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A STUDY ON FACEBOOK COMMERCE TREND IN THAILAND AND ITS SUCCESS FACTORS: AN EMPIRICAL RESEARCH ON PURCHASE INTENTION

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Summary

Facebook commerce in Thailand has been gaining popularity recently, while there is still a lack of comprehensive empirical researches regarding the behaviors and attitudes of Thai customers toward Facebook commerce (F-commerce). This paper aims to shed more light on the existing literature by providing a broader and deeper insight on the trend and the success factors of Facebook commerce in Thailand. Based on the Stimulus-Organism-Response (S-O-R) model and the Technology Acceptance Model (TAM), the author develops a new conceptual model to examine the impacts of Facebook features and environment on customer experiences and perceptions and purchase intention on Facebook in Thailand.

The author hypothesizes that Facebook features and environment perceived by users positively influence purchase intention on Facebook mediated by customer experiences and perceptions. To test the hypotheses, this study analyzes the data surveyed from 146 Facebook users who are Thai or live in Thailand.

The findings suggest that the use of Facebook features including comment, like, and live video positively influences the sense of social support, social presence, and trust in Facebook environment. It is also suggested that social support and social presence are the key aspects which lead to perceived usefulness and purchase intention of customers on Facebook in Thailand.

This research contributes to the literature by providing empirical evidence on F-commerce in Thailand based on the conceptual model combined the S-O-R and the TAM models which is more comprehensive than the other prior studies. It also discovers that trust in an online community is not necessarily transferable to the sellers on that community.

In addition, it provides practical implications for managers. It guides managers regarding the strength and effectiveness of each Facebook feature on customer purchase intention, and the weakness of F-commerce which is perceived risk by customers. This also helps managers to understand more about the changing trend on customer behaviors from being product-centered to become more social-centered and consumer-driven, and guides both social commerce (S-commerce) and e-commerce business on how to improve their functions and services to better serve customers and the society.

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CHAPTER 1. INTRODUCTION AND RESEARCH MOTIVATION

Penetration of smartphone and social media in Asia has been driving the popularity of social commerce especially in Southeast Asia where e-commerce is growing faster than any other region (Kinasih, 2016). Trading of goods involves more and more internet and social networks nowadays as they provide the convenience of information and exchange. Consumer bargaining power and rapid progress in information technologies by the introduction of Web 2.0 which allows user-generated content (UGC) and online interactivity are the two main factors that contribute to the emergence of social commerce (See-Pui Ng, 2012a). In Southeast Asia where people are young and have been fast to adopt both smartphones and social networks, social media channels such as Facebook and Instagram are widely used as channels to sell various kinds of products ranging from beauty goods, apparels, collectibles, to even foods instead of using typical e-commerce websites.

Recently, the popularity of social commerce has been increasing massively by consumer-product information sharing (See-Pui Ng, 2012a). And among social commerce markets around the world as of the end of 2016, Thailand was the world's largest market where approximately 51% of online shoppers buy products directly from social media channels, whereas only 16% of online shoppers buy from social media globally (PwC, 2016). This is no surprise as Thailand was ranked 4th in the world for time spent on social media at around 3.2 hours a day (Kemp, 2018a). Thus, social commerce boom in Thailand is a unique phenomenon, and one of the main drivers to this phenomenon is Facebook which is obviously the most popular social network in Thailand with more than 50 million users and 74% penetration as of February 2018 according to Asavavipas (2018).

Facebook creates a lot of opportunities for small Thai brands or even C2C markets trading secondhand goods to sell online at a lower cost in comparison with a typical website store (Kinasih, 2016). For years, Thai users have relied on Facebook to facilitate C2C e-commerce transactions by posting goods for sale and attracting attention from their friend networks to the point that Facebook itself

has even created features to facilitate both C2C and B2C commerce on their platforms such as Facebook "Shop". With Facebook having become a leading commerce channel in Thailand, every Thai retail business should pay attention to the implications of a shift from e-commerce to social commerce in order to utilize the power of Facebook commerce to its full potential. Thus, a careful study on how people behave and react in the setting of this unique phenomenon is required in order to help businesses that aim to exploit the economic value of Facebook commerce to understand the motivation behind customer's purchase decisions on Facebook and unleash their potential (Zhang et al., 2014).

Several researches explain that marketing goods and services in social commerce is different from those approaches in the traditional market (Anari et al., 2014; Adjei et al., 2010; Castañeda, 2011, Chattaraman et al., 2012; Andrews and Bianchi, 2013). In Facebook, customer behavior is different from that in e-commerce, and marketing of goods and services requires a good understanding of customers' behaviors as well as a proper insight on the effects of new technologies on the traditional ideas and existing theories of marketing. In order to deal with this, certain variables regarding all the aspects that influence the purchase intention of Facebook users are needed to be considered (Anari et al., 2014).

The improvement in bargaining power among customers allowed by UGC, which facilitates recommendations and supports sharing through discussions, has led to a notable shift in the relationship between businesses and both current and potential customers (See-Pui Ng, 2012a; Kroenke, 2011). Thus, there is still a lack of comprehensive empirical researches that demonstrate the perceptions and responses of users on the social features of Facebook commerce in Thailand. Some researches focus on examining Facebook commerce business requirements (Curty and Zhang, 2011; Constantinides, 2008; Liang et al. 2014) and the marketing needs (Parise and Guinan, 2008; Constantinides, 2008) without consideration on a more subjective nature of Facebook social features, and attitudes and preferences of the users on Facebook commerce (Huang and Benyoucef, 2015). Without a better understanding of these perceptions of users on Facebook commerce, the studies and practices in this area will not be able to reach its full potential (Huang and Benyoucef, 2015).

This study investigates the trend of Facebook commerce in Thailand and its success factors. Although there are some previous researches similar to this topic, most of them are not country-specific, and even if they are, they focus only on either the effect of trust, risk, or social network features on intention to buy in Facebook commerce but not all the aspects together. This research incorporates others important aspects which potentially influence purchase intention on Facebook, which have never been considered and analyzed together as a single research in the existing literature. For example, according to Curty et al. (2011), participation behavior of customers in Facebook commerce can be divided into two parts which are direct and indirect commercial transactions. Direct transactions are behaviors during the purchasing phase of customer decision process (Zhang et al., 2014). On the other hand, indirect transactions refer to those activities during the searching, selection, and post-sales stages of customer decision process such as electronic word of mouth (eWOM) activities (Liang et al., 2014; Wang and Zhang, 2012).

Thus, this study aims to develop a conceptual model that cover as many aspects of factors influencing purchase intention, which eventually lead to actual purchase (Venkatesh and Davis, 2009), on Facebook in Thailand as possible. For this purpose, this study bridges two different research streams to develop a new and unique conceptual model for Facebook commerce context. One is the Stimulus-Organism-Response (S-O-R) model, which has often been applied in prior researches on online consumer behavior (Zhang et al., 2014; Eroglu et al., 2003; Parboteeah et al., 2009), and another is Technology Acceptance Model (TAM). In addition, this research focuses on consumer behavior of using specific Facebook features including comment, like, share, and live video in order to answer the questions regarding whether Facebook users use these features, how they use them, and how these features act as a stimulus in the Facebook environment. This study also adapts the Technology Acceptance Model (TAM), on which most previous literature regarding social commerce were based (Leeraphong and Mardjio, 2013), with factors including perceived usefulness, perceived ease of use, and perceived risk potentially influencing response or purchase intention in this case.

CHAPTER 2. F-COMMERCE IN THAILAND

Section 1. DEFINITION OF SOCIAL COMMERCE AND FACEBOOK COMMERCE

Social commerce or “S-commerce” often refers to a subset of electronic commerce or “E-commerce” (Liang et al., 2014). The first use of the term "Social commerce" was in 2005 amid the growing applications of social media for a commercial purpose (Curty and Zhang, 2011). Nevertheless, there are many inconsistencies regarding the definitions of s-commerce according to the literature (Zhang and Benyoucef, 2016). The term “Social commerce” actually has no specific definition as it has been applied to various meanings. According to Liang and turban (2011), social commerce is the application of Web 2.0 technologies for the purpose of supporting online interactions among the users in order to assist them to perform commercial activities. In contrast, Stephen and Toubia (2010) describe social commerce as the composition of social networking features and fundamental functions in e-commerce for the purpose of a more active commercialization and more interactive trading of products and services, while Bai et al. (2015) define social commerce as an application of social network sites to form a new marketing platform where businesses are conducted.

Despite s-commerce being a subset of e-commerce, the concepts of social commerce and e-commerce are distinguished (Yadav et al., 2013). E-commerce refers to online buying and selling of products, services, and information through the internet (Nikbin et al., 2012). Similar to e-commerce, social commerce concerns buying and selling of products, services, and information; however, the major difference is that social commerce contains social interactions such as networking and sharing of information to facilitate communications among customers (Liu et al., 2016).

Facebook, as a social networking site where online commercial activities are initiated, is thus considered to be a social commerce site (Liébana-Cabanillas and Alonso-Dos-Santos, 2017), where Facebook commerce or F-commerce is a term used in the online business world regarding designing and

creating contents and online stores within Facebook (Market Business News, n.d.). In Facebook commerce, people make informed purchases and bargain for the best prices by communicating trustworthy information on certain products and services. This user-generated content (UGC) which is allowed by Web 2.0 is a unique strength of s-commerce (Kim and Park, 2013). It encourages social support and social presence the way some e-commerce websites or marketplaces are not able to. With Facebook features that facilitate and enhance online shopping experiences such as comment, like, share, and live video features, users on Facebook listen more to the advice and recommendations from their Facebook friends when they make purchase decisions. This shifts consumer behavior in online shopping from more traditional individual-based consumption decisions to collaborative sharing and social shopping (Chen and Shen, 2015).

Although Facebook commerce is often described as the combination of social media and e-commerce, there are two major differences between Facebook commerce and e-commerce (Chen and Shen, 2015). First, recent work has determined four core elements of social media including digital profile, search and privacy, relational tie, and network transparency which separate s-commerce sites from other online websites and marketplaces such as Amazon and eBay (Chen and Shen, 2015). Second, Facebook commerce focuses more on social media-supported commercial activities, in which people are able to freely share their past experiences on products or services and even able to ask for opinions from their Facebook friends who they trust rather than from strangers. On the other hand, traditional e-commerce is mainly based on system features such as user-friendly product categorization, search engine, shopping cart, and preference-based recommender systems designed to increase the efficiency of online shopping procedures (Chen and Shen, 2015).

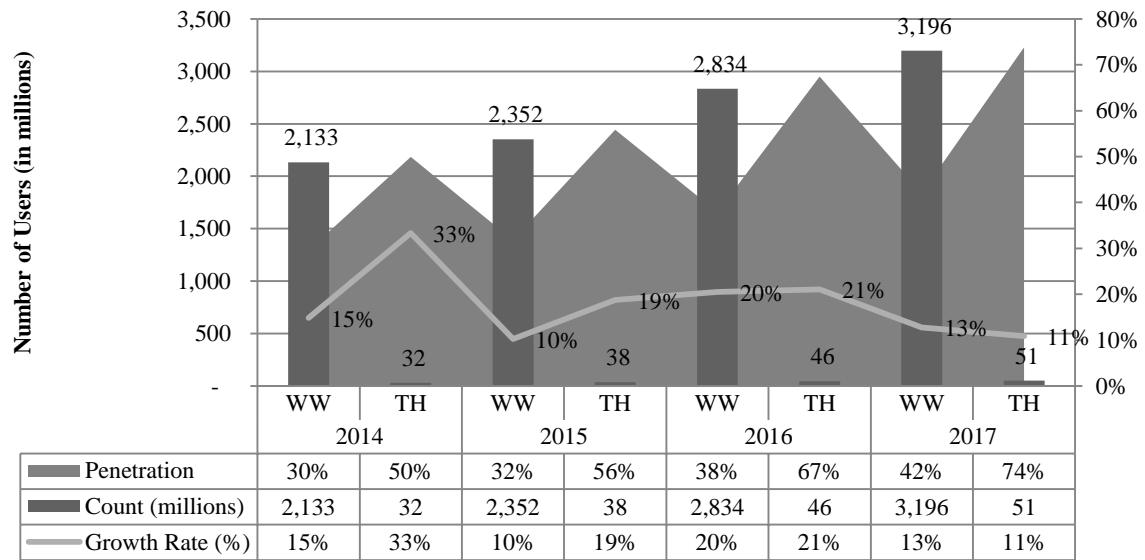
Section 2. FACEBOOK COMMERCE AND CULTURE IN THAILAND

In 2016, more than half of total e-commerce gross merchandise volume in Thailand was from social networks such as Facebook and Instagram which is worth more than \$8 billion per year according to ETDA (2018) with the C2C market being very significant. The product category that is being sold most often in social networks is bags at around 34% of all the products being sold. The second and the third places are shoes and top clothes at approximately 7% and 6% respectively according to the survey done by Pongvitayapanu (2017), the President of Thai E-commerce Association. However, as most of the s-commerce transactions are done using bank transfer, and sellers are not willing to reveal their sales, it becomes difficult to measure the market size accurately, and the number could even be higher than this (Kinasih, 2016). Nevertheless, one thing certain is that s-commerce in Thailand, especially F-commerce, is growing dramatically and has already become the largest online shopping channel in Thailand. And according to Pongvitayapanu (2017), the market value of s-commerce in Thailand would continue growing, and would be worth more than \$10 billion in 2017 with more than 30% annual growth rate.

This is obviously because the number of social media and Facebook users in Thailand had a healthy double-digit growth during the past couple years. According to the data from Kemp (2018b), the number of active social media users in Thailand grew drastically in 2014 at 33% to 32 million, where 28 million were accessing social media via mobile phones, while the number of active social media users worldwide grew only 15% in that year. The similarity in the trends of growth between the number of active social media users and active mobile social users could indicate that the diffusion of smartphones promotes social networking and s-commerce in Thailand. However, the growth of social media users in Thailand has been continuously slow down from 2015 to 11% in 2017, where globally it grew at 13%. Although the growth rate in Thailand was still double-digit, continuously lower growth rate might indicate saturation in the market size of Facebook in Thailand. This is also supported by the data as in 2017, 74% of Thai population are active social media users, while only 42% and 64% of global population and Southeast Asian population are active social media users respectively. This fact also

applies to Facebook in Thailand as it has been growing at almost the same rate as that of social media as a whole, and had almost the same penetration every year since almost every social media user in Thailand have a Facebook account (Kemp, 2018b).

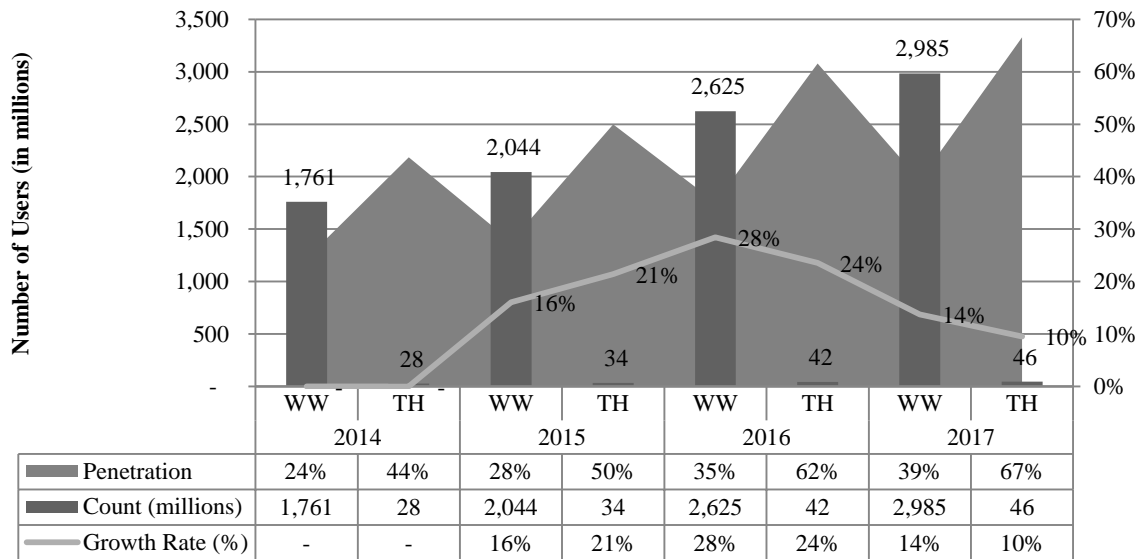
Active Social Media Users (Worldwide vs. Thailand)



WW: Worldwide, TH: Thailand.

Note: The data are adapted from “Global Digital Report” (2018). Retrieved June 29, 2018 from <https://digitalreport.wearesocial.com>

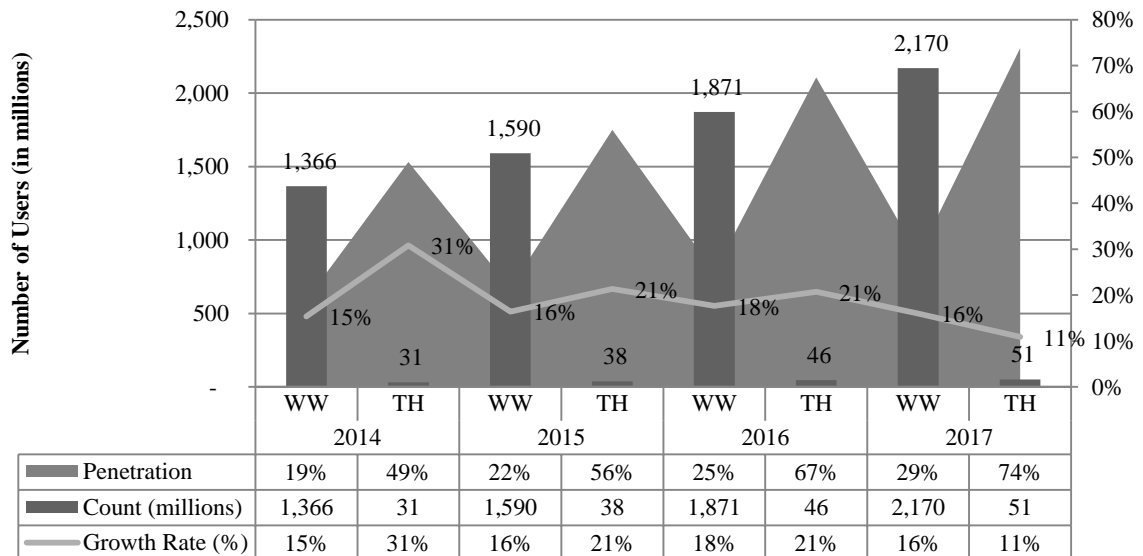
Active Mobile Social Users (Worldwide vs. Thailand)



WW: Worldwide, TH: Thailand

Note: The data are adapted from “Global Digital Report” (2018). Retrieved June 29, 2018 from <https://digitalreport.wearesocial.com>

Active Facebook Users (Worldwide vs. Thailand)



WW: Worldwide, TH: Thailand

Note: The data are adapted from “Global Digital Report” (2018). Retrieved June 29, 2018 from <https://digitalreport.wearesocial.com>

In addition, besides the data and numbers regarding social media and Facebook, it is worthy to take a quick look at population and economic indicators in Thailand, and how Thai culture plays a role on Thai consumer behavior regarding social commerce and F-commerce. Comparing population and economic indicators between Thailand and Japan, where people do not use social networks for commercial purpose, some important indicators have been discovered. The median age of Thailand population is around 38 years old, which is about 10 years younger than the median age of Japan population which is around 48 years old as of the end of 2017 (Kemp, 2018b). This does not only affect the penetration of Facebook users since almost 60% of Facebook users worldwide are 18 to 34 years old, but also reflect how fast people adopt smartphone technology and accept s-commerce (Kemp, 2018b). Because of this fact, even though Japan population has a very high urbanization rate at 95% which is almost doubled of that in Thailand which is only 53, and has GDP per capita that is more than doubled of that of Thailand, the smartphone penetration in Thailand is still higher than in Japan as of the end of 2017 (Kemp, 2018b).

Population & Economic Indicators (Thailand vs. Japan)

	<i>2017</i>	
	Thailand	Japan
Population (millions)	69.11	127.30
Male (%)	48.7%	48.8%
Female (%)	51.3%	51.2%
Median Age	38.1	47.7
Urbanization	53%	95%
GDP/Capita	\$16,946	\$41,476
Smartphone	49.07	81.47
Penetration	71%	64%

Note: The data are adapted from “Global Digital Report” (2018). Retrieved June 29, 2018 from <https://digitalreport.wearesocial.com>

Moreover, comparing Thai culture and Japanese culture using Hofstede's six cultural dimensions from Hofstede Insights (2018), there are some interesting results on key dimensions which are power distance, uncertainty avoidance, and indulgence between these two cultures, which have been proved to significantly impact s-commerce expenditure among 53 countries being analyzed by Yildirim and Türkmen-Baratçu (2016). First, Thailand scores 64 on power distance index, which is slightly below the average of Asian countries at 71, while Japan scores even lower at 54. With high power distance, an inequality exists in the distribution of power in the society (Hofstede Insights, 2018). On the other hand, a society with lower power distance promotes more equality and independency among individuals, encouraging them to initiate, innovate, and accept new information technologies (Zakour, 2004; Matusitz and Musambira, 2013; Sadeghi et al., 2014). Thus, even though Thailand's power distance index is higher than that of Japan, the fact that it is still lower than the Asian average supports how s-commerce and F-commerce become successful in Thailand.

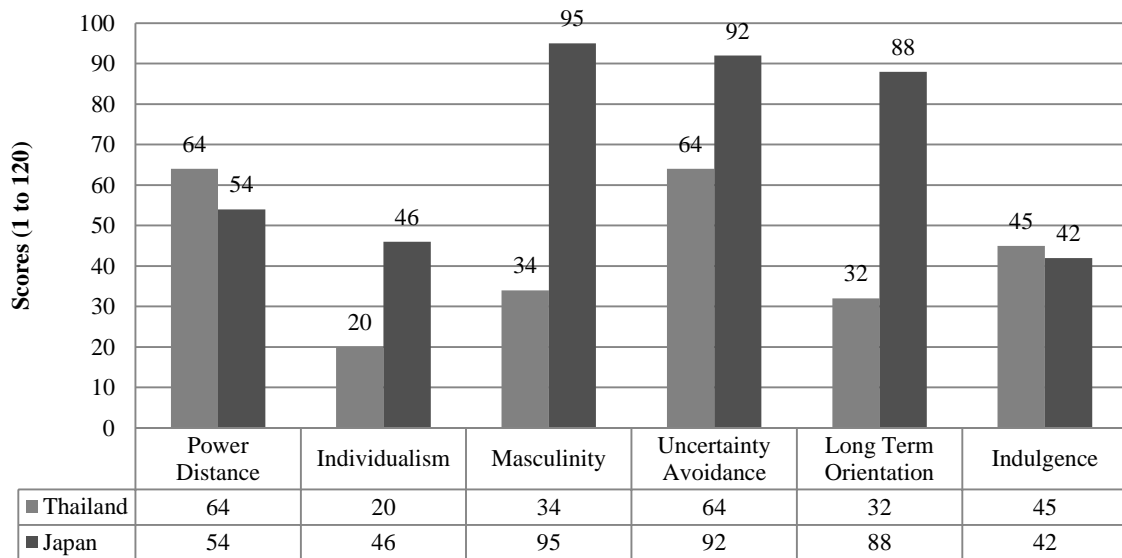
Second, for uncertainty avoidance, Thailand scores 64, while Japan scores 92 (Hofstede Insights, 2018), which is extremely high. In s-commerce context, a customer with higher level of uncertainty avoidance tends to be more anxious regarding the promises and commitments made with other individuals than a customer with a lower level of uncertainty avoidance (Minkov and Hofstede, 2014). Thus, lower uncertainty avoidance directly helps customers to overcome concerns on risks regarding a transaction on s-commerce or F-commerce. This could also help explaining why F-commerce is widely used in Thailand but not in Japan.

Last but not least, Thailand scores 45 for indulgence, whereas Japan scores 42 (Hofstede Insights, 2018), which are very close to each other. The degree of indulgence reflects the tendency of positive emotions and happiness among people in a society (Hofstede, 2011). In other words, people with higher levels of indulgence tend to be more optimistic than people with lower levels of indulgence (Mackintosh, 2013). With higher level of indulgence and optimism, it is easier for individuals to build trust among each other which is an essential element in s-commerce according to existing literature

(Yildirim and Türkmen-Baratçu, 2016). However, the fact that the scores on indulgence of both Thailand and Japan are moderate makes it difficult to determine any preference on this dimension which has an effect on s-commerce in both countries.

In addition, according to See-Pui Ng (2012b), the degree of individualism also has an effect on the purchase intention in s-commerce. For example, college students in Korea, where the individualism score is low, count more upon social support from their social network friends compared to college students from U.S. where the individualism score is higher (Kim, Sohn et al. 2011). As social support is a factor encouraging people to connect on social networks and perform s-commerce activities (Zhang et al., 2014), the low degree of individualism of 20 in Thailand could also help explaining why F-commerce is so successful in Thailand compared to a country with moderate degree of individualism such as Japan which scores 46.

Hofstede's Six Cultural Dimensions (Thailand vs. Japan)



Note: The data are adapted from “Country Comparison” (2018). Retrieved June 29, 2018 from <https://www.hofstede-insights.com/country-comparison/japan,thailand/>

CHAPTER 3. LITERATURE REVIEW

This section provides a review of applicable literature regarding the S-O-R model, the TAM model, and the variables hypothesized to influence customer's purchase intention in F-commerce in brief. It begins with the construct of the S-O-R model and the TAM model and the implications of how these were developed. Then it provides the terminologies and implications on each variable hypothesized in these models and the explanation on how these were adopted and adapted to effectively apply in the study.

Section 1. THE S-O-R MODEL

In the S-O-R model from environmental psychology, many different conditions of environment together act as a stimulus (S) that influences internal state of a person (O), which sequentially leads to behavioral response (R) (Mehrabian and Russell, 1974). Many studies have adapted the S-O-R model to use in the retail context and affirmed that environmental stimulus impacts internal states of customers, which in turn influence behaviors of customers toward the stores (Zhang et al., 2014). In case of online retail, customers perceive design features of the environment that they connect with as a stimulus (Eroglu et al., 2003) that drives their internal states or perceptions, experiences, and evaluations, which in turn lead them to purchase behavior (Zhang et al., 2014; Jiang et al., 2010).

The S-O-R model suits perfectly for this research purpose because it provides a tight and systematic manner to examine the influences of Facebook features and environment as a stimulus on users' experiences and perceptions, and sequentially on intention to request for information, to purchase, and to perform after-sales activities such as sharing commercial information on Facebook (Zhang et al., 2014). But in order to be concise, this research will focus solely on influences on purchase intention.

Section 2. THE TECHNOLOGY ACCEPTANCE MODEL (TAM)

The earliest Technology Acceptance Model or TAM was found by Fred Davies in 1989 and has since been extensively applied in researches in information technology area (Wahlberg, 2015). Although it is not always the most proper or accurate model to illustrate behaviors and adoptions, it has become one of those most popular models used to explain an information technology acceptance including e-commerce and s-commerce (Leeraphong and Mardjo, 2013; Wahlberg, 2015) because it is able to link limited number of factors, which are controllable for system designers, to the intention to use the technologies from the users (Taylor and Todd, 1995).

According to various models on social psychology that the TAM has been built on, the best indicator for a behavior is a behavioral intention (Ajzen, 1985), and it is influenced by attitudes on the behavior (Montaño and Kasprzyk, 2008). When the “Attitudes” in the construct has been replaced by “Perceived Ease of Use” and “Perceived Usefulness” (Beatty et al., 2011), the TAM can be used to predict “Intention to Use”, where “Perceived Ease of Use” is an attitude or belief that a creation is easy to use and “Perceived Usefulness” is an attitude or belief that a creation would increase performance when dealing with a task (Wahlberg, 2015).

As this study mainly focuses on factors influences purchase intention, variables such as “Perceived Ease of Use” and “Perceived Usefulness” could not be ignored in order to measure all the aspects of factors affecting purchase behavior as these directly reflect the functionality of F-commerce. Most studies in the past often focused on environmental influence, customer experience, or functionality but not all of them together. Thus, there is possibly a gap in the surrounding literature in which this research could fill.

Section 3. FACEBOOK FEATURES AND PERCEIVED ENVIRONMENT AS ENVIRONMENTAL STIMULUS (S)

Facebook, as a social media or s-commerce platform, is built with a number of unique technological features similar to its counterparts (Wang and Zhang, 2012). When online customers interact with the Facebook environment through these Facebook features, they also form their expectations on these features (Parboteeah et al., 2009). Thus, technological features on Facebook do not only reflect the objective properties of the features themselves but also reflect the subjective properties of customers' perception (Jiang et al., 2010). As previous research (Zhang et al., 2014) aimed to study the perceptions, experiences, and behaviors of customers on s-commerce, it defined technological features as subjective properties perceived by customers rather than the objective properties of the features (Animesh et al., 2011). These subjective properties are perceived interactivity (Animesh et al., 2011), perceived personalization (Olbrich and Holsing, 2011), and perceived sociability (Animesh et al., 2011) according to many existing researches as these reflect many different aspects of customers' interactions through technological features in s-commerce environment (Zhang et al., 2014). In turn, these subjective properties are environmental stimulus factors that affect virtual customer experiences such as social support social presence and flow according to Zhang et al. (2014).

On the other hand, some researches in the past focused on objective properties of technological features rather than perceived subjective properties. Liang and Lai (2002) for example, studied about effects of website design features on online purchase intention. DeLone and McLean (2004) also investigated effects of website designs, contents, and service quality on the success of e-commerce. However, even though these studies provide an intuition regarding online shopping to a certain degree, they still have some constraints if being adapted in the s-commerce context because of its social relationship construct (Liang et al., 2014).

In this research, both objective properties of the features on Facebook themselves and subjective properties of the technological features on Facebook have been applied in order to measure the influences of each specific Facebook feature on the F-commerce environment. Objective properties, in

this case, are popular Facebook features such as comment, like, share (Huang and Benyoucef, 2015), in addition, live video, especially for Thai people. However, for subjective properties in this case, this study has not applied perceived interactivity, perceived personalization, and perceived sociability as suggested by Zhang et al. (2014). Instead, this study uses social support, social presence and trust which are descendants of and in turn, directly affected by perceived interactivity, perceived personalization, and perceived sociability (Zhang et al, 2014; Lu et al, 2016). This adjustment allows this study to focus on a wider area of factors potentially influencing purchase behavior in F-commerce such as trust, perceived risk, perceived usefulness, and perceived ease of use. In other words, it skips some parts on the subjective properties of the previous literature (Zhang et al., 2014) to make it more concise in order to focus more on critical factors that potentially affect the purchase intention in F-commerce.

3.3.1. Facebook Features

Facebook, as a social networking site, provides features that were originally built for the primary purpose of social activities such as connecting, sharing, and collaborating (Huang and Benyoucef, 2014), unlike e-commerce which only aims to maximize efficiency in shopping by presenting features such as user-friendly product catalogues, product recommendations, advanced search engine, shopping cart, and one-click buying (Huang and Benyoucef, 2014; Chen and Shen, 2015).

However, at present, the traditional approach of online shopping is getting less effective or enjoyable. Customers are expecting for a more interactive, collective, and social shopping experience, where collaborative intelligence is applied to assist them when they are in problems or need advice to make their decisions (Huang and Benyoucef, 2014). With technologies of Web 2.0, s-commerce site like Facebook is more user-driven, allowing more communication, interaction, and contribution between and from users, compared with the traditional e-commerce (Huang and Benyoucef, 2013). F-commerce provides features such as user profiles, friends, comments, likes, tags, and shares, which are considered to be a form of “user-generated content” or “UGC”. These features allow customers to share and

response their personal experiences about how they feel or what they have purchased to other customers directly, and thus encourage communication, interaction, and supports among customers or Facebook users and facilitate the online trading of products and services (Huang and Benyoucef, 2014; Li and Ku, 2018).

Moreover, some studies explained that “these features could positively affect for low-esteem or low life satisfaction people” to gain more confidence when they are recommended by their friends (Suraworachet et al., 2012; Anderson et al., 2011). And according to Caspi and Blau (2008), text-based online discussions in online communities are also known to positively affect the cognitive aspects of learning. Thus, Facebook features considerably benefit businesses and customers in different aspects from those of e-commerce (Suraworachet et al., 2012). And among these features, “Like” button is the most outstanding features in terms of effects on F-commerce according to Suraworachet et al. (2012). Likes on fan pages or product photos on Facebook positively affect attitudes of customers toward F-commerce. For fan pages, the higher the number of likes on a brand page, the more trust from customers on that brand page and the image of the brand itself. For product photos, the higher the number of likes on a product photo, the more satisfaction and interest perceived from that product (Suraworachet et al., 2012).

3.3.2. Social Support

Social support, as defined by Cobb (1976), is the "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligation". In the mental health and service science context, social support has drawn many attentions as Schaefer et al. (1981) discovered that it can help to relieve psychological stress in individuals. In the social media context, the greater the social support, the more individuals would feel that they are cared for and assisted by others. Thus, social support is significant for social media users to make good and strong relationships with each other as they may feel that they are committed to be careful of and attentive to the demands from others

in the social network communities (Liang et al., 2014). Nowadays, with the rapid growth of social media such as Facebook and LinkedIn, social media is considered to be an essential source of social support (Lin et al., 2012).

Social support is a multi-dimensional construct, and according to House (1981), it consists of emotional, instrumental, informational, and appraisal support. However, with the rapid growth of the number of internet users connecting and communicating online over the last decade, social support is continuously shifting from being offline to become more online (Pfeil and Zaphiris, 2009; Maloney-Krichmar and Preece, 2005; Goswami et al., 2010). Unlike tangible social support, social support in social media or s-commerce is regarded as informational and emotional support only as the connections between users in social media or s-commerce are usually intangible (Liang et al., 2014; Pfeil and Zaphiris, 2009).

In other words, it is regarded as “the exchange of verbal as well as nonverbal messages in order to communicate emotional and informational messages that reduce the retriever's stress” (Pfeil and Zaphiris, 2009). Informational Support is the support in the form of advice, recommendations, guidance, or useful knowledge or information that helps solving problems, generating ideas, or making decisions (Liang et al., 2014). Emotional support is the provision of emotional concerns such as understanding, caring, empathy, encouragement, or love (House, 1981; Taylor et al., 2004; Ommen, 2008) which makes the receivers feel they are valued (Chen and Shen, 2015). It emphasizes to overcome problems emotionally and indirectly unlike informational support (Pfeil and Zaphiris, 2009). Also, it is believed to help people in social media community to develop trust toward each other and on the social media or s-commerce community itself since caring is the basis for trust development according to numerous studies (Chen and Shen, 2015; Ommen et al., 2008). It is quite obvious that if individuals frequently receive supports such as instant assistance or helpful advice from their friends or people in online communities, they would likely be more confident in those people's benevolence, honesty, and competency and eventually build a sense of trust in those people (Porter and Donthu, 2008).

3.3.3. Social Presence

Social Presence, as based on the theory that amplifies the communication medium as a transmitter of social cues, refers to “the salience of the other in a mediated communication and the consequent salience of their interpersonal interactions” (Short et al., 1976). To be concise, it is an intrinsic quality of a communication medium, and it also closely correlates to familiarity and closeness in the psychological context (Short et al., 1976). In the online context, it is often defined as the feeling of sociability, sensitivity, human warmth, and human contact perceived from a medium (Rice and Case, 1983). In other words, it measures users’ perceptions of psychological connections between other users in a medium (Gefen and Straub, 2004) as the social media or s-commerce environment allows users or customers to build interpersonal relationships with each other (Wang and Zhang, 2012).

Although there are some studies regarding s-commerce in the past considered social presence as a multi-dimensional model, most previous studies regarding e-commerce often applied a unidimensional model which focuses on quality of website or application to deliver a sense of sociability and human warmth (Lu et al., 2016). According to Zhang et al. (2014), as mutual intelligence can be accumulated in s-commerce environment, it allows interpersonal connections which in turn lead to experiential social presence. Thus, the degree of social interactions and user contribution is greater in s-commerce compared with that in e-commerce, allowing customers to experience a higher degree of social presence in s-commerce than in e-commerce (Li and Ku, 2018).

Existing studies on e-commerce also mentioned that social presence has a mediating role in shaping customers’ attitudes and behaviors (Zhang et al., 2014; Qiu and Benbasat, 2005). According to Gefen and Straub (2004), in s-commerce, social presence facilitates the relationship between customers, helping them socialize with each other more effectively and encouraging them to share commercial information and accept recommendations. In addition, many studies explained that social presence, as a medium, positively influences trust (Gefen and Straub, 2004; Choi et al., 2011), perceived usefulness (Shin, 2013), satisfaction (Kim et al., 2007), and perceived enjoyment (Hassenein and Head, 2005) in s-

commerce. According to Hassenein and Head (2005), social presence can lead to pleasure and psychological closeness among customers. With the sense of social interaction and warmth perceived among customers through social presence, customers feel more comfortable and satisfied. This accordingly encourages them to deeply involve, occupy and commit in the social interactions (Wang et al., 2007).

3.3.4. Trust

In the past, trust has been studied extensively in many research areas such as psychology, sociology, and economics (Kim and Park, 2013). For example, in psychology, personal characteristics of trust are often focused, while in sociology; institutional aspects of trust are usually highlighted (Das and Teng, 2004). On the other hand, in economics, two aspects of trust are generally applied in existing literature. The first aspect is trust as individual's expectation of interactions, while the second aspect is trust regarding weakness exposure and acceptance (Beldad et al. 2010). In business, trust facilitates dealing and is the basics of good relationship and commitment between individuals and companies.

However, to completely understand the core concept of trust, it is useful to know the multi-dimensional characteristics of trust. According to previous studies (Lewis and Weigert, 1985; McAllister, 1995), there are two important types of trust which are cognitive and emotional trust. Cognitive trust refers to beliefs of customers to depend on the capacity and consistency of the sellers or service providers (Moorman et al., 1992). In some circumstances and psychological states, people often build cognitive trust that is beyond their expectations formed by interpersonal relationship. Cognitive trust is built on three-dimensional factors which are honesty, benevolence, and competence (Lewis and Weigert, 1985; Mayer et al., 1995; McKnight et al., 2002). Honesty means individual's belief that another party will keep their promises (Kim and Park, 2013). Benevolence is defined by any action regarding others' welfare that leads to beliefs among individuals (McKnight et al., 2002). Finally, competence refers to the perception of other party's abilities (Coulter, 2002).

On the other hand, emotional trust is the extent to which customers believe in the sellers or service providers due to their emotional perceptions of cares and concerns received from those sellers and service providers (Rempel et al., 1985). With emotional trust, the emotional relationship between both parties is strengthened and secured (Kim and Park, 2013). In fact, cognitive trust is considered to be a source of emotional trust. And with both cognitive and emotional trust, behavioral trust, which implies actions performed during the state of cognitive and emotional trust, is developed (Lewis and Weigert, 1985).

The concept of behavioral trust is applied in some previous studies regarding online e-commerce and s-commerce as the extent of the confidence that customers have on the reliability of the firms, which is reflected by their concerns and cares on their customers (Kim and Park, 2013). The term “online trust” has been utilized in some previous studies. For example, Corritore et al. (2003) explained that online trust is the customers’ expectations and assurances that the sellers or service providers in the online market will not abuse customers for their own benefits and that they sincerely care for their customers. According to Chang and Chen (2008), in any type of e-commerce, trust encourages interactions among customers and businesses, allowing businesses to pursue their goals.

Moreover, various researches regarding e-commerce and s-commerce explained that trust is an important factor which influences online purchase intentions (Kim et al., 2012) since online customers cannot experience and assess the real products and directly confront and interact in a face-to-face manner with the sellers in online setting before they actually purchase them (See-Pui Ng, 2012a; Wahlberg, 2015). In this case, customers often rely on other measurements of trust such as reputation, size, and assurances of sellers or service providers (Jarvenpaa, 1999).

In s-commerce, customers sometimes decide to buy products according to the suggestions and recommendations of their friends and family in the social network community that they recognize and trust (Lee and Kwon, 2011). According to See-Pui Ng (2012a), trust in s-commerce is also believed to be

transferable between connected sources. For example, trust from a customer in an online community could lead that customer to also trust the sellers in that community. Customers possibly believe that if an online setting is safe and well-managed, it is convincing that people and even the sellers there are reliable (See-Pui Ng, 2012a).

Section 4. CUSTOMER EXPERIENCES AND PERCEPTIONS AS CUSTOMER'S INTERNAL STATES (O)

According to the S-O-R model, customer's internal states or customer experiences and perceptions in this case, act as a medium between the effects of environmental stimulus and response (Animesh et al., 2011; Zhang et al., 2014). Many studies about s-commerce in the past explained that there are three important types of virtual customer experience influencing customer response or behavior which are social support (Zhang et al., 2014; Liang et al., 2014), social presence (Zhang et al., 2014; Shin, 2013), and flow (Animesh et al., 2011; Zhang et al., 2014). However, in this study, only social presence and social support were applied from these three types of virtual customer experience according to existing literature. Moreover, social support and social presence are considered as environmental stimulus instead of virtual customer experience in this case as according to some literature, social support indicates a friendly and supportive environment (Ommen et al., 2008; Huang et al., 2010). In addition, according to Lu et al. (2016), social presence is a key aspect that is reintroduced by s-commerce to online or e-commerce environment. Thus, both social support and social presence can also be considered as measurements of environmental stimulus.

However, in customer experiences and perceptions, this study adapted the Technological Acceptance Model (TAM) and applied two important elements that potentially influence behavioral intention or purchase intention according to the TAM and various studies (Leeraphong and Mardjo, 2013; Liébana-Cabanillas and Alonso-Dos-Santos, 2017; Wahlberg, 2015). These two elements that represent customer experiences and perceptions are perceived ease of use and perceived usefulness. In addition, perceived risk is also applied as a measurement on customer experiences and perceptions in

this research according to the suggestion of previous literature that it influences the purchase intention of customers (Leeraphong and Mardjo, 2013).

3.4.1. Perceived Ease of Use

According to Davies's study (1989) regarding user acceptance of information technology, perceived ease of use means the extent of an individual's belief that using a specific system would require no effort. This interpretation applies the definition of "ease" as "freedom from difficulty or great effort" (Davies, 1989), where effort is a limited resource that an individual probably gives to perform specific activities that he or she is responsible for (Radner and Rothschild, 1975). Davies (1989) mentioned that perceived ease of use is a fundamental factor that influences a user's decision to adopt information technology. Given that all other variables affecting decisions to adopt information technology are equal, technology or application with higher perceived ease of use has a higher chance to be adopted by users compared to those with lower perceived ease of use (Davies, 1989).

3.4.2. Perceived Usefulness

Perceived usefulness refers to the extent of an individual's belief that using a particular system would improve his or her work performance (Davies, 1989). This definition applies the meaning of "useful" as "capable of being used advantageously" (Davies, 1989). In the online context, perceived usefulness indicates users that using a specific technology can be useful to them to achieve a concrete result (Liébana-Cabanillas and Alonso-Dos-Santos, 2017). Many researches in the past regarding various innovations such as smartphone usage (Joo and Sang, 2013), mobile payment (Liébana-Cabanillas et al., 2015), mobile cloud services (Park and Kim, 2014), social network games (Park et al., 2014), product recommendation agents (Qui and Benbasat, 2009), e-learning (Tarhini et al., 2014), long-term evolution services (Park and Del Poblí, 2013) have applied perceived usefulness as in the TAM and affirmed that it

positively influences attitudes and behavioral intentions of the users.

3.4.3. Perceived Risks

Perceived risk refers to the extent of an individual's perception of uncertainties and consequences on each course of actions. With a different degree of perceived risk on each alternative, theoretically, the one with the most favorable outcome will always be chosen (Leeraphong and Mardjo, 2013). E-commerce, compared with traditional commerce, is perceived by customers to be riskier, and this could be a drawback for e-commerce that prevents customers from buying online (Nenonen, 2006). A risk, in this case, can also refer to a subjective expectation of loss by an online customer when deciding to make an online purchase (Hasan and Rahim, 2008). This includes financial loss, defective product, and loss of time, etc. (Nenonen, 2006; Hasan and Rahim, 2008). When customers feel that the degree of risk on purchasing a product or service is too high, they refuse to purchase that product or service. Nevertheless, in some situations, they may take some actions in order to reduce the risks associated with products or services purchasing such as reducing the amount at stake or the surrounding uncertainties. According to Kim and Bensabat (2003), online customers perceive risks when they provide credit card information, email address, home address or shipping information, etc.

Although perceived risk is not originally in the TAM, some previous researches indicated that it potentially affects the purchase intention of the customers, especially in Facebook, where purchasing of a product or service could be riskier than traditional e-commerce given that there is no specific guidelines or requirements in order to become a Facebook seller (Leeraphong and Mardjo, 2013). Moreover, it is rare for Facebook sellers to offer any kind of buyer protection such as a formal product warranty or a refund in case that the sellers could not fulfill their promises they preciously made with the buyers (Leeraphong and Mardjo, 2013). Thus, it is convincing to add perceived risk, as a factor directly influences purchase intention, into the TAM or customer's internal states of the S-O-R model in this case.

Section 5. PURCHASE INTENTION AS RESPONSE (R)

Purchase intention refers to the possibility of purchasing a product or service in the future by customers according to Richardson et al. (1996). In s-commerce, there are numerous technological applications and features such as recommendations, reviews, and ratings which encourage customer's participation behavior. However, as actual behavior or, in this case, actual purchase of a product or service could be difficult to measure, behavioral intention or purchase intention in this case is commonly used to measure as a proxy that reflects the actual purchase since an intention is widely testified to be a valid predictor of an actual behavior (Venkatesh and Davis, 2000). Thus, purchase intention or intention to purchase a product or service from customers in Facebook was applied as the response in this study.

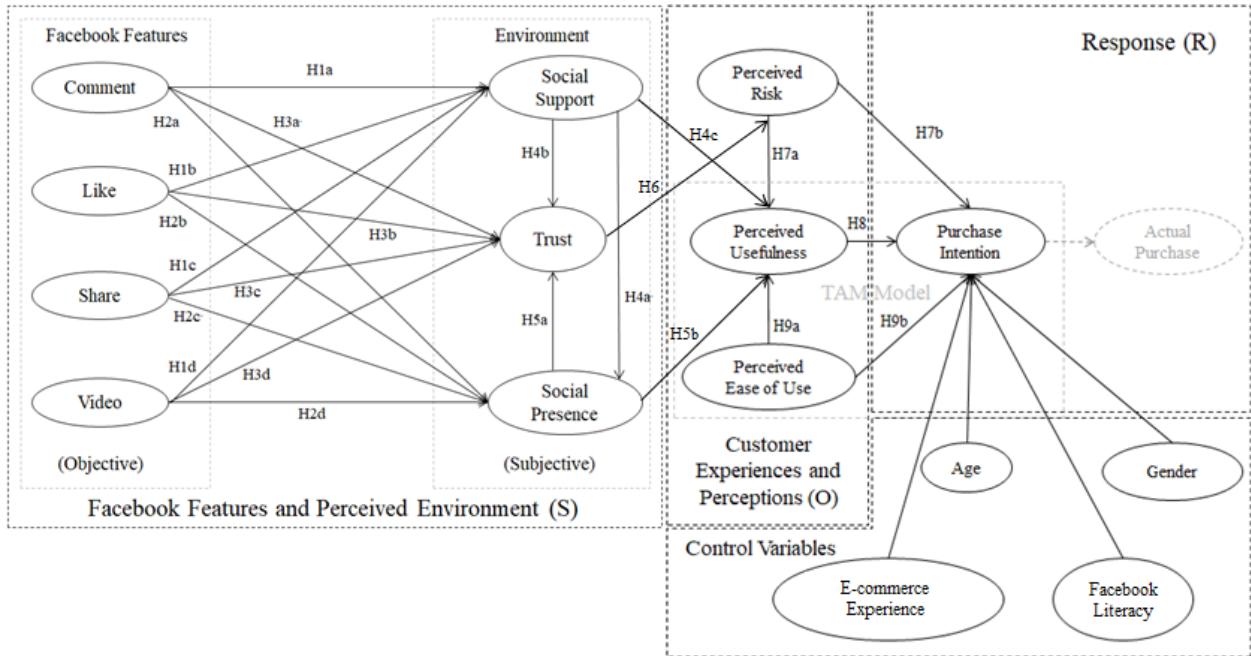
CHAPTER 4. RESEARCH MODEL AND HYPOTHESES

Based on above discussion, the research model of this study is portrayed in Figure 1. This model is mainly based on the adaption of S-O-R model as being applied in s-commerce context to portray environmental stimulus, initial states, and responses of people who participate in F-commerce in Thailand in order to investigate what influence their behaviors and determine the success factors of F-commerce in Thailand. As Eroglu et al (2003) mentioned that design features of the online environment act as a stimulus in the S-O-R model regarding online retail context, the stimulus (S) in this study refers to “Facebook Features and Perceived Environment” in Facebook, where Facebook features reflects Facebook environment which influences “Purchase Intention” as the response (R). While the customers’ internal states (O) or “Virtual Customer Experiences and Perceptions” on F-commerce, in this case, act as the mediums that mediate the relationship between Facebook features and perceived environment, and the “Purchase Intention” with “Perceived Ease of Use” as an independent variable that directly influences the “Purchase Intention” (Wahlberg, 2015).

Also, the Technology Acceptance Model (TAM) has been applied in the customer’s internal states and response part in the S-O-R model as recommended by a number of researches (Wahlberg, 2015; Beatty et al., 2011), “Perceived Ease of Use” and “Perceived Usefulness” influence behavioral intention or “Intention to Use”. However, in this case, by “Intention to Use”, it means using F-commerce or more specifically “Intention to Purchase” or “Purchase Intention”. In addition, “Perceived Risk”, which is influenced by “Trust”, has been added into the customer experiences and perceptions because different theories implied that it also potentially influences purchase intention (Leeraphong and Mardjo, 2013). Also, some studies argued that trust is a significant factor as same as perceived ease of use and perceived usefulness are in the TAM for online businesses to maintain existing customers (Gefen et al., 2003). Thus, perceived risk which reflects the degree of trust in the Facebook environment is a valid predictor of purchase intention, and using only the TAM without considering about trust and perceived

risk would create a gap in the literature surrounding factors (Leeraphong and Mardjo, 2013).

Figure 1 : The conceptual model based on the S-O-R model and the TAM



Section 1. FACEBOOK FEATURES AND PERCEIVED ENVIRONMENT

Facebook offers many features to encourage communications and interactions among users. These features actually also facilitate commerce transactions of products and services (Huang and Benyoucef, 2015) and are including popular features such as comment, like, share, and live video. Through these features, social media users are fostered to share information about products or services with their friends in the Facebook community or even sell products and services through Facebook. For example, with comment feature, users can consult other users on Facebook to get some advice regarding purchase decisions (Liang et al., 2014). According to a survey by Huang and Benyoucef (2015), comment and like are some of those important features that encourage users to reply to others and give product reviews. Also, Thai Facebook users often use share feature to share product information and use

live video to review and sell the products to facilitate and support customers (Pongvitayapanu, 2017). These features initiate online community support (Huang and Benyoucef, 2015) or in this case, social support. Thus, this research hypothesized that:

***H1a:** The use of Facebook comment has a positive relationship to social support.*

***H1b:** The use of Facebook like has a positive relationship to social support.*

***H1c:** The use of Facebook share has a positive relationship to social support.*

***H1d:** The use of Facebook live video has a positive relationship to social support.*

Moreover, the computer-mediated communication (CMC) and user-generated content (UGC) tools such as comments, likes, shares, and live videos provided by Facebook are also able to deliver the sense of social presence in F-commerce (Lu et al., 2016). In an application which is full of socially-rich texts and multimedia contents such as the 3D avatar, speech voice (Choi et al., 2011), and videos; a sense of personal, sociable, and sensitive human contact is transmitted and raise perceived social presence among the users (Lu et al., 2016). In addition, recommendations and reviews by customers also positively influence the social presence in online commerce (Kumar and Bensabat, 2006). Therefore, this research hypothesized that:

***H2a:** The use of Facebook comment has a positive relationship to social presence.*

***H2b:** The use of Facebook like has a positive relationship to social presence.*

***H2c:** The use of Facebook share has a positive relationship to social presence.*

***H2d:** The use of Facebook live video has a positive relationship to social presence.*

Furthermore, Facebook features including comment, like, share, tag, and friend relationship could also help low self-esteem people to have more confidence after they are recommended by their friends (Suraworachet et al., 2012; Anderson et al., 2011). Customers in Facebook are also able to perceive the attitudes, benevolence, and integrity of the sellers through the interactions mediated by these Facebook features including live video. This sequentially creates their beliefs or trust in the sellers (Lu et al., 2016). In addition, comments and likes also represent the degree of seller's reputation which

reflects purchase experiences of other users (Pavlou and Dimoka, 2006). With positive comments and the number of likes, customers form positive beliefs or trust in the sellers (Lu et al., 2016). Hence, this research hypothesized that:

***H3a:** The use of Facebook comment has a positive relationship to trust.*

***H3b:** The use of Facebook like has a positive relationship to trust.*

***H3c:** The use of Facebook share has a positive relationship to trust.*

***H3d:** The use of Facebook live video has a positive relationship to trust.*

Section 2. PERCEIVED ENVIRONMENT AND CUSTOMER EXPERIENCES AND PERCEPTIONS

4.2.1. Social Support

The more the social support in a community, the higher the mutual understandings and warmth in the relationships among people in that community (Liang et al., 2014). Social support satisfies social needs from customers and encourages their interactions with each other (Zhang et al., 2014). When they interact more with each other, their relationship is more pleased and warm (Shaw and Gant, 2002). With understandings, satisfaction, and warmth in the relationships between customers in Facebook, customers perceive the sense of social presence. Thus, this research hypothesized that:

***H4a:** Social support has a positive relationship with social presence.*

In addition, not only social interaction and the quality of relationship which are improved by social support, but reciprocating motivation is also known to be influenced by social support (Zhang et al., 2014). With reciprocating motivation, users are more likely to exchange and unconditionally share valuable shopping information with other users (Crocker and Canevello, 2008). When users frequently share information with each other, supportive environment, where users feel natural to share shopping information, purchase experiences, and product knowledge with each other is formed (Liang et al., 2014). Frequent supports from friends or other customers on Facebook increase the confidence of the receivers on others' benevolence, honesty, and competency which form a sense of trust accordingly

(Porter and Donthu, 2008). Also, according to Chen and Shen (2015), social support strongly influences trust and community commitment from customers. Hence, this research hypothesized that:

H4b: Social support has a positive relationship with trust.

Moreover, according to Zhang et al., “social support is the best predictor of an intention to participate in s-commerce.” (Zhang et al., 2014) In an s-commerce environment with a sense of social support, customers freely exchange shopping information with each other (Liang et al., 2014). This information is a form of informational support which, by its definition, helps to generate ideas, solve problems, and make decisions. More importantly, receivers perceive this kind of supports to be useful for them (Liang et al., 2014). To be useful, it means that informational support has to improve their performance in one or another way. Thus, as perceived usefulness is defined as the extent of an individual’s belief that using a particular system would improve his or her work performance (Davies, 1989), informational support as a kind of social support, correlates with perceived usefulness. The previous survey in 2013 has discovered that “nearly 83% of respondents tend to share shopping information with their online friends, and almost 67% of the respondents would make their purchase decision based on the recommendations from online friends” (Marsden, 2013). Therefore, this research hypothesized that:

H4c: Social support has a positive relationship on perceived usefulness.

4.2.2. Social Presence

As human interaction is considered to be a precondition of trust (Blau, 1964), interactions in F-commerce should also influence the trust of customers on Facebook. A shopping environment with a higher degree of social presence is known to encourage more interactions and more information sharing among customers and thus perceived to be more transparent compared with a shopping environment with a lower degree of social presence. This helps to inhibit dishonest behaviors among customers and sellers in a shopping environment. Customers will also perceive their social distance between them and

the sellers in a shopping environment with a higher degree of social presence to be closer (Pavlou et al., 2007), which makes it easier for them to build trustworthy relationships with the sellers (Lu et al., 2016). They will be more willing to give away their commercial information and receive suggestions and guidance from others in the shopping environment (Zhang et al., 2014). Therefore, social presence should positively influence trust in F-commerce. Many previous researches (Lu et al., 2016; Gefen and Straub, 2004; Hassanién et al., 2009) also mentioned about how social presence enhance trust in an online shopping environment. For example, Gefen and Straub (2004) investigated the impact of social presence on trust in e-service context. Thus, this research hypothesized that:

***H5a:** Social presence has a positive relationship with trust.*

Social presence was also found to correlate with customer's perceived enjoyment (Hassanein and Head, 2005), satisfaction (Kim et al., 2007), and perceived usefulness (Shin, 2013). It could create a sense of closeness among buyers and sellers which in turn leads to pleasure in dealings between buyers and sellers (Hassanein and Head, 2005). According to previous studies about perceived usefulness in the technological context, perceived usefulness is the extent of an individual's belief that by using a specific tool or function, it will improve his or her performance (Davies, 1989). In online shopping, customers do not only shop to fulfill their wants or needs for the goods itself, but also sometimes shop to seek for the pleasure and enjoyment from the process of shopping such as searching, observing, and sharing goods. If customers consider pleasure and enjoyment to be useful, social presence is considered to positively influence perceived usefulness in this case. Hence, this research hypothesized that:

***H5b:** Social presence has a positive relationship on perceived usefulness.*

4.2.3. Trust

As mentioned by various studies, trust is transferable in s-commerce. In a trustworthy s-commerce environment, customers could be convinced that the sellers are trustworthy (See-Pui Ng, 2012a). In this sense, trust reduces perceived uncertainties correlated with seller's expected behavior or

artifacts which are crucial for customers in making a purchase decision (Wahlberg, 2015; Blau, 1964). These uncertainties affecting customer's decision to purchase are known as perceived risk (Wahlberg, 2015). In commerce context, perceived risk is basically the degree of fear of being cheated or exploited by the sellers (Gefen et al., 2003), and it is considered to be crucial in the online commerce because of its nature of diverse and complex online interactions which sometimes lead to unpredictable and unfavorable behaviors (Gefen and Straub, 2003). This is also applied in F-commerce, where sellers have different background and are rarely met by customers. However, with the environment of trust, customers will perceive dealing with them to be less risky. Thus, this research hypothesized that:

***H6:** Trust has a negative relationship on perceived risk.*

Section 3. CUSTOMER EXPERIENCES AND PERCEPTIONS AND RESPONSE

4.3.1. Perceived Risk

It is quite obvious that perceived risk decreases the degree of perceived usefulness in commerce because if customers feel risky to buy a product from sellers in an online environment, they also feel that the online environment or the transaction is not going to increase their performance and productivity, but rather going to reduce their performance and productivity if they are being fraud. Therefore, a risky shopping environment or transaction is not perceived to be useful. Gefen et al. (2003) have also pointed out that perceived risk acts as a medium in the effect of trust on the perceived usefulness. Hence, this research hypothesized that:

***H7a:** Perceived risk has a negative relationship with perceived usefulness.*

Although many studies have mentioned that trust is a crucial factor in online purchase intention (Leeraphong and Mardjo, 2013; Wahlberg, 2015), merely trust from customers in an online environment is not enough for customers to decide to get into a transaction because there are so many perceived risks surrounding them (Wahlberg, 2015). “Whether calculated and intentional or not, the consumers have to trust all parts of the information exchange chain” (Wahlberg, 2015) if they intend to purchase a product

or service online. This is basically because in Facebook, anybody can sell once being registered as a member and there is a high degree of perceived risk from the customers in the sellers or even in the Facebook itself. Customers might concern about personal or private information, which they give to the sellers or even to the Facebook when they register their accounts that it could be used to harm them or shared to third parties in order to use for marketing purposes (Leeraphong and Mardjo, 2013). There are even risks attached to the use of computer, the payment systems which could be hacked, and the delivery methods (Wahlberg, 2015). Even though many customers might not perceive and consider every single risk they are exposed to, they would have a sense of compound risk that helps them to decide whether or not to provide their personal information to the sellers or to the Facebook, whether or not the product will arrive, whether or not arrived products will be as good as they expected in terms of quality and condition, and most significantly, whether or not they should purchase it (Wahlberg, 2015). Customers will judge the risks they perceive and consider based on their own subjective standards whether it is acceptable or not to purchase a specific item (Kahneman, 2011). Therefore, this research hypothesized that:

***H7b:** Perceived risk has a negative relationship on purchase intention.*

4.3.2. Perceived Usefulness

According to the TAM, perceived usefulness has a positive effect on behavioral intention (Wahlberg, 2015). Many researches in the past regarding in technological field have also applied perceived usefulness as in the TAM and demonstrate that it positively influences attitudes and behavioral intentions (Wahlberg, 2015). Thus, as the perceived usefulness is defined by the degree of performance or productivity that is increased by using such a tool or an application (Davies, 1989), it is obvious that customers who perceive F-commerce to be useful in improving their performance and productivity would more likely to purchase a product on Facebook than those who perceive F-commerce to be useless. Thus, this research hypothesized that:

***H8:** Perceived usefulness has a positive relationship on purchase intention.*

4.3.3. Perceived Ease of Use

According to the TAM, perceived ease of use has a positive correlation with perceived usefulness. This is quite obvious given that the definitions of both terminologies are closely related to each other. Perceived usefulness refers to the level of productivity improved by adoption of a tool or an application (Davies, 1989), while perceived ease of use refers to the degree to which a person perceives that using a particular tool or application would not need any effort (Davies, 1989). Therefore, if no effort is required to perform a Facebook transaction, the level of productivity gained from a Facebook transaction should be higher relative to those other transactions in other shopping sites if assumed an effort is needed. Hence, it is hypothesized that:

***H9a:** Perceived ease of use has a positive relationship with perceived usefulness.*

Furthermore, perceived ease of use is also known to positively influence a user's decision to use an information technology (Davies, 1989). In other words, a technology with a greater degree of perceived ease of use is more likely to be adopted by users than a technology with less degree of perceived ease of use given that other influences are equal and constant (Davies, 1989). Thus, if this reasoning is applied to the purchase intention in F-commerce, the higher the ease of use customers perceive on Facebook, the higher the chance customers will purchase on Facebook. Therefore, this research hypothesized that:

***H9b:** Perceived ease of use has a positive relationship on purchase intention.*

CHAPTER 5. RESEARCH METHODOLOGY

In order to prove the hypotheses, this research applied the research and questionnaire design that is most suitable for the field of study and most reliable based on the previous research regarding e-commerce, s-commerce, and F-commerce which are closely related to this study. As this research focuses on the trend and the success factors of F-commerce in Thailand, the respondents were limited to those who are Thai citizens or live in Thailand in order to precisely reflect the best results based on F-commerce in Thailand only. Also, a respondent had to be a Facebook user in order to answer the survey since the questionnaire mainly asks about respondents' attitudes on Facebook and F-commerce, and thus experience and basic knowledge on Facebook is the minimum requirement.

Section 1. SCALE DEVELOPMENT

The measures of this survey were developed carefully to ensure reliability as most of them have been adapted from the previous credible studies regarding s-commerce. Facebook features are the only part that applied all the new items formed to measure how often Facebook users use important Facebook features such as comment, like, share, and live video since prior comprehensive study about Facebook features is scarce. Nevertheless, in fact, the concept and definition regarding the usage of Facebook features is quite straightforward, and thus direct questions have been used to ask the respondents. Regarding every feature, questions have been asked whether respondent use a specific feature or not, how often they use it, and in what way or how they use it for. The comment feature is a five-item scale, while share, like, and video are a four-item scale. (More information regarding the measurement items applied in this study is provided in Appendix.)

For measures regarding customer perceived environment, this research applied the items from credible studies about s-commerce in the past. Social support was measured by adapting four items from Li and Ku (2018) regarding both informational and emotional support in the situations when customers

need helps or supports from others in the F-commerce environment. Social presence was measured by adapting three items from Lu et al. (2016) asking about the sense of warmth and human contact in the medium of communications and interactions. Trust was measured by adapting three items from the measures of trust toward community and toward members from Chen and Shen (2015) regarding whether the respondents feel that the Facebook community is reliable or not, and how much they trust other members on Facebook.

For measures regarding customer experiences and perceptions, and response; perceived risk was measured by seven items adapted from Leeraphong and Mardjo (2013) regarding all the risks correlated with purchasing a product. Perceived usefulness is a four-item scale adapted from Wahlberg (2015) that asked respondents about whether or not Facebook is useful for them in many aspects regarding commerce. Last but not least, purchase intention is a four-item scale adapted from Kim and Park (2013) which measures how likely would a respondent purchase products or services through Facebook in the near future. Regarding the measurement, the five-point Likert scale has been applied to all the items as mentioned above, where 1 = "strongly disagree", 3 = "neutral", and 4 = "strongly agree".

In addition, four control variables have been included in this analysis. These four variables are age, gender, online shopping experience, and Facebook literacy. "Age" was asked as ranges such as 20s, 30s, or 60s, while "Gender" is a dummy variable that assumes the value of zero if the respondent is male and zero otherwise. For "E-commerce Experience" and "Facebook Literacy", these were measured by the number of times had a respondent shopped online and checked Facebook respectively. These final numbers have been acquired by asking how long had a respondent been shopping online and using Facebook in years and months, and then asking about the frequency of shopping through e-commerce and checking a Facebook in a day, a week, or a month. Finally, the results are the multiplications of the period and the frequency regarding each measure.

Section 2. DATA COLLECTION

The data was collected through an online survey in English only in order to be consistent, and the internet hyperlink of the survey was mainly posted in social networking applications such as Facebook and LINE. In this research, Facebook was considered as a primary source of data as it can ensure that all the respondents are Facebook users, who have basic knowledge about Facebook since Facebook literacy is compulsory in order to complete the survey. The link has been distributed to researcher's friends and family, and they also have been asked to post the link on their Facebook profiles to expand the target groups with different demographic backgrounds and experiences in order to prevent partiality. In total, 146 usable responses were collected in a collection period of three weeks. In terms of gender, the responses are very well-balanced where 71 respondents are male, and 75 respondents are female (Male: 48.6%, Female: 51.4%). In terms of age, 88 respondents or the majority of the respondents are in their 20s even though the survey has already been distributed into various groups of age (20s: 60.3%, 30s: 16.4%, 40s: 2.1%, 50s: 3.4%, 60s: 15.8%, 70s: 1.4%, 80s: 0.7%). This possibly means that the majority of the Facebook users in Thailand are in their 20s. The complete version of summary of respondents is shown in Table 1. (The descriptive statistics such as means and standard deviations of each construct is presented in Table 3.)

Table 1 : Summary of Respondents

				E-commerce (#)					
All Respondents				With E-commerce Experience			Without E-commerce Experience		
Age	Male	Female	All	Male	Female	All	Male	Female	All
20s	45	43	88	39	41	80	6	2	8
30s	11	13	24	9	10	19	2	3	5
40s	2	1	3	2	1	3	0	0	0
50s	0	5	5	0	3	3	0	2	2
60s	10	13	23	3	3	6	7	10	17
70s	2	0	2	1	0	1	1	0	1
80s	1	0	1	1	0	1	0	0	0
<i>Total</i>	71	75	146	55	58	113	16	17	33

				E-commerce (%)					
All Respondents				With E-commerce Experience			Without E-commerce Experience		
Age	Male	Female	All	Male	Female	All	Male	Female	All
20s	30.8%	29.5%	60.3%	34.5%	36.3%	70.8%	18.2%	6.1%	24.2%
30s	7.5%	8.9%	16.4%	8.0%	8.8%	16.8%	6.1%	9.1%	15.2%
40s	1.4%	0.7%	2.1%	1.8%	0.9%	2.7%	0.0%	0.0%	0.0%
50s	0.0%	3.4%	3.4%	0.0%	2.7%	2.7%	0.0%	6.1%	6.1%
60s	6.8%	8.9%	15.8%	2.7%	2.7%	5.3%	21.2%	30.3%	51.5%
70s	1.4%	0.0%	1.4%	0.9%	0.0%	0.9%	3.0%	0.0%	3.0%
80s	0.7%	0.0%	0.7%	0.9%	0.0%	0.9%	0.0%	0.0%	0.0%
<i>Total</i>	48.6%	51.4%	100.0%	48.7%	51.3%	100.0%	48.5%	51.5%	100.0%

E-commerce experience as period and frequency (avg.)			
Avg. period (month)	45	Avg. frequency (per month)	6

Spending per transaction in E-commerce (avg.)	
1,375.92 THB (Thai Baht)	

F-commerce (#)									
All Respondents				With F-commerce Experience			Without F-commerce Experience		
Age	Male	Female	All	Male	Female	All	Male	Female	All
20s	45	43	88	24	24	48	21	19	40
30s	11	13	24	4	8	12	7	5	12
40s	2	1	3	1	1	2	1	0	1
50s	0	5	5	0	1	1	0	4	4
60s	10	13	23	3	2	5	7	11	18
70s	2	0	2	0	0	0	2	0	2
80s	1	0	1	1	0	1	0	0	0
<i>Total</i>	71	75	146	33	36	69	21	39	77

F-commerce (%)									
All Respondents				With E-commerce Experience			Without E-commerce Experience		
Age	Male	Female	All	Male	Female	All	Male	Female	All
20s	30.8%	29.5%	60.3%	34.8%	34.8%	69.6%	27.3%	24.7%	51.9%
30s	7.5%	8.9%	16.4%	5.8%	11.6%	17.4%	9.1%	6.5%	15.6%
40s	1.4%	0.7%	2.1%	1.4%	1.4%	2.9%	1.3%	0.0%	1.3%
50s	0.0%	3.4%	3.4%	0.0%	1.4%	1.4%	0.0%	5.2%	5.2%
60s	6.8%	8.9%	15.8%	4.3%	2.9%	7.2%	9.1%	14.3%	23.4%
70s	1.4%	0.0%	1.4%	0.0%	0.0%	0.0%	2.6%	0.0%	2.6%
80s	0.7%	0.0%	0.7%	1.4%	0.0%	1.4%	0.0%	0.0%	0.0%
<i>Total</i>	48.6%	51.4%	100.0%	47.8%	52.2%	100.0%	27.3%	50.6%	100.0%

F-commerce experience as period and frequency (avg.)				
Avg. experience (month)	14		Avg. frequency (per month)	1

Facebook literacy as period and frequency (avg.)				
Avg. experience (month)	92		Avg. frequency (per month)	3

Spending per transaction in E-commerce (avg.)	
1,136.23	<i>THB (Thai Baht)</i>

CHAPTER 6. DATA ANALYSIS AND RESULTS

By following the two-step method recommended by Anderson and Gerbing (1988), this analysis started with the verifications of the convergent and divergent reliability and validity of the eleven multi-item measures regarding Facebook features, perceived environment, and customer experiences and perceptions. Then the structural model was assessed.

Section 1. MEASUREMENT MODEL

First, a dimension reduction by principal component factor analysis was performed to assess the discriminant reliability of the eleven multi-item scales. Most items loaded on the expected factor appropriately with standardized factor loadings greater than .5, which indicates an appropriate and acceptable level of convergent and discriminant validity. However, two out of four items from SHA, one out of four items from VID, one out of three items on SP, one out of seven items from PR, and one out of four items from PI loaded to other different constructs. Thus, these error items were removed from the research focus.

Nevertheless, all the items on PE were found to load in the same construct as PU. This could mean that although PE is not necessarily the same concept as PU, it could not be distinguished from the PU by the survey instrument. In other words, the respondents might perceive to PE and PU to be closely related and similar to each other. This is understandable as according to the TAM, PE directly influences PU. Moreover, PE refers to the extent of an individual's belief that using a specific system would require no effort, whereas PU refers to the extent of an individual's belief that using a particular system would improve his or her work performance (Davies, 1989). Thus, if a function or an application requires no effort, that function or application should also improve an individual's work performance. With this reasoning, PE was then removed from the research focus and PU, which covers a broader concept and reflects wider aspects of F-commerce based on the measurement model, was retained.

Then the multi-item measures in ten-factor measurement model, excluding the perceived ease of use, were further assessed on the reliability according to the confirmatory factor analysis (CFA) approach. The values of composite reliability (CR) and Cronbach's α of the constructs ranged from .64 to .88 with most of them exceed .70 threshold suggested by Hair et al. (2009). Those below 0.70 are the CRs of LIK, SHA, and TR while their Cronbach's α s are all greater than .70 as shown in Table 2. This indicates that the degrees of distinction and uniqueness of these construct are not considerably high. For LIK and SHA, in terms of their nature and usage procedures, these are very similar to each other as they are both one-click features. In terms of the usage purposes, according to the survey results, people who share contents, in which they are interested, also like contents to express their feeling of like or interest on those contents. Thus, LIK and SHA are closely correlated. For TR, according to its loadings on other factors, it tends to be more similar to SP rather than SS. By definition, SP is an intrinsic quality of a communication medium and it also closely correlates to familiarity and closeness in the psychological context (Short et al., 1976). And as human interaction, encouraged by familiarity and closeness between two parties, is a precondition of trust (Blau, 1964), SP and TR are closely related to each other.

Although the CRs of these constructs are below the .70 threshold, these constructs were retained as their Cronbach's α s are still greater than .70. The discrepancies between the CRs and Cronbach's α s of these constructs could be caused by the fluctuations among factor loadings of these constructs.

Then a CFA was applied using AMOS to evaluate the validity of the constructs. An evaluation of the relevant statistics ($\chi^2 = 90.82$, d.f. = 60, goodness-of-fit index [GFI] = .92, comparative fit index [CFI] = .95, normed fit index [NFI] = .87, and root mean square error of approximation [RMSEA] = .060) suggests a good fit among constructs in the measurement model and good convergent validity. Discriminant validity of the constructs in the measurement model was also examined according to the suggestions of Fornell and Larcker (1981). By computing the square root of the average variance extracted ($\sqrt{\text{AVE}}$) on each construct, it was found that the $\sqrt{\text{AVE}}$ on every construct is greater than the .50 threshold suggested by Fornell and Larcker (1981) as shown in Table 2. Also, the $\sqrt{\text{AVE}}$ on each

construct exceeds the correlations between that construct and other constructs except for the $\sqrt{\text{AVE}}$ on LIK which is slightly higher than its correlations with COM and TR as shown in Table 3. This indicates that the discriminant validity is supported in most parts of the measurement model.

Table 2 : Measurement Model Summary

Constructs	Item	Standardized Factor Loading	$\sqrt{\text{AVE}}$	Composite Reliability (CR)	Cronbach's α	
Facebook Features	COM01	0.74	0.65	0.78	0.81	
	COM02	0.63				
	COM03	0.61				
	COM04	0.57				
	COM05	0.65				
	LIK01	0.70	0.56	0.64		
	LIK02	0.58				
	LIK03	0.42				
	LIK04	0.51				
	SHA01	0.67	0.69	0.65		
	SHA04	0.72				
	VID01	0.87	0.77	0.81		
	VID03	0.69				
	VID04	0.75				
SS01	0.63	0.72			0.81	
Perceived Environment	SS02		0.82			
	SS03		0.61			
	SS04		0.80			
	SP01		0.99	0.84		0.82
	SP03		0.65			
	TR01		0.62	0.65		0.68
	TR02		0.55			
	TR03		0.77			
	Customer Experiences and Perceptions		PR01	0.61		0.60
		PR02	0.74			
PR03		0.61				
PR04		0.66				
PR05		0.51				
PR06		0.45				
PU01		1.00	0.72	0.75		
PU03	0.47					

	PU04	0.59			
Response	PI01	0.85	0.84	0.88	0.88
	PI03	0.81			
	PI04	0.85			

Goodness-of-fit indices:

$\chi^2 = 90.82$, d.f. = 60, GFI = .92, CFI = .95, NFI = .87, and RMSEA = .060.

COM: Comment, LIK: Like, SHA: Share, VID: Live Video, SS: Social Support, SP: Social Presence, TR: Trust, PR: Perceived Risk, PU: Perceived Usefulness, PI: Purchase Intention.

Table 3 : Descriptive Statistics

(n=146)

	Mean	SD	COM	LIK	SHA	VID	SS	SP	TR	PR	PU	PI
COM	3.17	0.94	.65									
LIK	3.34	0.89	.58**	.56								
SHA	3.25	1.22	.64**	.58**	.70							
VID	2.75	1.10	.50**	.37**	.31**	.77						
SS	2.99	1.02	.53**	.47**	.37**	.63**	.72					
SP	3.21	1.02	.61**	.47**	.43**	.37**	.41**	.84				
TR	2.74	0.90	.56**	.60**	.42**	.53**	.58**	.58**	.65			
PR	3.31	0.76	.26**	.26**	.19*	.15	.10	.14	.12	.61		
PU	3.16	0.87	.33**	.30**	.29**	.21*	.30**	.29**	.24**	.35**	.72	
PI	2.82	1.04	.26**	.35**	.26**	.35**	.39**	.20*	.26**	.06	.57**	.84

Note: **: Correlation is significant at the .01 level (2-tailed). *: Correlation is significant at the .05 level (2-tailed).

Bold elements are the square root of the average variance extracted ($\sqrt{\text{AVE}}$) for each construct. All items were measured by a 5-point scale (1 = strongly disagree, 5 = strongly agree).

COM: Comment, LIK: Like, SHA: Share, VID: Live Video, SS: Social Support, SP: Social Presence, TR: Trust, PR: Perceived Risk, PU: Perceived Usefulness, PI: Purchase Intention.

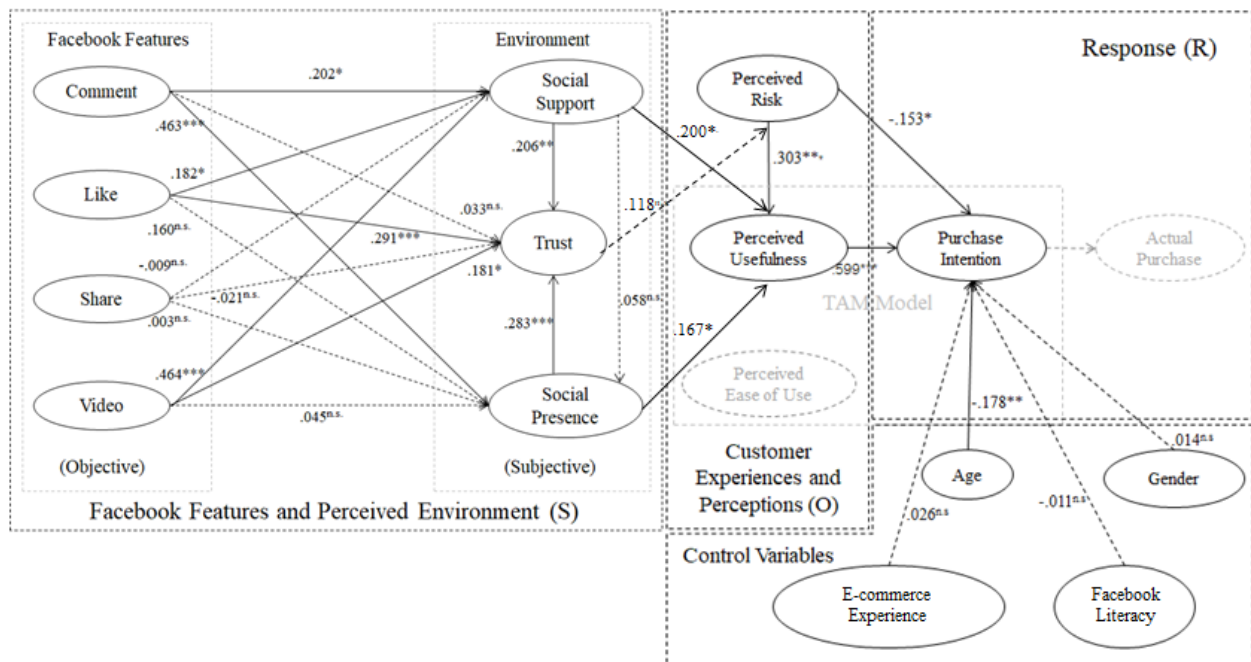
However, the lower $\sqrt{\text{AVE}}$ of LIK, in comparisons with its correlations on SHA and TR, indicates the lower degree of discriminant validity among these constructs. For LIK and SHA, as previously explained, it is obvious that these constructs are closely correlated with each other though it does not necessarily mean that these hold the same concept. Same for LIK and TR, these factors have been proven to have a close correlation to each other. According to Pavlou and Dimoka (2006), like can represent the degree of seller's reputation which reflects purchase experiences of other users, and with the number of likes, customers form trust in the sellers (Lu et al., 2016). Thus, customers who use likes

as the indicator to judge sellers on Facebook are more likely to eventually trust the sellers than people who do not really use likes (Suraworachet et al., 2012). Also, people usually like those who they have a close relationship with or interests in and trust such as their family, friends, or the contents on the pages and groups that they follow (Huang and Benyoucef, 2015).

Section 2. HYPOTHESES TESTING

After the measurement model validity and reliability have been examined, the hypotheses were tested. The fit indices of the model except NFI exceed the widely accepted thresholds, indicating that the measurement model and the data fit well to each other ($c2 = 90.82$, d.f. = 60, goodness-of-fit index [GFI]

Figure 2: Results of the conceptual model tests



Note: *: $p < 0.05$, **: $p < 0.01$, *** : $p < .001$; n.s. : nonsignificant at the .05 level.

Goodness-of-fit indices: $\chi^2 = 90.82$, d.f. = 60, comparative fit index (CFI) = .95, normed fit index (NFI) = .87, incremental fit index (IFI) = .95, root mean square error of approximation (RMSEA) = .060.

Solid arrows indicate significant paths at the $p < .05$ level. Dotted arrows indicate “nonsignificant” paths.

= .92, comparative fit index [CFI] = .95, normed fit index [NFI] = .87, and root mean square error of approximation [RMSEA] = .060). And as according to previous studies, differences in gender, age, and internet shopping experience among customers also have impacts on their behavioral intention in s-commerce (Zhang et al., 2014; Zhang et al., 2011), these were included as control variables influencing the purchase intention in F-commerce. In addition, since s-commerce in this case is specifically Facebook, Facebook literacy was also included as a control variable as the basic knowledge of how to use Facebook should directly influence purchase intention. The result is that "Age" has a negative relationship with PI ($\beta = -.178, P < .01$), while "Gender", "Facebook Literacy", and "E-commerce Experience" are all insignificant to PI.

The results of hypotheses testing are reported in Figure 2. As mentioned earlier that PE has been removed from the focus, H9a and H9b were not tested in this part. However, results for path analysis on the measurement model indicated strong support for H7b and H8 as PU is positive and significant to PI ($\beta = .599, P < .001$) and PR is negative and significant to PI ($\beta = -.153, P < .05$). Nevertheless, H7a is not supported even though PR is significant to PU, since it has a positive relationship with PU ($\beta = .303, P < .001$), while according to the hypothesis, it should have a negative relationship with PU. H6 is also not supported as TR is insignificant to PR. For H5b and H5a, both hypotheses are strongly supported as SP has a positive and significant relationship with both PU ($\beta = .167, P < .05$) and TR ($\beta = .283, P < .001$). H4c and H4b are also supported since SS is positive and significant with both PU ($\beta = .200, P < .05$) and TR ($\beta = .206, P < .01$), while H4a is not supported as SS is not significant to SP. H3 is partly supported, where H3b and H3d are supported since only LIK and VID have positive and significant coefficients with TR (LIK: $\beta = .291, P < .001$; VID: $\beta = .181, P < .05$), while COM and SHA have insignificant coefficients with TR. For H2, only H2a is supported since COM is positive and significant with SP ($\beta = .463, P < .001$), while the others are all insignificant. H1 is also so partly supported with H1a, H1b, H1d being supported except H1c. COM, LIK, and VID all have positive and significant relationship with SS (COM: $\beta = .202, P < .05$; LIK: $\beta = .182, P < .05$; VID: $\beta = .464, P < .001$), while SHA has an

insignificant relationship with SS. The percentage of variances explained by predicted variables (R^2) for purchase intention is 35.5%.

CHAPTER 7. DISCUSSION AND IMPLICATIONS

Section 1. DISCUSSION AND FINDINGS

In this study, after carefully examining the data collected from 146 Facebook users who are Thai or live in Thailand in order to determine the influences of the factors potentially impact the purchase intention in F-commerce, some interesting findings were discovered. Most of the technological features of Facebook influence the perceived environment of Facebook by users. Some aspects of this perceived environment then influence customer experiences and perceptions which eventually influence purchase intention on Facebook.

First, for the technological features and perceived environment as a stimulus, at least one Facebook feature significantly influences each aspect of Facebook environment perceived by users. Social support on Facebook is positively influenced by comments, likes, and live videos as hypothesized, while it is not significantly influenced by shares. The reason might be because Thai people usually share interesting contents rather than supporting or assisting contents, and thus these shares are not as supportive as estimated. This assumption is supported by the data from the samples on those questions regarding share feature. Average of the samples indicates that most respondents often see what other users share, but rarely share or forward what other users share to them. This might be because the respondents consider most of the contents shared on Facebook are not helpful or supportive enough to share with their Facebook friends or other users on Facebook. Even though according to the data from the samples, they sometimes share interesting contents, interesting and supportive are still different concepts.

For the effects of Facebook features on social presence, only the comment feature is significant with this dataset. Being the main tool used to communicate on Facebook, the positive influence of the use of comments on social presence is quite obvious as it should contain the highest traffic of

communication and interactions among all the other Facebook features. These communications and interactions are known to develop the sense of social presence in a social media environment (Lu et al., 2016; Kumar and Benbasat, 2006). However, in this case, it was assumed that likes and shares might not contain the sufficient traffic of communications and interactions to deliver the sense of human contact, sociability, and sensitivity which define social presence (Lu et al., 2016). For live video, this actually should be one of the top features in terms of the ability to deliver social presence as the video feature clearly simulates face-to-face human contact better than other Facebook features. Nevertheless, the reason for its insignificance on social presence might be because some users might feel that live videos are not as effective and efficient as comments in terms of the response interval and the degree of interactions from live video viewers which discourage the sense of social presence. On Facebook live videos, the viewers still express their ideas or ask questions through comments. However, users or sellers who broadcast the live videos are sometimes unable to read and react or reply to all the comments from the viewers since, unlike ordinary comment feature, the flow of comments in live videos is hasty as there are so many viewers watching at the same time, and the amount of comment is overload. This assumption is supported by the data from the samples regarding the degree that the respondents enjoy the live videos on Facebook. Based on the average, most of the respondents do not enjoy live videos on Facebook, and this might be because some of them may consider it to be a feature that usually facilitates only one-way interaction.

Trust is also positively influenced by some Facebook features such as like and live video, while it is not significantly influenced by comment and share. Like feature has the strongest positive influence on trust among all other features, and this is obvious as likes can reflect seller's reputation based on purchase experiences of other users (Pavlou and Dimoka, 2006), and thus the number of likes can build a sense of trust from customers on the sellers (Lu et al., 2016). Based on this fact, customers who see what other customers like and accordingly judge the sellers from those likes, are more likely to eventually trust the sellers than people who do not really use likes (Suraworachet et al., 2012). Also, live videos

positively influence trust even though with the lower degree than that of like feature. This supports suggested hypothesis as live videos could help customers to confirm the identity, attitudes, benevolence, and integrity of the sellers (Lu et al., 2016) which eventually lead to their sense of trust on the sellers. Nonetheless, effects of comments and shares on trust seem to heavily depend on the contents of those comments and shares perceived by users. Similar to likes, comments also represent the reputation of the sellers which reflects purchase experiences of the other users (Pavlou and Dimoka, 2006). However, likes and comments are distinguished by the fact that likes only represent positive attitudes of customers toward the sellers, while comments can represent both positive and negative attitudes of customers toward the sellers based on the contents of those comments. The same logic is also applied to shares. Negative contents on comments and shares are likely to discourage trust from the users on the sellers. This might be the reason why the measure indicates that users who use more comments and shares do not always have to trust the community more than those who barely use these features.

Second, for the customer perceived environment as a stimulus which is influenced by technological features, social support, and social presence have a significant positive influence on perceived usefulness, whereas trust does have any significant influence on perceived risk. And as mentioned earlier, perceived ease of use is not a unique and valid construct to determine purchase intention in this case thus the effects of customer perceived environment on it will not be discussed in this part. For social support, the coefficients show that it positively correlates with trust but not significantly correlates with social presence. Nevertheless, it significantly influences perceived usefulness as supported in the hypothesis. Social presence also positively correlates with trust and positively influences perceived usefulness as estimated. However, trust has no significant influence on perceived risk. This is unexpected since trust should represent reliability of the sellers which reflect risks on the transactions perceived by customers. For customers with low trust in the community, it is obvious that they are highly likely to perceive high risk on the transactions on Facebook where any user can be a seller. On the other hand, customers with higher trust in the community are likely to perceive less risk

than those with lower trust. However, if the perceived risks attached with the transactions on Facebook is very high which, in fact, considerably high according to the average of data from the survey, some customers might still perceive the high risks in dealing with the sellers. Thus, the matter of risk is quite subjective on the users, and this could be the reason that trust is not significant to perceived risk in this case.

Last but not least, for the customer experiences and perceptions, both perceived risk and perceived usefulness from customers on Facebook significantly influence the customers' purchase intention on Facebook as predicted. However, since perceived ease of use is not valid as a unique construct influencing purchase intention, it will not be discussed in this part. For perceived risk, even though it negatively influence purchase intention as hypothesized, it appears to have a positive correlation with perceived usefulness which is opposite to and against the hypothesis. Nevertheless, being a correlation, the positive coefficient does not necessarily indicate that perceived risk positively influence perceived usefulness, which seems to be illogical in the sense. Instead, it could indicate that those users who perceive the degree of risks in F-commerce to be high might still perceive the degree of usefulness in F-commerce to be sufficiently high because of other factors such as the sense of social support and social presence, while those users who perceive the degree of risks in Facebook to be relatively low might still perceive F-commerce to be useless for other reasons which weight more than risks. One possible explanation of this is that users who perceive high risks are those who are current customers in F-commerce and even though might have some bad experiences on F-commerce, they perceive F-commerce to be useful, and this is the reason they decide to use it since the beginning. In contrast, users who perceive low risks are those who never used F-commerce because they consider it to be useless even with low risks, and thus never had bad experiences on F-commerce which directly lead to the perception of risks. This assumption is also supported according to the average of the data on each question or item regarding perceived risk which shows that the respondents who never shopped on Facebook perceive lower risks relative to those who have ever shopped on Facebook on every aspect

investigated by various questions about perceived risk in the survey. Also, the average of the data on every question or item regarding perceived usefulness shows that those who never shopped on Facebook perceive a significantly lower degree of usefulness than those who have ever shopped on Facebook before.

Nevertheless, purchase intention is negatively influenced by perceived risk and positively influenced by perceived usefulness as hypothesized in this research. Thus, it can be concluded that, in F-commerce, actual purchase, which was widely proved to be influenced by purchase intention (Venkatesh and Davis, 2000), is influenced by some elements in the customer perceived environment which are reflected through most of the Facebook features and mediated by some aspects of the customer experiences and perceptions on Facebook.

Section 2. THEORETICAL IMPLICATIONS

This study contributes to various aspects of the research regarding Facebook commerce. First, it sheds more light on the existing literature about F-commerce in Thailand. Although the opportunities arising from increasing popularity of F-commerce in Thailand are obvious, there is barely comprehensive empirical study regarding the effects of Facebook features, environment, and experiences on customer's behavioral intention to purchase on Facebook. Some previous studies focused on investigating F-commerce business requirements (Curty, 2011; Constantinides and Fountain, 2008; Liang et al., 2014) and the marketing needs (Parise and Guinan, 2008; Constantinides and Fountain, 2008) without considering the attitudes, preferences, and behaviors of customers in F-commerce, while others chose to focus only on some specific aspects influencing purchase intention on Facebook such as trust, risk, and features but not altogether. Therefore, this research gives a broader and deeper insight into how the Facebook features affect customer perceived environment which eventually affects customer experiences and perceptions that leads to purchase intention and actual purchase on Facebook.

Second, this study adapted and combined the S-O-R model and the Technology Acceptance

Model (TAM) together to form a more comprehensive model that covers more and wider internal aspects influencing consumer behavior on Facebook as an s-commerce site. Despite the previous application of both the S-O-R model (Zhang et al., 2014) and the TAM (Liébana-Cabanillas and Alonso-Dos-Santos; Wahlberg, 2015) on researches about s-commerce, both theories have never been combined together to develop a new model used to explain consumer behavior in s-commerce. Thus, this study provides a more comprehensive validated model regarding factors influencing customer's behavioral intention to purchase on Facebook based on the combination of the S-O-R model and the TAM.

Third, this study shows that even though trust was proved to be able to reduce perceived risks related with trade and commerce according to previous studies (Wahlberg, 2015; Blau, 1964), a trustworthy environment or trust in Facebook as an online community is not able to completely reflect the risks perceived by customers regarding the transactions with sellers. In other words, Facebook users who trust in Facebook as a reliable application and community do not always have to trust the sellers on the Facebook. To sum up, this research discovered that trust in an online community is not necessarily transferable to the sellers on that community especially when that community is highly risky in nature, and thus trust in an online community does not necessarily correlate with trust in the sellers in that community.

Finally, with this study, it can be concluded that social support and social presence are the keys for an s-commerce site to become successful as these aspects reflect perceived usefulness which in turn significantly influence purchase intention on Facebook. Even though previous literature pointed out that trust also play a big role on the purchase intention in s-commerce, this research, as it covers all the elements affecting the purchase intention in s-commerce setting according to previous literature, proves that environment of trust perceived by Facebook users is not always sufficient for them to get them into a transaction with a seller, and that social support and social presence could have stronger impacts on their decisions to purchase from the sellers on Facebook. This result could probably be applied to other s-commerce sites also.

Section 3. PRACTICAL IMPLICATIONS

The results of this research also contribute to a number of practical implications. First, it guides Facebook and probably other s-commerce providers regarding the effectiveness of their technological features on customer purchase intention in order for them to become a better and successful s-commerce site. For example, this study discovered that one of the reasons customers perceive that Facebook live video is incapable of delivering the sense of social presence is possibly because even though it improves the effectiveness of communications and interactions, it facilitates only the broadcasters to convey their messages more easily, but not the viewers. Thus, Facebook should consider an add-on function that gives viewers an option to directly request live chats with the sellers. In addition, it was found that share feature is incapable of conveying any sense of the environment that is influential to customer purchase intention as it might be too similar to those traditional ways of e-commerce advertisements such as e-mail advertisement. Hence, this study also helps current and potential sellers on Facebook or other similar s-commerce sites to understand more about the behaviors of the customers they deal with. As in Thailand, Facebook has recently become the online shopping channel with the highest traffic of e-commerce activities and the highest total value of transactions per year (Asavavipas, 2018), every Thai retailer should pay attention to the implications of a shift from e-commerce to s-commerce in order to utilize the power of F-commerce to its full potential.

Second, this research also pointed out that risks perceived by the customers in Facebook are the weakness of F-commerce which is needed to be addressed as it directly restrains customers from purchasing through Facebook. Also, this study proves that these kinds of risks regarding Facebook transaction could not be completely overcome by trust in the Facebook community. Thus, this research suggests that Facebook should initiate a policy to deal directly with the risks regarding commerce and trading on Facebook. For example, Facebook might set up a policy to require every Facebook seller to expose their basic information to customers to reduce uncertainties on sellers perceived by customers. This could reduce transaction risks perceived by customers since risks are reflected by surrounding

uncertainties (Wahlberg, 2015).

Last but not least, this research can be applied as a guideline for online businesses especially in Thailand to set their future directions in accordance with changing customer behaviors. As social media has already transformed the way relationships are built nowadays (Zhang et al., 2014), traditional ways of interactions between businesses and customers have also changed from being product-centered to become more social-centered and consumer-driven (Li and Ku, 2018). According to Liang et al. (2014), while social networking sites such as Facebook have been adopting commercial functions into their sites, many e-commerce websites also have been applying Web 2.0 technology to better interact and get in touch with their customers to boost sales since a lack of human and social presence is known to be one of the major weaknesses which hinder the growth of e-commerce (Lu et al., 2016). Thus, with this research, s-commerce sites including Facebook can choose to focus on improving their functions which are significant in terms of commerce to better serve the customers. On the other hand, e-commerce sites can also apply social elements which are proved to influence customer purchase intention in s-commerce to simulate the sense of social presence and human contact which is similar to that in the traditional offline commerce and useful for customers. To sum up, this study helps online retailers especially in Thailand to better focus on those significant elements of s-commerce and unleash the potentials of Web 2.0-based applications in online commerce in order for them to become successful and for customers to have better shopping experiences and better lives.

Section 4. LIMITATIONS AND FUTURE RESEARCH

Before generalizing the results of this research, some limitations must be taken into consideration. First, this research focuses only on internal factors of Facebook which impact customer purchase intention in Facebook as an s-commerce site. However, there are probably other external factors affecting customers' decisions to purchase on Facebook regarding the comparisons with other s-commerce, e-commerce, or even traditional offline commerce channels which are not covered in this

research. However, even for the future further research, it is almost impossible to include these external factors altogether because of the complexity in the nature of the context. Also, the broader the concept, the higher the chance the study will be inaccurate and out of focus.

Second, the samples of this research are only those who are currently Facebook members, and thus potential customers who are not yet a member of Facebook have not been taken into account in this case since the basic knowledge of Facebook is needed in order to answer the questions in the survey. This also leads to an asymmetric distribution of ages in the samples as according to Pongvitayapanu (2017), almost 70% of Facebook users in Thailand are 18-34 years old, and 60% of the samples are in their 20s. However, even at a low possibility, it is possible for older people who are not current Facebook users to become Facebook users and customers in the future, and this fact could not be ignored. Hence, it will be beneficial for future research if potential Facebook users are also surveyed.

Last but not least, since this research focuses only on F-commerce in Thailand, there is a limitation for this research to be applied in F-commerce and s-commerce contexts in other countries or regions. According to See-Pui Ng (2012a, 2012b), culture has an impact on the success of s-commerce, and East Asian people have higher tendency to adopt s-commerce than Latin American people for example. Thus, further research could also focus on how Thai culture plays a role in F-commerce or s-commerce relative to other cultures in detail.

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APPENDIX

Questionnaire Items

Construct		Item	Sources
Comment	COM01*	I comment on Facebook to express my ideas.	New Items
	COM02*	I comment on Facebook to ask questions.	"
	COM03*	I comment on Facebook to reply others.	"
	COM04*	I read comments of others on Facebook.	"
	COM05*	Comment feature in Facebook is useful to me.	"
Like	LIK01*	I press "Like" button to express what I like.	"
	LIK02*	I see what other people "Like".	"
	LIK03*	Other people's "Likes" affect my decision to press "Like".	"
	LIK04*	"Like" button is useful to me.	"
Share	SHA01*	I share interesting stuff on Facebook.	"
	SHA02	I see what others share on Facebook.	"
	SHA03	I share what other people share on Facebook.	"
	SHA04*	"Share" feature is useful to me.	"
Live Video	VID01*	I watch live video on Facebook.	"
	VID02	I enjoy live video on Facebook.	"
	VID03*	I watch live video that my friends watch on Facebook.	"
	VID04*	Live video feature is useful to me.	"
Social Support	SS01*	When I encounter a problem, some people on Facebook give me information to help me overcome the problem.	Adapted from Li and Ku (2018).
	SS02*	On Facebook, some people offer suggestions when I need help.	"
	SS03*	When I am faced with a difficulty, some people on Facebook are on my side.	"
	SS04*	When I am faced with a difficulty, some people on Facebook comfort and encourage me.	"
Social Presence	SP01*	There is a sense of human contact in Facebook.	Adapted from Lu et al. (2016).
	SP02	There is a sense of sociability in Facebook.	"
	SP03*	There is a sense of human sensitivity in Facebook.	"
Trust	TR01*	Members in Facebook will always keep the promises they make to one another.	Adapted from Chen and Shen (2015).
	TR02*	Members in Facebook are truthful in dealing with one another.	"
	TR03*	Facebook is a reliable social networking site.	"
Perceived Risk	PR01*	Facebook commerce is not safe.	Adapted from Leeraphong and Mardjo (2013).
	PR02*	I feel like I would be cheated by sellers from Facebook.	"
	PR03*	Buying from Facebook, it is likely that I would lose money without	"

		receiving goods.	
	PR04*	Buying products from Facebook is risky.	"
	PR05*	I am worried that I will receive fake or bootleg products from Facebook sellers.	"
	PR06*	It is likely that products being bought from Facebook are not as good as expected.	"
	PR07	Online credit card payment is safer than direct transfer or face-to-face payment.	"
Perceived Usefulness	PU01*	Facebook is usable for searching for, and buying, goods or services.	Adapted from Wahlberg (2015).
	PU02	Facebook makes me more efficient when I am searching for, and buying, goods or services.	"
	PU03*	Facebook provides me with the opportunity to quicker find what I am looking for.	"
	PU04*	Facebook is usable for finding inspiration for purchases.	"
Perceived Ease of Use	PE01	It is easy to become proficient in using Facebook for purchasing.	"
	PE02	It is easy to learn how to use Facebook for purchasing.	"
	PE03	Facebook is easy to use.	"
Purchase Intention	PI01*	I am likely to purchase products/services on Facebook.	Adapted from Kim and Park (2013).
	PI02	Given the opportunity, I would consider purchasing products on Facebook in the near future.	"
	PI03*	It is likely that I will actually purchase products on Facebook in the near future.	"
	PI04*	Given the opportunity, I intend to purchase products on Facebook.	"

Note: *: Item applied in the hypotheses testing

COM: Comment, LIK: Like, SHA: Share, VID: Live Video, SS: Social Support, SP: Social Presence, TR: Trust, PR: Perceived Risk, PU: Perceived Usefulness, PI: Purchase Intention.