ENHANCING MICRO-ENTREPRENEURS' BUSINESS ACTIVITIES VIA SMART MOBILE DEVICES: A CASE STUDY OF PHUKET

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ABSTRACT

Poor populations in developing countries receive tremendous benefits from using mobile phones in communication and business activities. However, the debut of high-speed internet since 2010 transformed ordinary mobile phones into smartphones, which became better devices for business, knowledge acquisition, communication, financial transactions, and so on. These developments seem to suggest that micro-entrepreneurs in developing countries should increase their use of smart mobile devices in the future. Therefore, there is a crucial need to study environmental factors that enhance the use of smart mobile devices by Thai micro-entrepreneurs. The population for the study was microbusiness operators in Muang district, Phuket, Thailand. 224 entrepreneurs were chosen by purposive sampling at important trading sites during 2018. The instrument for the research was a questionnaire which consisted of 23 variables divided into five independent factors (social, economic, data distribution, technology, and App platform) and a dependent factor (intention to use). Multiple regression analysis was used to analyze the collected data. The results show a significant relationship between some environmental factors to the dependent factor. The results can help academics and governments to understand micro-entrepreneurs' hidden needs and to generate strategies enhancing micro-entrepreneurs' business activities toward Thailand's 4.0 policy.

Keywords: *Retailing, Micro-entrepreneur, Smartphone*

INTRODUCTION

There have been many movements to enhance online business. Internet communication technology is becoming a channel of buying and selling goods and services for big business organizations. The development of application software, mobile communication devices and the new generation of broadband cellular network technology has led to a variety of B2C and C2C businesses. Consumer engagement of smart mobile devices is the key to business success. On the other hand, smart mobile devices have also become instruments of learning, connection, and gateway for limited budget entrepreneurs to learn and do businesses. These developments are in line with Thailand's 4.0 policy. The government should encourage entrepreneurs and start-up businesses to seek more benefits from the growing knowledge via online information.

During Thailand's economic crisis in 1997, big businesses collapsed and the unemployment rate rose. The Thai government has realized that most small and medium enterprises (SME) have played a key role in strengthening economic stability, creating new entrepreneurs, and generating income to the country. SME generates employment at the grassroots level as well as providing the foundations of sustainable development (Niratorn, 2014). The government has initiated several support programs and different financial resources to aid small and medium enterprises and microbusinesses. In 2015, Bloomberg news agency (ASTV Manager Online, 2015) ranked Thailand as the happiest economy from 15 economic zones worldwide. This survey used misery indicators (Misery index) that affected consumers directly, including the inflation rate and the unemployment rate as measures of the economic

health in each country. Later on, Thailand had the lowest misery index as a result of low inflation and low unemployment from 2015 until 2018.

Bloomberg news agency (ASTV Manager Online, 2015) added an analysis from a spokesperson for the Bank of Thailand who mentioned that the country's unemployment rate was low because the working age population, who have no access to the labor market, can choose to enter the agricultural sector or develop their own business enterprise easily. For the latter, it can be said that their businesses can start out as a micro or small business easily with low investment and appropritate qualifications. Being self-employed is perceived as a benefit by many in addition to the financial side (Walker & Brown, 2004). Moreover, this easy startup may be due to a unique consumption culture, Thailand's way of life, and street business practices in Thailand. For example, consumers are use to buying foods and other goods from businesses on the streets, but not on the public main roads. There has been little government regulation, control, or law enforcement as there are low public health standards for street foods and beverages. Therefore, it is easy to begin a business and gradually learn to make it a success. These businesses can be in the form of small booths, street vendors, small trolleys, sidecars, and modified pickups. In addition, another group of retail operators has followed the growth of the digital economy and electronic commerce. These retail operators are less attached to their traditional trade area. They can operate over their own website, their intermediaries' search engines, and social media platforms. Some of them choose to blend business by utilizing both online and shop stores while developing higher standards for product quality and style. Some operators use their managerial and financial capabilities to expand their businesses with the franchise system (Small and Medium Enterprises Promotion Office, 2010).

The retail businesses of micro and small entrepreneurs in Thailand have been growing and expanding rapidly because of the encouraging government policies introduced after the economy crisis in 1997. The retail business have been critically important to the economy and social development because retail businesses have become a source of income generation and job opportunities for unemployed workers. According to statistics by Small and Medium Enterprises Promotion Office (2010) released in 2014, the operators of small and medium enterprises (SMEs) across the country have reached 2.74 million owners—accounting for 99.7 percent of all enterprises in Thailand. They employ 10.5 million workers or 80.3 percent of the total employment in the country. The Gross domestic product of small and medium-sized enterprises (GDP-SMEs) was worth 5,212 billion Baht, accounting for 39.6 percent of the total GDP of the country. The growth rate of the GDP of SMEs was at 0.2 percent compared to the GDP of the country which grew by 0.9 percent. This clearly shows that small and medium-sized enterprises (SMEs) are an important part of the engine driving the economy of Thailand (Iampoom & Tangwiroon, 2015).

Phuket itself is the province with a growing economic importance to the country in terms of the capital of tourism on the Andaman coast. Apart from sea, sun, and sand, microbusinesses in local trading sites are another tourist attraction which show the local way of life. They are not just trade areas for local customers anymore. The Ministry of Tourism and Sport has highlighted the concept of street food as a way to strengthen Thai culture and livelihood and for enhancing Thai tourism in recent years. Therefore, operators of retail businesses have become a major base that supports local economic growth and the livelihoods of local people. Meanwhile, micro retail businesses can grow well in Phuket because there have been an expansion of modern trading sites around the island. If these sites attract local shoppers as well as foreign ones, then they become successful. The development of rental space in modern commercial sites has expanded to most districts and communities. This advance has increased the opportunity for unemployed workers and part-time sellers to do retail businesses. The business trends in Phuket show that the key to success in a modern retail business is entrepreneurs who are interested

in trading new and innovative products and/or products which are popular with foreign tourists—such as souvenirs, fruits, seafood, and local cooked food.

The focus on building the knowledge and understanding of local microbusinesses is a key idea of enterprise development in today's economy. Researchers in the past has found that the operations of small business owners have various factors that are important in delivering business success, such as quickly seeking opportunity, learning from changes in the environment, and searching for available trends by word of mouth, print, media, and online media. These new ideas could involve product innovations, packaging, decorations, formats, and style. It can be said that such knowledge has brought marketing art and design to the business development of micro-entrepreneurs recently. Therefore, this research was critically interested in how micro-entrepreneurs can learn to improve their business via the internet or ICT—especially, the access made from smartphones or smart mobile devices. The results of this study contribute to a knowledge base on micro-entrepreneurs in the Muang District of Phuket. It is expected to contribute to strengthening the sustainability of microbusinesses. For this research, the focus was on small-scale entrepreneurs. Therefore, the definition of small-scale enterprises accepted by global businesses is used: Microbusiness or Microenterprise is a personal or family business, with one to five people working to earn a living for themselves and their family members. They will only expand the business to increase revenue due to increasing daily living expenditures or by having a clear path for expansion (Purateera, 2008) (Niratorn, 2014).

LITERATURE REVIEW AND HYPOTHESES

A consumer survey of internet users in Thailand during 2015 (Electronic Transaction Development Office, 2015) found out that internet users in Thailand have the following characteristics. Most of the users spent roughly 42 to 76.9 hours per week on the internet, especially from Generation Y, while others spent roughly 54.2 hours per week or roughly 7.7 hours per day. This survey suggested that Generation Y, who are part of the internet Era, have spent much of their time on the internet and various social media networks. This indication confirmed the fact that generation Y has a strong interest in various on-line communication and IT technology. They consumed the social network media as part of their day-to-day life. Social network media has become a primary form of communication among users. According to the National Statistical Office (2015), the generation who are between 15 to 24 years old spent the highest usage fees for various benefits including entertainment, communication, information exchange, electronic commerce, et cetera. According to Manager Online (2015), the young generation tends to follow social trends and the lifestyle of their interest group. They like seeking for new things with heavy impact on the social media network.

Smart mobile phones and their applications are one of the most important reasons why information and communication technology in the era of internet connection has become more and more popular and has become a part of everyday life. Everyone, including public and private organizations, has been involved in the use of internet communication including public relations, marketing information, business operations, as well as teachers in academic organizations. Smart phone equipment is innovative, high performance, low weight, and compact. So, it can be carried anywhere. Internet accessibility devices have tended to shift from non-mobility type to be mobility-type, especially via smartphones (both Android & IOS system). According to researchers, the advancement of technology makes the availability and use of devices easier and more engaging for consumers. Consumers are increasingly involved with the internet due to freedom of usage. Kim, Kim and Wachter's study aimed to explain the intentions involved in device engagement as well as create a model explaining the relationship factors of the users' motives, the perceived value, and satisfaction which impact on the engagement intentions of mobile devices (Kim, Kim & Wachter,

2013). In addition to engagement, the technology, which comes with these mobile smart devices, is important to business and marketing communications (Watson, McCarthy & Rowley, 2013), such as spot-based advertising via smartphones or the usage of QR Code Wine APP in the wine market, where information has a great impact on the decision making of buyers (Higgins, Wolf & Wolf, 2014). Moreover, regarding the technology trend, research related to small business development has indicated that ICT plays an important role in entrepreneurship development in business (Mali, 2013). But, the multiple barriers to using proper ICT systems, such as capital, low level training, and inadequate operating capacity (Standfield & Grant, 2003, Wolcott, Qureshi, & Kamal, 2007), cause small business operators to access the ICT system via mobile phones as instruments for businesses, rather than just communication devices (Matlala, Shambare & Lebabo, 2014). Moreover, research by Rumanyika and Galan (2015) states that there is a clear difference in capital growth between ordinary mobile phone users compared with intelligent mobile users.

Therefore, this research would like to classify five environmental factors that can impact the intention of using mobile devices in accessing the internet by micro-entrepreneurs as follows. First, on social aspects, the research focuses on using the internet via smartphones in social activities, such as using mobile phones by family members and friends for communicating on important occasions. Ramyakur's (2018) study supports that online social networks create a huge demand for people who do not yet have intelligent mobile phones, entrepreneurs could spend a lot of time in using the internet via smartphones to access social networks and communicate with close people.

Second, on economic aspects, micro-entrepreneurs could give importance to factors such as extra income with increased convenience from online sales, affiliate communication in distribution channels, and cost reduction in distribution channels for quality and style. Micro-entrepreneurs could use the smartphones to access the internet more due to financial benefits in line with the results of Bovornkiratikajorn's study (2017) on the trading of fashion products in social media. The seller can easily enter the market due to low operating costs with an initial capital of around 2,000 to 30,000 Baht (USD 60 to 1,000). By selling through social media, sellers do not need to have a storefront or pay for the shop setting or the wages of the salesperson. This is even cheaper than selling e-Commerce with a website because there is a cost to register a website domain name. There is also no profit sharing with websites that are online shopping sites.

Third, on the information distribution aspect, the research focused on obtaining useful information for business operations through sharing data, news, images, videos, and other content on the internet. Micro-entrepreneurs could use the smartphone to access the internet due to the variety of data in accordance with the study of Kidsom and Vorlapanit (2015) on "Willingness to Pay and Usage for High-speed Internet and Digital Economy Promotion of the Local Administrative Unit: A Case Study of 3 Northern Provinces in Thailand". The results showed the use of the internet in that target area as most of the sample used the internet to find information for work and for watching professional training videos. There was a small number of sample groups that used the internet to find market information and agricultural product prices or to seek knowledge in foreign languages. However, one obvious benefit of using the Internet is that many people used it to find information about diseases, illnesses, as well as the drugs use to treat diseases.

Fourth, on technological aspects, the research focuses on using smartphones to access the internet, such as system speed, lower equipment prices, and government support for free Wi-Fi. Micro-entrepreneurs could use smartphones to increasingly access the internet due to the development of stable system speeds in accordance with Ramyakur (2018) who concluded that four factors, such as touch screen

smartphones, high-speed internet, cost of using the device, and online social network, are crucial to user engagement in Thailand. Furthermore, the results of Kidsom and Vorlapanit's study (2015) on "Willingness to Pay and Usage for High-speed Internet and Digital Economy Promotion of the Local Administrative Unit: A Case Study of 3 Northern Provinces in Thailand" found that the average person would be able to pay an internet service fee in the range of USD 10 to 20 per month, with an average monthly value of USD 15 per month. This study concluded that the sample group was willing to pay more when they know they have a long wait to download data if they pay less.

Finally, on App platform aspects, the research focuses on the use of smartphones to access the internet, such as business knowledge websites, online social networking, and communication networking. Micro-entrepreneurs use the internet to access social networks online via smartphone due to the development of applications in various platforms. Tarute, Nikou and Gatautis (2017) add that the growing popularity of mobile technology and applications lead many companies to develop relations with consumers through a mobile application and suggest that "design solutions and information quality will result in higher engagement leading to continuous usage of mobile applications." Applications should be convenient to use in order to communicate and create a business with others in the online society.

Based on these previous studies, survey results, and trends, I am interested in studying the use of mobile phones in accessing the internet by microbusiness operators in everyday life and the positive environmental factors that affect the intention of usage. One benefit of this study is that it will improve our major understanding of mobile users, allowing us to enhance the long term research, development, and planning of long term strategies for Thailand's Digital Economy detailed in the government's "Thailand 4.0" plan. Therefore, the research objectives are: 1) to study the use of intelligent mobile devices by Microbusiness operators in Muang District, Phuket, and 2) to search for a predictable relationship between enviromental factors and the intention to use smart mobile devices, such as phones and tablets, to increase internet access. Therefore, the hypotheses are as follows:

Hypothesis testing

H_1 There is a significant relationship between social factors and the intention to use smart mobile devices to access the internet

H_2 There is a significant relationship between economic factors and the intention to use smart mobile devices to access the internet

H_3 There is a significant relationship between data distribution factors and the intention to use smart mobile devices to access the internet

H_4 There is a significant relationship between technology factors and the intention to use smart mobile devices to access the internet

H_5 There is a significant relationship between App platform factors and the intention to use smart mobile devices to access the internet

Table 1
Operationalization of Variables

Variables	Indicator	Measurement	Cronbach's Alpha
Intention to use	1. willing to use smartphones in accessing the internet continuously 2. willing to suggest friends and partners use smartphones to access the internet 3. willing to learn more about how to use smartphones for business 4. willing to pay more for higher technology on smart mobile devices 5. spending more time in searching data via smartphone 6. searching data via smartphone more frequently 7. writing and sending data via smartphone more often 8. willing to pay more to access the internet	Likert scale 1–5 eight questions	0.950
Social factors	1. family members use smart phones 2. friends use smartphones 3. You follow the activities of family members and friends via smartphone	Likert scale 1–5 three questions	0.91
Economic factors	1. earning more via online selling 2. business partners use social media for business 3. online transactions provide convenience and cost reduction	Likert scale 1–5 three questions	0.912
Data distribution factors	1. able to receive knowledge from videos on YouTube and famous business blogs 2. able to read information and knowledge from business websites 3. able to share business data in an online community	Likert scale 1–5 three questions	0.872
Technology factors	1. the speed of the internet increases the usage of online social networks 2. cheaper price of mobile communication devices increase the usage of online social networks 3. provincial authorities have increased open access to the internet	Likert scale 1–5 three questions	0.865
App platform factors	1. business knowledge websites (Thaifranshinecenter.com) 2. online social networks (Facebook, Instragram, YouTube) 3. online communication networks (Line, Msn, whatapp)	Likert scale 1–5 three questions	0.825

Regarding Table 1, all Cronbach's Alpha values for the six variables are higher than 0.6, therefore, all statements of indicators are reliable measures of the variables.

RESEARCH METHOD

Population and Sample:

This explanatory study was intended to be a pilot quantitative study. The population of this study was roughly 500 to 700 business operators having businesses in several local markets in the area of Muang district, Phuket. The sample size of 222 was calculated via the principle of Yamane (1973) with a confidence level of 95% and acceptable error of 5%. Only entrepreneurs with a smartphone were

selected purposively from the trading sites in the area of Muang district. In case of mistakes and incomplete data, 250 sets of questionnaire were distributed to make sure the desired number of 222 was reached.

Data Analysis:

The methodology called for both descriptive analyses as well as inferential analysis, as detailed below. General/demographic data included gender, age, education, length of business operation, type of access to the internet, monthly expense for the internet, and mobile devices used to acess the internet. The instrument for the research was a questionnaire which consisted of 23 variables divided into five independent factors (social, economic, data distribution, technology, and App platform) and a dependent factor (intention to use) as shown in table 1. Analyzing data about environmental factors which impact the use of smartphones to access the internet will involve descriptive statistics, which include frequencies, percentages, means, and standard deviations.

For the interpretation of descriptive statistics, we will divide into 5 class internal, with equally interval (Bunnag, 1994)

$$\text{Interval(I)} = \frac{\text{Range(R)}}{\text{Class(C)}}$$

$$= \frac{5-1}{5} \qquad = 0.80$$

Below is the interpretation of each class interval, from Most to be Least as below:
Range: 4.21-5.00 indicated highest important
Range: 3.41-4.20 indicated highly important
Range: 2.61-3.40 indicated Fairly important
Range: 1.81-2.60 indicated Slightly important
Range: 1.00-1.80 indicated Least important

Inferential statistical analysis will involve the Pearson Product Moment Correlation Coefficient as well as Multiple Regression Analysis.

FINDINGS

Data collection provided 224 completed sets of questionaires. The findings of the data analysis of will be reported descriptively first. Then the inferential analysis will be reported to answer the hypotheses later.

Table 2
Personal information of respondents

Category	Characteristic	Number in Sample	Percentage	Cumulative Percent
Gender	Male	82	36.6	36.6
	Female	142	63.4	100
Age	Below 21 Years (not lower than 18)	5	2.2	2.2
	21 to 30 Years	73	32.6	34.8
	31 to 40 Years	79	35.3	70.1
	More than 40 Years (not higher than 65)	67	29.9	100
Education level	Primary School	16	7.1	7.1
	Early Secondary School	17	7.6	14.7
	Late Secondary School	49	21.9	36.6
	Undergraduate	22	9.8	46.4
	Graduate	108	48.2	94.6

	Postgraduate	12	5.4	100
Type of Access to internet	Cellular network	120	53.6	53.6
	Paid Wi-Fi network	66	29.5	83.0
	Public free Wi-Fi	24	10.7	93.8
	Home Wi-Fi	14	6.3	100
Length of business operation	Less than 1 Year	35	15.6	15.6
	1-3 Years	79	35.3	50.9
	4-7 Years	53	23.7	74.6
	More than 7 years	57	25.4	100
Monthly Expense for Internet	Less that USD 6	21	9.4	9.4
	USD 6 to 13	49	21.9	31.3
	USD 13.01 to 18	43	19.2	50.4
	USD 18.01 to 24	67	29.9	80.4
	More than USD 24	44	19.6	100
Devices used to access the internet	Smartphone	196	87.5	87.5
	Laptop	16	7.2	94.7
	Tablet	12	5.3	100

The research found that most of the sampled micro-entrepreneurs were female at 63.4.7 percent. Most of them were in the age group of 21 to 30 years at 35.3 percent. Most of them were graduates at 48.2 percent. The length of the business operations was mostly between 1 year and 3 years at 35.3 percent of the respondents. Most micro-entrepreneurs used internet services via cellular systems of mobile phones at 53.6 percent of the respondents. The cost of connecting to the internet is USD 18.01 to 24 for most, or 29.9 percent, of the respondents. The mobile device which is most often used to access the internet is a smartphone at 87.5 percent of the respondents. In addition to the personal information of the respondents, more than half of them originally lived in Phuket (53.1 percent of the respondents). The size of the workforce in the business was at 2 to 3 persons for 47.3 percent of the respondents. Investment expenses in the business were 5,000 to 10,000 Baht (USD 150 to 300) at 38.4 percent of the respondents. The business category with the largest number of entrepreneurs is cooked food and drinks related businesses at 30.3% percent of the respondents. The most frequent number of times to read content using a mobile device was between 6 to 10 times a day at 36.2 percent of the respondents. The average duration of reading content on a mobile device was 31 to 60 minutes, accounting for 25.4% of the respondents.

Table 3
The Means and Standard Deviations of Environmental Factors and the Intention to Access the Internet via Mobile Devices Factor

	Variable	$\overline{X}$	S.D.	Importance level
		Mean		
1.	Social factor (mso)	4.3155	.68413	highest
2.	Economic factor (mec)	3.9122	.94478	high
3.	Data distribution factor (mdd)	4.0045	.94623	high
4.	Technology factor (mte)	4.1057	.82151	high
5.	APP platform (map)	3.8824	.96298	high
6.	Intention to use (Int, *Y*)	3.7974	.91077	high

Regarding the descriptive statistics presented in table 3, the social factor is rated to be the highest in terms of importance level to access the internet via mobile devices. The rest of the independent variables, plus the dependent variable, are rated at a high level of importance.

Table 4
Correlations Coefficients between the Independent and the Dependent Variables

		mso	mdd	mec	mte	map	Int
mso	Pearson Correlation	1	.502**	.587**	.604**	.514**	.538**
mdd	Pearson Correlation		1	.657**	.676**	.699**	.631**
mec	Pearson Correlation			1	.665**	.743**	.635**
mte	Pearson Correlation				1	.695**	.639**
map	Pearson Correlation					1	.664**
Int (*Y*)	Pearson Correlation						1

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

Correlation coefficients between the independent and the dependent variables were tested by using the Person's Correlation Coefficient. These correlations were used to analyze the environmental factors relationship with the intention of microbusiness entrepreneurs in Muang district, Phuket, to use mobile devices to access the internet. Every independent variable had a positive relationship with the dependent variable that was significant at the 0.01 level (2-tailed, 0.538 – 0.664). So, all independent variables can be used to calculate the regression equation.

Table 5
Analysis of Variance (ANOVA) of the Environmental Factors Affecting the Intention of Using Mobile Communication Devices to Access the Internet

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	101.529	5	20.306	53.045	.000[a]
Residual	83.452	218	.383		
Total	184.980	223			

a. Predictors: (Constant), map, mso, mdd, mte, mec

b. Dependent Variable: Int

From Table 5, the results of variance analysis of multiple regression analysis confirmed that the independent variables, including social factor, technological factor, data distribution factor, and App platform factors, affected the dependent variables on the intention of using mobile internet communication devices for business improvement. The significant value of the equation was found to be at .000 within the statistically significant level at .01.

Table 6
Result of Multiple Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	*B*	*Std. Error*	*Beta*	*t*	*Sig.*	*Tolerance*	*VIF*
(Constant)	.110	.273		.402	.688		
mso	.181	.080	.136	2.262	.025	.572	1.747
mdd	.181	.067	.188	2.695	.008	.424	2.360
mec	.135	.073	.140	1.852	.065	.364	2.743
mte	.186	.081	.168	2.293	.023	.386	2.594
map	.229	.074	.242	3.115	.002	.342	2.922

a. Dependent Variable: Int (*Y*)

$R = 0.741$; $R^2 = 0.549$; $F = 53.045$; *p-value* = 0.000 < 0.01

From the Multiple Regression Analysis with the Enter method, it was found that the independent variables, or five factors, had a fair relationship to the intention of using mobile devices to access the internet with R = 0.741. These five variables can explain the overall effect on the intention of using a mobile internet communication device with a 54.90% forecast power, having a predicted error of 0.618. It was also found that not all environmental factors were significant at the level of .000 (Sig = .000), which means that only four factors can predict the overall effect on the intention of using mobile internet communication devices significantly. The best predictor variable is the App platform factor which affects the intention of using mobile internet communication devices with a coefficient of regression at 0.229. This is followed by the technological factor with a regression coefficient of 0.186, the data distribution factor with a regression coefficient of 0.181, and the social factor with a regression coefficient of 0.181. Lastly, the economic factor, with regression coefficient of 0.135, did not have a significant influence on intention due to a p-value >.05. There is a significant relationship between four of the enviromental factors and the intention of using smart mobile devices to access the internet. Therefore, it can be concluded that H_1, H_3, H_4, and H_5 are accepted and H_2 is rejected.

Multicollinearity checks were carried out by examining the Variance Inflation Factor (VIF) or Tolerance or Eigen Value. The criteria of examination was as follows: If the Eigen Value or Tolerance <0.2 or Tolerance <0 (Pedhazur, 1997), a multicollinearity problem is indicated. The Variance Inflation Factor or appropriate VIF should not exceed 4. If so, the independent variables are correlated (Miles & Shevlin, 2001). From the results of Table 6, it is found that the lowest tolerance value is 0.342, which is not lower than 0.2, and the highest VIF is 2.922, which is less than 4. Therefore, the independent variables are unrelated or do not encounter the multicollinearity problem.

Based on Table 6, it was found that only some of the environmental factors affecting the choice of Internet access devices had a positive relationship to the intention of using mobile internet communication devices for business improvement. Int (*Y*) was statistically significant at the .01 level without any problems of multicollinearity as indicated by the Tolerance and the calculated VIF. Creating multiple regression equations to predict the intention of using Internet communication devices

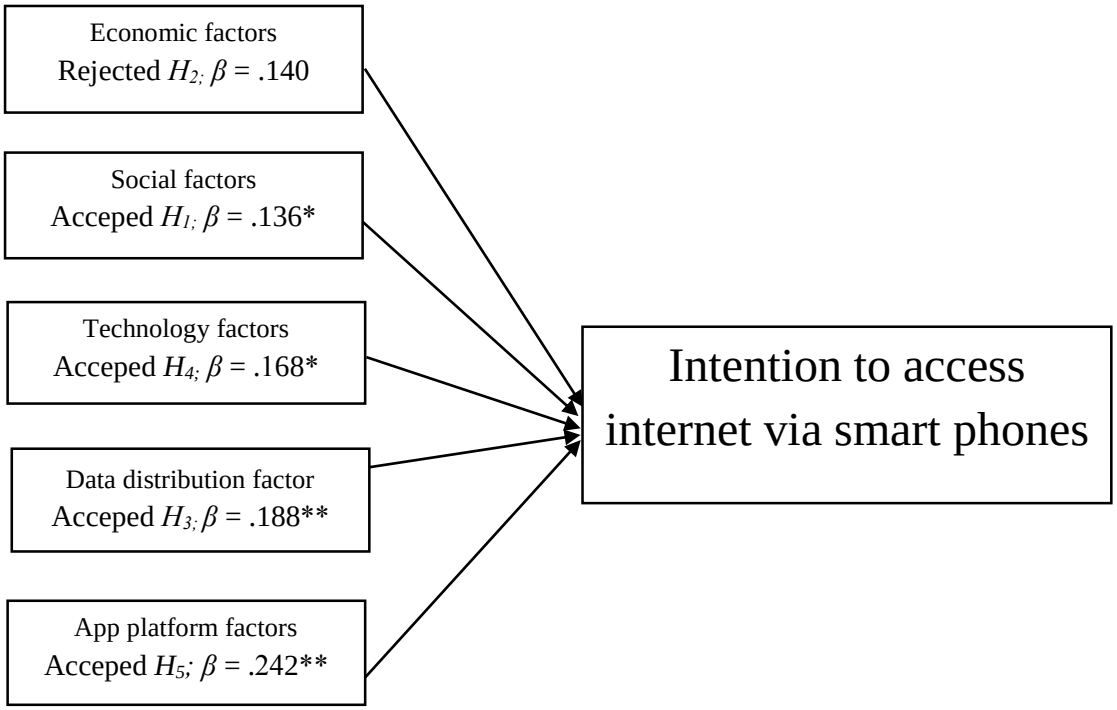
for business improvement can be done by using the factor values from table 6 for both the raw score equation and standard score equation.

Forecast equation in raw score form:

Y (Overall effect on the intention of using mobile internet communication device) = .110 + .229 (App platform) +.186 (Technology) +.181 (Data distribution) +.181 (Social) + .135 (Economic)

Equation of Forecast in Standard Score:

Z = .242 (App platform) +.188 (Data distribution) +.168 (Technology) +.136 (Social) + .140 (Economic)



* (Sig = .01)
**(Sig = .05)

Figure 1 The model of factors enhancing intention to access internet via smart phones

DISCUSSION

The personal information of the respondents trading in Muang district, Phuket, shows that they are middle-aged and educated people that can cope well with digital technology. They can afford to pay monthly expenses to receive adequate high speed internet. Most micro-entrepreneurs trade and sell products used in everyday life such as food, drinks, clothes, accessories, and mobile phones. The research results are summarized in figure 1 and they show that not all factors significantly influence the intention of using a mobile internet communication device. However, significant relationships between four environmental factors and the intention of using mobile internet communication devices were found. Although the economic factor has a positive relationship, it does not have a real impact on the intention of using a mobile internet communication device. The cause of this low impact could be the nature of the businesses that the sampled micro-entrepreneurs represent. They may not involve themselves in online business enough to benefit or feel the importance of the economic factor. It is obvious that the social factor, the data distribution factor, the technology factor, and the app platform factor are positively correlated with and influence the intention of using a mobile internet communication device for this group of micro-entrepreneurs. These factors seem to reflect some

necessary conditions influencing the usage and engagement of mobile device users significantly. On the other hand, the left out economic factor should not be ignored from further study because the factor almost obtained a significant value and the mean score is at a high importance level. It might be proven to significantly influence a different sample group.

CONCLUSION

The significant relationship between the environmental factors and micro business entrepreneurs', in Muang district, Phuket, intentions to use mobile devices in accessing the internet shows that generating innovative software applications that suit various different groups of users exclusively must be given a long-term committment. This will help enhance the efficiency of using applications over a smartphone. The findings suggest that users are happy with the present situation of services, but improvement of relevant information technology should be kept up to meet the increasing expectations of smartphone users by improving information content and the technology of mobile devices in line with future demands. Government policy should support private sector in the generation of useful business content rather than working separately on government's own, which is risky as its services may become obsolete and out of date. This is due to the pressures and challenges of the rapidly changing world of the digital economy and the need to implement Thailand's 4.0 policy efficiently.

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