue Office Region 18. The research findings suggest that the supervisor is the key to data analysis with Balanced Scorecard. The analysis techniques are divided into the organization analysis, vision development, defining perspectives and objective, preparing strategic plan, defining KPI and task planning, including the list of factors causing problems and appropriate solution to problems such as organization analysis,

control measures and monitoring prior to tax collection affecting servicing and defining KPI that based on the operational tenure so that the primary level personnel could understand thoroughly. This concept is coincided with the research of Pakphoom Nunpreecha (2012) who studied factors related to the operation efficiency based on the Balanced Scorecard concept: A case study of Community Organizations Development Institute (Public Organization). The research result suggest two indicator involved (1) Office of the Public Sector Development Commission and (2) Specific Institute for institutional performance. There are three phases in the process, namely (1) Annual organization strategy plan (2) Office of the Public Sector Development Commission indicator and (3) work indicator in which these factors related to the operation efficiency that also support the operation based on the concept of Balanced Scorecard in seven factors as follows: leader, organization executive policies, data management, relationship and communication between departments and follow-up, developing personnel competency and factors as the treats to operation efficiency. This is based on the concept of Balanced Scorecard comprised of seven factors, namely, misunderstanding personnel concern, and complexity in preparation for performance indicator, setting up and timing, personnel faith on own supervisor, identifying indicator by Office of The Public Sector Development Commission and personnel attitude in which all of these factors involved and related the operation

efficiency. This concept is coincided with the research of Nichanun Junsuaebtaew (2007) on the implementation of Balanced Scorecard in the Public Sector: A Comparative Study of the Local Agency at Phitsanulok Province. The research finding suggest that the implementation of BSC in both organizations required preliminary study of organization detail prior to brainstorming in order to prepare the organization strategy by allowing the outsiders and the internal staff to participate in plan preparation. Nonetheless, problems still occurred from the implementation of BSC in both organizations.

Recommendations

Further implementation for benefit maximization

The findings from this research suggest that the model of relationship of influence factors on the performance of the food and beverage business in Thailand can be used as the organization development direction for the executive to apply with appropriate context and situation.

Change in Business: The organization executive should be aware of changes in strategy, ology and operation, technology and innovation, aiming at improving the operational performance.

Business Environment: The organization executive should focus on speeding productivity in order to response to the customers' demand faster

than the competitor as well as keeping up with change in business continuously due to frequent change in product demand and service, including the executive awareness of price competition among suppliers.

Organization Climate: The organization executive should establish work policies and direction influencing personnel behavior as the crucial factor to promote team work.

Operational Results: The organization executive should focus on keeping up with financial matters, servicing customers, internal process, learning and development as well as effective resource management, aiming to increase profits. Good organization management also helps most personnel generating incomes and increasing sales. Personnel must be taught to gain the customers' satisfaction so that they would return to repurchase merchandise and service as well as maintain brand loyalty. Furthermore, the accelerated production process should help the management responding better to the customer demand than the competitor, including diversified products and services available. The well-organized procedures and production process could lead the organization to successful operation.

Recommendation for next researches

- 1) In the next study, other factors affecting the performance of the food and beverage business in Thailand such as quality of working life, organizational commitment or official rules and regulations and other related factors.
- 2) There should be the research on model of relationship of factors influencing the performance of other businesses throughout the country in order to test invariance of the developed model.
- 3) The model of relationship of factors influencing the performance of other industrial groups so that the outcomes could be used as the direction to improve the operation.
- 4) Ethnographic Delphi Futures Research (EDFR) should be applied in the study of model factors affecting the future business because EDFR is the research method that used the past fact to apply with the present problem. It is the technique to create a future image from the experts' consensus as well as assessing the present situation and impacts on each context, ready to cope with the future event and plan future business direction.

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DETERMINANTS OF THE GROWTH OF STONE BUSINESS: A STUDY ON SYLHET DISTRICT OF BANGLADESH

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Abstract

Survival and growth of any business are highly reliant on the understanding of how business environmental factors work together with the operational skills of entrepreneurs. With the view in mind the authors tried an attempt to identify the determinants of stone business growth in Bangladesh especially in the stone business thriving region like Sylhet. This paper revealed 61 percent variation in the growth of stone business along with a fitted model of investment growth of stone business = $5.231 + 0.636 (\text{duration of business}) + 0.221 (\text{types of stone business}) - 0.167 (\text{technological factors}) + 0.183 (\text{communication factors}) + 0.139 (\text{sources of startup capital})$. In this study, ninety-nine entrepreneurs of seven important locations, from the two Upazila of Sylhet district, were surveyed using systematic random sampling technique. Data from questionnaire were analyzed using SPSS. The techniques employed in examining the data included descriptive statistics, reliability analysis and regression analysis.

Key words: Stone business, Growth, Sylhet, Bangladesh

Introduction

Advanced constructions might not have foreseen without the presence of stone. Actually in the aged era, huge and hard rocks were the establishment for Pyramids and Tajmahal. Stone crushing business is an fundamental modern division to any country associated in producing crushed stone for diverse sizes depending upon the prerequisite which acts as raw material for various development activities for example, development of roads, highways, bridges, buildings, canals and a number different structural plans. Central pollution control board in 2009 reported that stone crushers are basically small scale industries mostly owned and maintained by less educated persons and are numerous zones in the country.

The stone quarries located in Sylhet District have been active since the end of the Second World War, in the late 1940s. Back in the early days, most of the stone was collected by using local river-rafts made of three timber planks, known as 'burkis'. The Bholagonj stone quarry took off between 1964 and 1969, when the Bholagonj ropeway conveyor - a type of gondola lift that carries goods rather than passengers - was constructed to advance the development of the East-Pakistan Railway (Manzoor, 2007). Quarries are generally used for extracting building materials, such as dimension stone, construction aggregate, riprap, sand and gravel. The word quarry can include underground quarrying for stone, such as Chief, Single, Botu and stone (Chowdhury, Khan, & Islam, 2014). There are seven major stone quarries in Sylhet. These are Bholaganj, Uthma stone quarry at Companiganj Upazila,

Jaflong and Bisnakandi stone quarries at Goainghat Upazila, Lalakhali and Shreepur quarries at Jaintiapur Upazila in Sylhet and Chhatak stone quarry in Sunamganj. Bholaganj is the biggest stone quarry in the country. Bholagonj stone quarry is located about two km from Companyganj and twenty km from Sylhet Sadar. It stands on the bank of the river Dhaolai that separates Bangladesh from India. Bisnakandi stone quarry at Goainghat Upazila, one of the biggest quarries, supplies stones worth thousand crore (1 crore = 10 million) of Taka annually, to different parts of the country.

There are two types of quarrying: A group of labors takes out only sand and clay and dredges at the quarry. They get Tk. 250 to 300 per 12-hour shift. The other group extracts stones from the quarry holes but their payment depends on the amount of stones extracted. They get Tk. 5,000 per truck of 1,000 cubic feet. There are also laborers ferrying stones on boats. After extraction, the crushing (process of transferring a force amplified by mechanical advantage through a material made of molecules that bond together more strongly, and resist deformation more, than those in the material being crushed) mills collect the stones from the quarry and put them in different categories after crushing. Single stone (uncrushed) is sold at Tk. 35-40 per cubic feet and crushed stone at Tk. 75-80. During the dry season, especially from October to April, is the best time for extraction. During this time, about 450,000 cubic feet stones of various categories are collected every day from the quarries in Sylhet area. The pace of extraction slows down with the beginning of monsoon. However, about 100,000 cubic feet stones can be

collected every day during off-season. During the peak season, about one thousand trucks carry about 400,000 cubic feet stones every day from the quarries of Sylhet and the government earns about Tk. 784,000 revenue a day from the trucks carrying the stones. The government gets about Tk. 20.36 million revenue every month from the quarries in Sylhet region during the peak season. The miners pay Tk. 1.96 per cubic feet stone to the government for extracting stones from the quarries.

Problem statement

In Bangladesh, the most important source of sand and gravel is from in-stream quarrying and mining, which originate from diverse parts of the Sylhet division. The majority of the land in Sylhet, which has borders with India, from Goainghat Upazila to Chhatak Upazila under Sunamganj district, is bordered by almost barren hills and quarries. A considerable amount of stones used in the country's construction sector comes from stone quarries, mostly from Sylhet. Every day, hundreds of thousands of cubic feet of stones are being extracted from the quarries (Dev, 2014). The stone business is mainly dependent on natural resources but these resources will be exhausted in the stream of time. Therefore, the growth of such booming business will face hard time sustaining in the interim period as well as the construction and employability related to stone business will get into serious trouble. For this reason, there is a necessity to conduct a study that can determine factors affecting the growth of stone business.

Literature review

The British East India Company's Resident Collector Robert Lindsay wrote about extracting limestone and iron ore from the Khasia hills. Stones that rolled downstream with the current have long been collected and sold by locals (Mahmood, 2009). The Piyain and Dauki rivers in Gowainghat Upazila in Sylhet, a source of seventy percent of the country's stone supply; Jafiong and Bholagonj are the main sources for natural stone (Khan, 2009).

In this study, several factors such as entrepreneur's age, education, experience, and family background were chosen because various researchers had found a significant relationship between these factors with the growth of small and medium enterprises (Bigsten & Gebreeyesus, 2007; Barringer, Jones, & Neubaum, A Quantitative Content Analysis of The characteristics of Rapid-Growth Firms And Their Founders, 2005; Goedhuys & Sleuwaegen, 2010; Littunen & Virtanen, 2006; Storey, 1994). Middle-aged entrepreneurs are likely to have experience and more energy, and as such they are most likely to establish and manage a business which will grow faster than is the case for younger ones. In this regard, empirical studies have found an inverted U-shaped relationship between the entrepreneurs' age and the growth of small and medium enterprises (Reynolds & White, 1997; Van Praag, 2003). Entrepreneur's age is significantly associated with the continuation of stone business in Bangladesh (Ahmed & Mynuddin, 2016). Education is significant depends on the type of education entrepreneurs enjoyed as well as the type of industry the business belongs to (Barringer & Jones,

Achieving Rapid Growth-Revisiting The Managerial Capacity Problem, 2004; Dimov & Shepherd, 2005). Effective and successful formal education is the only way to build as well as develop the human skills, expertise and competence required for the growth and development of small and medium enterprises in LDCs (Essien & Udofia, 2006). The children of entrepreneurs should be more likely to form successful businesses than other people (Cooper, Folta, & Gimeno-Gascon, 1992; Duchesneau & Gartner, 1990; Mungai & Velamuri, 2010). It is assumed that having at least one self-employed parent not only helps to develop the human capital of the child but also modifies expectations about what business ownership entails (Niittykangas & Tervo, 2005). Individuals are more likely to be successful in their businesses for several reasons, such as an ability to seek managerial expertise from their parents in case of business problems, easier access to information on the market as well as on other related issues (Ardichvili, Cardozo, & Ray, 2003; Duchesneau & Gartner, 1990; Krauss, Frese, Friedrich, & Unger, 2005; Mungai & Velamuri, 2010; Sorensen, 2007).

The dependent variable in this study is stone business growth. This growth can be measured by several attributes such as sales, employment, assets, profit, market share and productivity. Business growth, in this study, is defined in terms of change in the level of investment, duration of business (experience), product sales location, number of employees employed and so on along with business environmental factors. It is worth noting that researchers encounter problems in obtaining financial data, especially when dealing with private

firms (Dess & Robinson, 1984). The unpreparedness of small business owners in terms of capital prior to going into business is said to be accountable for their untimely failure' (Ezeh & Onodugo, 2002). People with more start-up experience are more likely to have gathered much of the valuable information relating to business creation and growth (Politis, 2005; Unger, Rauch, Frese, & Rosenbusch, 2009). Capital and natural resources are inert factors of production, human beings are the active agents who accrue and amass capital, exploit natural and material resources, put up social, economic and political organization and carry forward national development. Without a doubt, a country which is incapable to build and develop the skills and knowledge of its citizens and utilizes them effectively in the economy will not be able to develop anything else (Cosson, 2003). Business performance directly presents the output of products and services, utilization of human resources, growth of sales, and transaction frequency with customers, while profits or goal achievement are the final test of profit making, employee performance, and organizational effectiveness in an enterprise (Chen S. , 2010).

The term business environment represents all forces, factors and institution that are beyond the control of the business and affect the functioning of a business enterprise. These include customers, competitors, suppliers, government and social, political, legal and technological factors etc. While some of these factors may have direct influence over the business firm, others may operate indirectly (Duncan, 1972). Business environment can be broadly categorized into internal and external

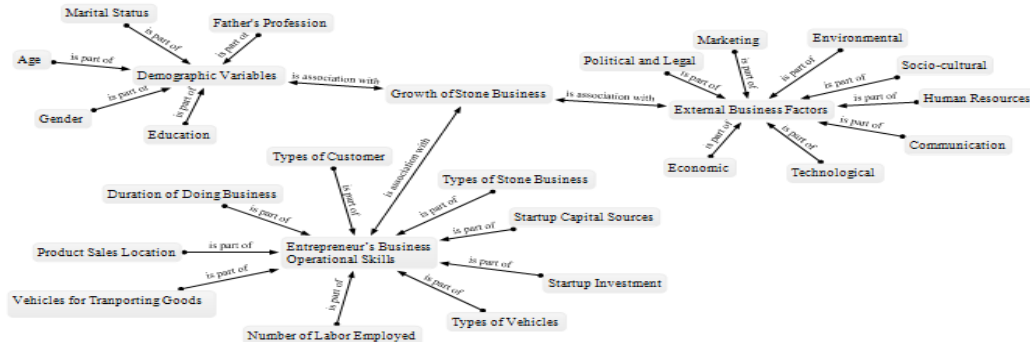
environment with the former comprising variables or factors within the control and manipulation of the firm to attain set objective while the latter encompasses factors that are outside the control and manipulation of the firm (Adebayo, Ogunyomi, & Ojodu, 2005). External business environment and their factors help visualize the analysis of business survival and growth in an attempt to enhance understanding of how environmental factors work together with the variables of business survival and growth to determine the future of business organization (Ogundele & Opeifa, The Influence Of External Political Environment On The Processes Of Entrepreneurship, 2004). Environmental changes are continuously exerting new pressures on company performance and in order to adapt with these changes, companies often formulate and implement strategies to reorganize and reform the way products are manufactured and distributed to final consumers. Thus, the impact of environmental factors on business performance towards profit objective is found to have increasingly stronger interrelationships which require more sophisticated business strategies (Adeoye, 2012). More than half of newly set up businesses survive beyond five years. Hence, the identification of factors which empirically lead to entrepreneurial success/failure would assist in equipping small business owners with the necessary managerial skills to survive in today's competitive environment as well as exploit several strategies that will improve their operational efficiencies; however, inflationary trend, infrastructural facilities accessibility and government policy are barriers to business growth and survival (Obasan ,

2014). Firm must develop a plan that will help it to cope with the various environmental forces (Oluremi & Gbenga, 2011). Firm perception of the nature of the business environment is a function of its size and industry (Ogundele, Management and Organization Theory and Behavior, 2005). Poor marketing, inadequate enabling environment were viewed by 30 percent as the major factor to small and medium enterprises growth (Imoisi & Ephraim, 2015). The dynamic and rapidly changing business environment in which most businesses operate has made business environment to have significant influence on organizational survival and performance (Alexander & Britton, 2000). Organizational performance can be significantly affected by the operation environment and business strategies; therefore, appropriate coordination, operation, environment and business strategies yielded remarkable effects on organizational performance (Yu, 2010). Fundamental impacts on the business model (including competitors, suppliers, customers, alternative products, newcomers) guided by environmental changes; therefore, presentation of completely new products and activities in the value chain is necessary, companies need to re-identify the boundaries of their business (Vecchiato & Roveda, 2011).

Objectives of the study

To find out whether demographic profile of the entrepreneur, entrepreneur's business operational skills and external business factors have any influence on the growth of stone business of Sylhet district in Bangladesh

Conceptual framework



Hypotheses

H₁: Entrepreneur's demographic variables significantly influence stone business growth

H₂: Entrepreneur's business operational skills considerably influence stone business growth

H₃: External business factors significantly correlated with stone business growth

Research Method

In this study, communicating (interview) and distributing questionnaire are the main method to analyze the determinants of stone business investment growth on entrepreneurs' demographics, business operational skills and business environmental factors. This study is based on both the primary and secondary data. The primary data were collected from respondents directly with the help of survey interview schedule. Secondary data were collected from reputed journals, newspapers and websites.

Entrepreneurs associated with stone business of Sylhet district in Bangladesh, is the target population. The sampling

frame is the two Upazila of Sylhet district, Companyganj and Gowainghat, consists of seven important locations of stone business such as Bholagonj, Pawra, Kolabari, Jaflong, Bisnakandi, Hadarpar and Salutikor. According to the estimation of an executive member of Cooperative Society of Stone Quarry Businesspersons (CSSQB) in Jaflong (Ahmed H. , 2015), there are approximately two thousand entrepreneurs have valid trade license related to stone business around two Upazila (survey study area). Researchers take five percent of two thousand entrepreneurs as representative sample ($2000 \times 5\% = 100$) and distribute one hundred twenty questionnaire for survey. The survey samples were selected at random by applying systematic random sampling technique. There were ninety nine filled questionnaires found to be correct and rests of them were not found valid. So, the sample size was ninety-nine entrepreneurs. The survey interview schedule was constructed by the researchers themselves; on an average survey interviewing time was 25-30 minutes. Survey interview had been conducted using standard questionnaire

with two parts. Part I, consists of demographic and entrepreneurs' business operational skills related information such as age, gender, location of business firm, education, sources of startup capital, present capital, types of stone business, product sales location etc. Part II contained eight external business factors consist of thirty-seven variables, were designed in a Likert's scale format which is given five point rating scale ranges from strongly disagree to strongly agree. The researchers carried out field

work for the survey over a period of 45 days during May and June in 2015. Data were analyzed with the help of frequency table and cross tabulation (descriptive statistics). Cronbach alpha was used to justify the reliability of the variables and multiple regression analysis are used to reveal the variation in the investment growth of stone business on debit card .The gathered data was analyzed through Statistical Package for Social Sciences (SPSS) version 20.

Results and discussion

Table 1 Demographic profile

	Frequency	Percentage
Valid survey cases	99	100
Gender		
Male	99	100
Age		
Lowest thru 25	14	14.1
26 to 35	51	51.5
36 to 45	24	24.2
46 thru Highest	10	10.1
Marital Status		
Married	72	72.7
Unmarried	27	27.3
Education Level		
Below SSC	19	19.2
SSC	42	42.4
HSC	27	27.3
Diploma	1	1.0
Graduate	10	10.1
Father's Profession		
Farmer	23	23.2
Unrelated Business	37	37.4
Teacher	7	7.1
Stone Business	17	17.2
Private service	4	4.0
Other combination	11	11.1
Source: Field survey, 2015		

The profile of the respondents is presented in table 1. All respondents are male, 52 percent is belongs to the age group 26 to 35; whereas 24 percent is from the age ranges 36 to 45, 73 percent is married, no one has completed post-graduation but 42 percent has completed Secondary School Certificate (SSC) and

10 percent have completed graduation. Only 17 percent respondent's father has stone business, but almost 37 percent businesspersons' father's profession is not related to stone business (unrelated business) and 23 percent of their father's profession was farmer.

Table 2 Entrepreneurs' business operational skills information

	Frequency	Percentage
Valid survey cases	99	100
Location of Business Firm		
Bholagonj, Pawra and Kolabari	44	44.4
Jaflong	30	30.3
Bisnakandi and Hadarpar	21	21.2
Salutikor	4	4.0
Types of Stone Business		
Storing and selling Single (stone size 1 inch or below) , Botu(stone size 1 – 5 inches) and Bolder (5 inches or above)	30	36.6
Digging and selling	16	19.5
Chrushing Machines	13	15.9
All (Digging-Storing-Crushing-Selling)	6	7.3
Storing and selling Bolder, Single, Botu withCrushing machines	5	6.1
Storing and selling Bolder, Single, Botu with Digging and selling	6	7.3
Other combinations	6	7.3
Sources of Startup Capital		
Self	28	28.3
Family	27	27.3
Relatives	1	1.0
Friend/s	1	1.0
Other	10	10.1
Self and family	10	10.1
Self and bank	10	10.1
Self, family and bank	12	12.1
Startup Capital		
Lowest thru Tk. 1000000	37	37.4
Tk. 1000001 to Tk. 2000000	32	32.3
Tk. 2000001 to Tk. 3000000	9	9.1
Tk. 3000001 to Tk. 4000000	5	5.1
Tk. 4000001 to Tk. 5000000	12	12.1
Tk. 5000001 thru Highest	4	4.0
Continuation of stone business		
Lowest thru 5 yrs	45	45.5

6 to 10 yrs	34	34.3
11 to 15 yrs	15	15.2
16 yrs thru Highest	5	5.1
Number of labor working at present		
Lowest thru 25	49	49.5
26 to 50	21	21.2
51 to 75	3	3.0
76 to 100	7	7.1
126 to 150	7	7.1
151 to Highest	12	12.1
Types of Vehicle		
No vehicle	34	34.3
Big Tractor	34	34.3
Truck	20	20.2
Engine Boat	2	2.0
Paddle Boat	4	4.0
Big tractor and truck	5	5.1
Types of Customer		
Individual user	6	6.1
Seller / Agencies	64	64.6
Industrial user	1	1.0
All (industrial user, seller/agencies and industrial user)	21	21.2
Individual user and Seller/Agencies	4	4.0
Seller/Agencies and Industrial user	3	3.0
District-wise Major Buyer of Product		
Dhaka	26	26.3
Narayanganj	1	1.0
Chittagong	2	2.0
Dhaka and Barishal	4	4.0
Dhaka and Narayanganj	19	19.2
Dhaka and Chittagong	9	9.1
Other combination	31	31.3
Dhaka and Sylhet	7	7.1

Source: Field survey, 2015

Entrepreneurs' business management skills related information is depicted in table 2. Business firm belongs to Companyganj Upazila is 44 percent and 56 percent is from Gowainghat Upazila. 36.6 percent businessperson possesses storing and selling Bolder, Single and Botu sort of business type, 28 percent had self-financing for conducting business and 32 percent had managed their capital

by self-financing and with the help of bank and family members. Almost 84 percent of the stone businessperson had startup capital lowest through Tk. 40,00,000 and 37 percent had initial capital of lowest through Tk. 10,00,000 while 45 percent of entrepreneur is doing business for less than 5 years whereas 34 percent of them doing business from 6 to 10 years. More than 151 labors are

maintained by 12 percent entrepreneur and 21 percent of them maintaining a labor group of 26 to 50. 34 percent entrepreneur doesn't have own vehicle for transporting goods; 20 percent has truck and 34 percent of them have big tractor. Entrepreneurs' major customer is

seller/agencies who occupy 64 percent hold and 21 percent is the combination of individual user, seller/agencies and industrial user. 26 percent of major buyer of the stone products is from Dhaka and 19 percent buyer is from Dhaka and Narayanganj.

Table 3 Cross tabulation of Startup capital and investment increase by percent

Startup capital	Investment increase by percent						Total
	Lowest thru 200	201 - 400	401 - 600	601 - 800	801 - 1000	1001 thru Highest	
Lowest thru Tk. 1000000	19.2%	6.1%	3.0%	2.0%	1.0%	6.1%	37.4%
Tk. 1000001 to Tk. 2000000	14.1%	11.1%	3.0%	1.0%	0.0%	3.0%	32.3%
Tk. 2000001 to Tk. 3000000	1.0%	2.0%	3.0%	2.0%	1.0%	0.0%	9.1%
Tk. 3000001 to Tk. 4000000	2.0%	3.0%	0.0%	0.0%	0.0%	0.0%	5.1%
Tk. 4000001 to Tk. 5000000	5.1%	3.0%	1.0%	2.0%	1.0%	0.0%	12.1%
Tk. 5000001 thru Highest	1.0%	1.0%	0.0%	0.0%	1.0%	1.0%	4.0%
Total	42.4%	26.3%	10.1%	7.1%	4.0%	10.1%	100.0%

Source: Primary Data

Initial investment has turned up with a good amount of return. The table 3 reveals 42.4 percent entrepreneur's investment increased by lowest through 200 percent. Six percent of Entrepreneurs who invested less than Tk.1000000, hence their capital increased by more

than 1000 percent. 26.3 percent entrepreneur's investment increased by 201 through 400 percent; 10.1 percent entrepreneur's investment consecutively increased by 401 through 600 percent and more than 1000 percent.

Table 4 Cross tabulation of Types of Stone Business and investment increase by percent

Types of Stone Business	Investment increase by percent						Total
	Lowest thru 200	201 - 400	401 - 600	601 - 800	801 - 1000	1001 thru Highest	
Storing and Selling Bolders, Singles and Botu	20.2%	10.1%	4.0%	1.0%			35.4%
Digging and Selling	12.1%	2.0%	2.0%		1.0%	2.0%	19.2%
Crushing Machines	5.1%	5.1%		4.0%	1.0%	2.0%	17.2%
All (Digging-Storing-Crushing-Selling)	2.0%	1.0%	1.0%		1.0%	3.0%	8.1%
Storing, Selling, Bolders, Singles, Botu and Crushing machines	2.0%	3.0%			1.0%	1.0%	7.1%
Storing, Selling, Bolders, Singles, Botu and Digging & selling	1.0%	3.0%	1.0%	1.0%		1.0%	7.1%
Other combinations		2.0%	2.0%	1.0%		1.0%	6.1%
Total	42.4%	26.3%	10.1%	7.1%	4.0%	10.1%	100.0%

Source: Primary Data

It (table 4) shows 20.2 percent storing and selling Bolders, Singles and Botu sort of stone business is able to make capital grow by 200 percent. Entrepreneurs (3 percent) have all (Digging-Storing-Crushing-Selling) type

of stone business, are able to increase capital by more than 1000 percent. Entrepreneurs (12.1 percent) are doing digging and selling stone, able to grow investment by 200 percent.

Table 5 Reliability of variables

Variable	Factor category with number of items	Overall items	Reliability (Cronbach's Alpha)
External Business factors	Socio-cultural (4)	37	.623
	Economic (7)		
	Marketing (4)		
	Human resource (5)		
	Natural environmental (6)		
	Communication (3)		
	Political and legal (5)		
	Technological (3)		

Source: Primary Data

After identifying the external business factors for the study, a scale to measure each factor was selected and overall scale reliability was checked by Cronbach's Alpha Reliability test. In this study, the scale selected is having a Cronbach's Alpha value of 0.623 (table 5) for external business factors. It is suggested

that if the reliability coefficient exceeds 0.60, then the items are likely to have high degree on internal consistency (Malhotra, 2011-12, p. 279). The Cronbach's Alpha results show a positive relationship with the items considered for this study.

Table 6 Multiple regression analysis

Overall Model			
Variables	B	t-value	Sig.
Constant	5.231	19.366	.000
Duration of business	.636	8.314	.000
Types of stone business	.221	2.977	.004
Communication factors	.185	2.771	.007
Sources of startup capital	.139	2.127	.036
Technological factors	-.167	-2.420	.017
R ²	.632		
Adjusted R ²	.612		
F-Value	31.975		
Significant	.000		

From table 6, the results show the multiple regression analysis, with five independent variables (duration of business, types of stone business, communication factors, sources of startup capital and technological factors) and the dependent variable (log transformed growth of stone business). This analysis was conducted to predict the percentage of dependent variable, where independent variables are recorded simultaneously. Sixty-one percent (61.2%) of the overall variance (growth of stone business) was explained

by the independent variables (duration of business, types of stone business, communication factors, sources of startup capital and technological factors). Duration of business (B = .636, t = 8.314), types of stone business (B = .221, t = 2.977), communication factors (B = .185, t = 2.771) and sources of startup capital (B = .139, t = 2.127) is significant and positively act upon the investment growth of stone business. Technological factors (B = -.167, t = -2.420) is also significant but negatively act upon the growth of stone business.

Table 7 Collinearity statistics of multiple regression analysis

Variables	Tolerance	VIF
Duration of business	.675	1.481
Types of stone business	.720	1.389
Communication factors	.904	1.106
Sources of startup capital	.922	1.085
Technological factors	.835	1.198

The table 7 shows the result of the collinearity statistics of the multiple regression analysis. It (table 7) indicates that multicollinearity do not exist, as the values of tolerance are greater than 0.1 and the variation inflation factors (VIF) for all independent variables are less than 10 (Hair et al., 1998). When the

tolerances are close to 0, there is high multicollinearity and the standard error of the regression coefficients will be inflated. A variance inflation (VIF) factor greater than 2 is usually considered problematic, and the smallest VIF in the table is 1.085.

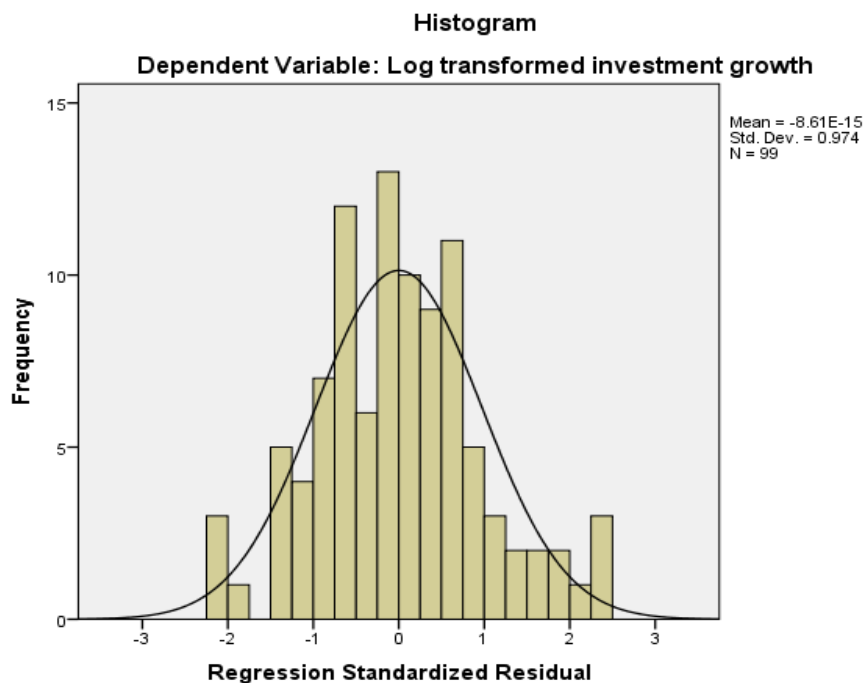


Figure 1

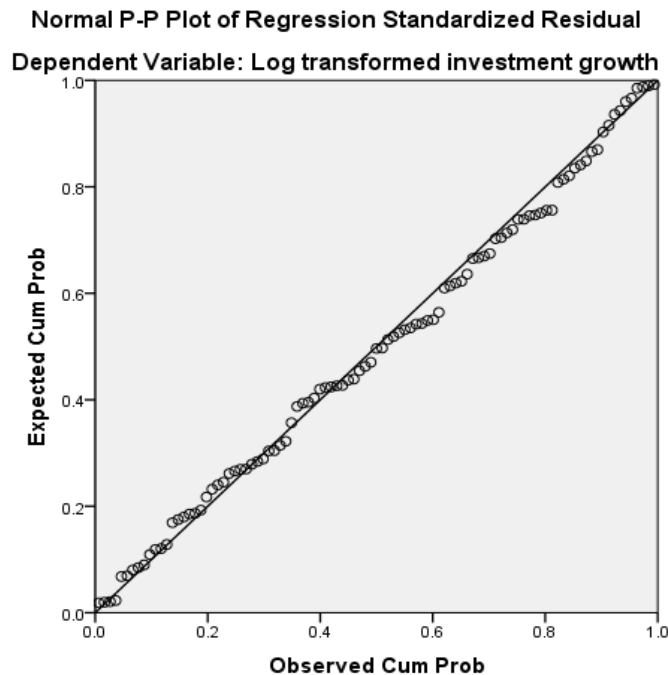


Figure 2

Figure 1, represents the histogram of standardized residuals compares the distribution of the residuals to a normal distribution. The smooth line represents the normal distribution. The closer the frequencies of the residuals are to this line, the closer the distribution of the residuals is to the normal distribution. Figure 2, represents a binned probability-probability plot comparing the standardized residuals to a normal distribution. Here, the slope of the plotted points is less steep than the normal line, the residuals show greater variability than a normal distribution; if the slope is steeper, and the residuals show less variability than a normal distribution.

Description of the fitted model

Growth of stone business = $5.231 + 0.636 (\text{duration of business}) + 0.221 (\text{types of stone business}) - 0.167 (\text{technological factors}) + 0.183 (\text{communication factors}) + 0.139 (\text{sources of startup capital})$

Variables like business duration, stone business types, technological factors, communication factors and sources of startup capital play important role for the growth of stone business. All variables have positive impact except technological factors. The *B* value (Table 6) shows that one percent increase in technological factors result to decrease in stone business growth by 0.167 percent. Here, one percent increase in duration of

business, stone business types, communication factors and sources of startup capital result to increase in the

growth of stone business by consecutively 0.636, 0.221, 0.183 and 0.139 percent.

Table 8 Results of hypotheses

Hypotheses	Findings
H₁: Entrepreneur's demographic variables significantly influence the growth of stone business	Rejected
H₂: Entrepreneur's operations skills of business (duration of business, types of stone business and sources of startup capital) considerably influence the growth of stone business	Supported
H₃: External business factors (communication and technological) significantly correlated with the growth of stone business	Supported

The outcomes of this study suggest that two external business factors and three business operational skills are significantly related to stone business growth in Sylhet. This study exemplifies a positive light towards stone business in Bangladesh. From the result of the hypotheses, it is clearly seen that entrepreneur's demographics are not significantly contributing towards the growth of stone business; entrepreneurs' business operational skills and external business factors can play significant impact on the growth of stone business of Sylhet in Bangladesh.

Conclusion

There are rarely researches focused on dominant factors influencing the growth of stone business in Sylhet, Bangladesh. Stone crushing industry in Bangladesh is an unorganized industry sector scattered different areas over Sylhet. It is basically a labor intensive small scale industry where many of the operations are performed manually. Most of the plant

and machinery has been conventional in nature and fabricated locally and has lacunae in its design, layout and operation etc. The success of every business depends on adapting itself to the environment within which it functions (Duncan, 1972). The stone business is expected to grow further keeping in view the future plans for development of infrastructure of roads, canals and buildings that are required for overall development of the country. The benefits of stones can never be ignored as these precious natural assets contribute huge in the construction sector. Therefore, it necessitates finding causes to sustain the development of stone business in developing countries like Bangladesh and this study clearly shows entrepreneur's business experience, types of business, sources of startup capital, communication and technological factors are significantly contributing towards the growth of stone business.

Policy suggestions

The stone crushing units is recognized socially and economically an important sector creates substantial turnover and employment to unskilled labor. But environmental pollution by way of the fugitive emissions affects the human health; the workers are employed at different places as per the nature of work and are exposed to silica dust of different concentrations. Government should be well equipped to estimate the pollution at regular intervals. Otherwise, absence of proper equipment to measure the pollution level, giving free hand to industry owners can pollute without any fear.

As transportation of stone over long distances adds to cost of the crushed stone products, the crushers need to be necessarily located nearer to the demand centers such as Cities, Bridges, and Canals. Stone Crushers also need electricity supply and large number of man power in its operation. It also needs access roads for the movement of extracted stone as well as crushed stone products. That is why; most Stone Crushers are located along the periphery of cities or in the vicinity of major construction projects. The communication facilities need to be improved; as the roads through which stones are carried, very poor in condition and becomes useless to transport anything other than stones.

Management should provide ownership to the workers of the stone quarry that helps the workers to earn more and improved economic conditions and feel responsive regarding the maintenance and development of the units.

The living standards, education and health facilities for the workers have to be improved to a large extent. These measures can be useful to the stone business units, works and to control pollution at some extent.

More coordination among different Government agencies and departments is required to supervise the local industries in controlling pollution.

Corruption and Political interference in dealing of environmental aspects should be brought down to zero level. It may be possible through strict punishment to the violators.

Stone crushing units must be taxed heavily on account of pollution.

The NGOs, researchers, common citizen, and media must be more vigilant and active in containing the pollution and in supporting the concerned authorities.

Various options of low cost, recycled, pollution free technologies have to be made available by the Government to the unit owners to adopt them easily. Government should provide more subsidies to buy eco-friendly technology.

Fly ash bricks can be used to construct High wind breaking walls around stone crushing units.

Government and other financial agencies can provide short or long term fund in case of financial need; financial assistance should link with low interest rate.

Research implications

The research findings will be very helpful in understanding the factors affecting the growth of stone business in



Bangladesh especially in Sylhet region. This study has unveiled certain determinants that contribute the growth of stone business. If any researcher has the ambition to look for the factors that heavily contributes the growth of stone business; this study will provide good insights to reach at conclusion. However, such type of study in Bangladesh context will open the arena of business researchers to find constructive policy suggestions that help achieving the desired growth on such business.

Limitations of the study and suggestions for further research

Some entrepreneurs were reluctant to provide the necessary information due to the fear that the information might be used against them. It was a challenge to find the businessperson free because they

were always busy with customers and routine task.

The study has some other limitations too. First, this study is limited to only Sylhet district in Bangladesh, which will limit the generalization. The survey method has been used for data collection therefore the responses might or might not be free from personal biases. Further, the study considered only demographic, business operational skills and external business factors of stone business. Even though limitations exist, the study made significant contributions in context of the growth of stone business in Bangladesh perspective.

In this study, business duration, stone business types, technological factors, communication factors and sources of startup capital were identified as the antecedents of the growth of stone business. However, there might be other factors that affect the growth and other predictor such as demographic variables along some internal business factors should be explored in future studies.

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