

IMPACTS OF SOCIAL MEDIA'S REPUTATION, SECURITY, PRIVACY AND INFORMATION QUALITY ON THAI YOUNG ADULTS' PURCHASE INTENTION TOWARDS FACEBOOK COMMERCE

Anny Mardjo

Department of Management Information Technology
Faculty of Commerce and Management, Prince of Songkla University,
Trang Campus 102 Moo 6, Muang District, Trang, Thailand
anny.m@psu.ac.th

Abstract

The competitiveness in online business and the popularity of social media are motivating the usage of social media as a commerce platform. But, unlike electronic commerce website, online marketers are unable to alter the designs and features of the social media. They depend on the provided features to encourage purchase intention. Prior researches regarding these features in social commerce are limited, and, therefore, they are notable aspects which must be explored in-depth. This research focused on the influences these features (reputation, information quality, privacy protection, and security) have on purchase intention using Facebook for online transactions. Data from 455 users who had purchased products through Facebook were analyzed using Partial Least Squares Structural Equation Modelling. The results revealed the significant influences exerted by reputation, information quality, and perceived security protection on purchase intention through performance expectancy and trust in social media. Both reputation and information quality have positive correlations with performance expectancy and trust. Perceived security protection has significant effect on trust. Perceived privacy protection has its effect on perceived risk. However, since perceived risk doesn't have any influence on purchase intention, perceived privacy protection is an unimportant feature for purchase intention. Finally, managerial implications and future studies are discussed.

Keywords: reputation, security, privacy, information quality,
Facebook, social commerce.

Introduction

As the second largest e-commerce market in Southeast Asia, Thailand's e-commerce market was reported to be US\$3,540 million in 2018, with an expected annual revenue growth rate of 13.2%, and forecasted to be US\$5,830 million in 2022 (Anbalagan, 2018). The driving factors include increased Internet and mobile phone use; improved logistics and e-payment systems; better quality and reliability of online shopping services; and higher acceptance of e-commerce in the country (U.S. Department of Commerce, 2017). 92% of online shoppers in Thailand used Facebook to find and research new products before making purchases while 51% of online consumers in Thailand have purchased via social media, making Thailand as the leader of social commerce in the world (U.S. Department of Commerce, 2017).

Yadav, de Valck, Hennig-Thurau, Hoffman, and Spann (2013, p. 312) defines social commerce (s-commerce) as the "exchange-related activities that occur in, or are influenced by, an individual's social network in computer-mediated social environments, where the activities correspond to the need recognition, pre-purchase, purchase, and post-purchase stages of a focal exchange". S-commerce and purchase intention have been studied particularly extensively (Chen & Shen, 2015; Kim & Park, 2013; Ng, 2013; Zhang, Lu, Gupta & Zhao, 2014) and been conducted in various locations such as the UK (Hajli, 2015), China (Chen & Shen, 2015), Taiwan, the USA (Ng, 2013) and Thailand (Mardjo, 2018).

S-commerce environment is based on the concept of using online social media, such as YouTube, Instagram and Facebook. Different from electronic commerce (e-commerce) website, online marketers on social media websites are unable to modify website design or features to encourage purchase intention. As given, the success of s-commerce depends on the features provided by social media and it is important to understand how these features influence an individual's intention to use social media for s-commerce.

With 46 million users in Thailand, Facebook is the most popular social media in Thailand. The majority of its users (14.8 millions) aged between 18-24 years old (We Are Social, 2017). For these reasons, this study focused on four features of Facebook, namely, reputation, information quality, security and privacy protection on young adults aged between 18-24 years old. In accordance with the above, this study 1) identifies the reputation, information quality, perceived privacy protection and perceived security 2) investigates the relationships among reputation, perceived privacy protection, perceived security and purchase intention in s-commerce.

Theoretical background and research model

Facebook commerce (F-commerce) in Thailand

Thai small and medium-sized enterprises (SMEs) are the leaders in F-commerce,

which is helping the growth of Thai economy. 98% of all businesses in Thailand are SMEs with as many as 70% of the national workforce employed by SMEs while about 40% of GDP is generated by SMEs (Boonruang, 2018). There are about 2.5 million Thai SME pages on Facebook, with around 40 million people inside of Thailand and 100 million people outside of Thailand are connected to Thai SME pages (Pornwasin, 2018). F-commerce in Thailand developed primarily due to several factors. First, low penetration of credit cards and Thais' preference on cash which deterred them to do normal online website transactions that require online/ credit card payments. Second, Facebook offers a low-cost alternative for SMEs to sell online. Rather than spending money and efforts for building a website, SMEs can create a Facebook page or join a Facebook Group. Third, instead of purchasing from anonymous merchant in the website, consumers can purchase from their social network or credible businesses based on their social network comments and likes. Thus, providing the customers with the trust belief. F-commerce in Thailand generates above 40% of online sales in categories such as phones and accessories; restaurant dining and fast food; phones and accessories, fresh and perishable products; and household and furnishings (as cited in Bharadwaj, 2017). In general, Facebook is used as a media to engage prospective customers, which subsequently encourages customers to perform commerce transaction. Although the posts from Thai commercial pages only reach on average just 4% of the audience that has 'liked' the page; Thailand has the second-highest Facebook post

engagement rate in the world (6.99%), making Facebook important for businesses (Lexicon, 2018).

The conceptual model for this study was designed based on the previous study done by Mardjo (2018), which used integrated extended Unified Theory of Acceptance and Use of Technology (UTAUT2), trust in Facebook and perceived risk to explain Thai consumers behavior towards Facebook commerce (F-commerce). That study found that performance expectancy, trust in Facebook as s-commerce platform and perceived risk have significant influences on purchase intention. That study referred to performance expectancy as the degree to which the Facebook aids the completion of purchasing products; trust in Facebook as individual's perception of Facebook as a trusted entity; and perceived risk as the degree of consumer's belief regarding the possible negative consequences from the online transaction. Following that study, I postulated that:

H1A-B: Performance Expectancy (PE) and Trust in Facebook have positive effects on purchase intention (PI) to buy products through Facebook.

H1C: Perceived Risk (PR) has a negative effect on purchase intention (PI) to buy products through Facebook.

Reputation

Reputation of social media is defined as the degree of belief that a consumer has regarding social media's honesty and renown (Zha, Yang, Yan, Liu, & Huang, 2018). Past study have confirmed its relationship on initial trust as the lack of direct experience makes first time users

to rely on second-hand information such as reputation to form their trust (Zhou, 2012a). In the context of s-commerce, social media's reputation is positively related to trust in s-commerce (Kim & Park, 2013).

In this study, positive reputation refers to the degree of honesty and renown in which consumers regard Facebook as a social media which facilitates f-commerce. Offline, reputable companies are more likely to be considered by consumers as being capable, honest and having consumers' best interest while doing transactions (Keh & Xie, 2009). Similarly, as Facebook being one of the most reputable social media, its reputation were expected to increase users' trust in Facebook and online marketers that use Facebook as an s-commerce platform were expected to gain instant credibility from their association with Facebook. As the result, the consumers were expected to perceive less risk and higher performance expectancy in purchasing products through Facebook. In sum, I proposed in next hypotheses that:

H2A-C: Reputation (REP) has positive effects on performance expectancy (PE), trust in Facebook (TR) and negative effect on perceived risk (PR) to purchase products through Facebook.

Perceived privacy protection

Kim et al. (2008) referred to perceived privacy protection as the extent to which consumers perceive e-vendor's ability to protect consumer's personal information

gathered during online transactions from unlawful disclosure or use. Higher perceived privacy protection has a positive influence on trust and negative influence on perceived risk (Kim et al., 2008), and increases behavioral intention (Liao, Liu, & Chen, 2011). This study refers to perceived privacy protection as a consumer's perception of the degree to which Facebook has the ability to protect the consumer's personal information collected during online transactions from unauthorized disclosure or use. If the consumers were confident with Facebook's ability to protect their personal information, they were expected to have more trust on Facebook, perceive less risk and higher performance expectancy on conducting transaction through Facebook. Hence, I proposed that:

H3A-C: Perceived Privacy Protection (PPP) has positive effects on performance expectancy (PE), trust in Facebook (TR) and negative effect on perceived risk (PR) to purchase products through Facebook.

Perceived security protection

Kim et al. (2008) referred to perceived security protection as the extent to which consumers perceive an e-vendor will be able to fulfill security requirements (i.e. authentication, integrity, encryption, and non-repudiation, SSL technology etc.). It is associated with a perception that transaction will be conducted securely; therefore, good perceived security protection has been positively related to a system's usefulness (Lallmahamood,

2007); higher consumers' trust and lower perceived risk (Kim et al., 2008).

Perceived Security Protection is referred in this study as a consumer's perception that Facebook will fulfill security requirements such as authentication, integrity, encryption, and non-repudiation. It was expected that when a consumer found security features and protection mechanisms in Facebook, he or she could acknowledge Facebook's intention to fulfill the security requirements and effort to create a secure environment for online activities and, therefore, he or she was expected to have higher trust, performance expectancy and perceive less risk on conducting transaction through Facebook.

H4A-C: Perceived Security Protection (PSP) has positive effects on performance expectancy (PE), trust in Facebook (TR) and negative effect on perceived risk (PR) to purchase products through Facebook.

Information quality

Information quality reflects the user's perception regarding website's content as being relevant, sufficient, accurate, and up-to-date (Zhou, 2012b). Sufficient and

accurate information will facilitate buyers' understanding of the products and improve buyers' purchase decisions (Yang, Cai, Zhou, & Zhou, 2005). Past research has confirmed the important role of information quality in trust (Kim et al., 2008; Kim & Park, 2013) and perceived usefulness (Cheong & Park, 2005; Lin, 2007).

This study refers to information quality as the customer's perception of the quality of information presented on Facebook. High-quality information enables users to obtain useful information that helps improve understanding of the domain (Zheng, Zhao, and Stylianou, 2013), which results in higher trust and performance expectancy preceding the purchase intention. Although Kim et al. (2009) did not find the relationship between information quality and perceived risk, I assumed that better understanding of the domain gained from higher information quality would reduce the perceived risk. Thus, the next hypotheses are as follows:

H5A-C: Information Quality (IQ) has positive effects on performance expectancy (PE), trust in Facebook (TR) and negative effect on perceived risk (PR) to purchase products through Facebook.

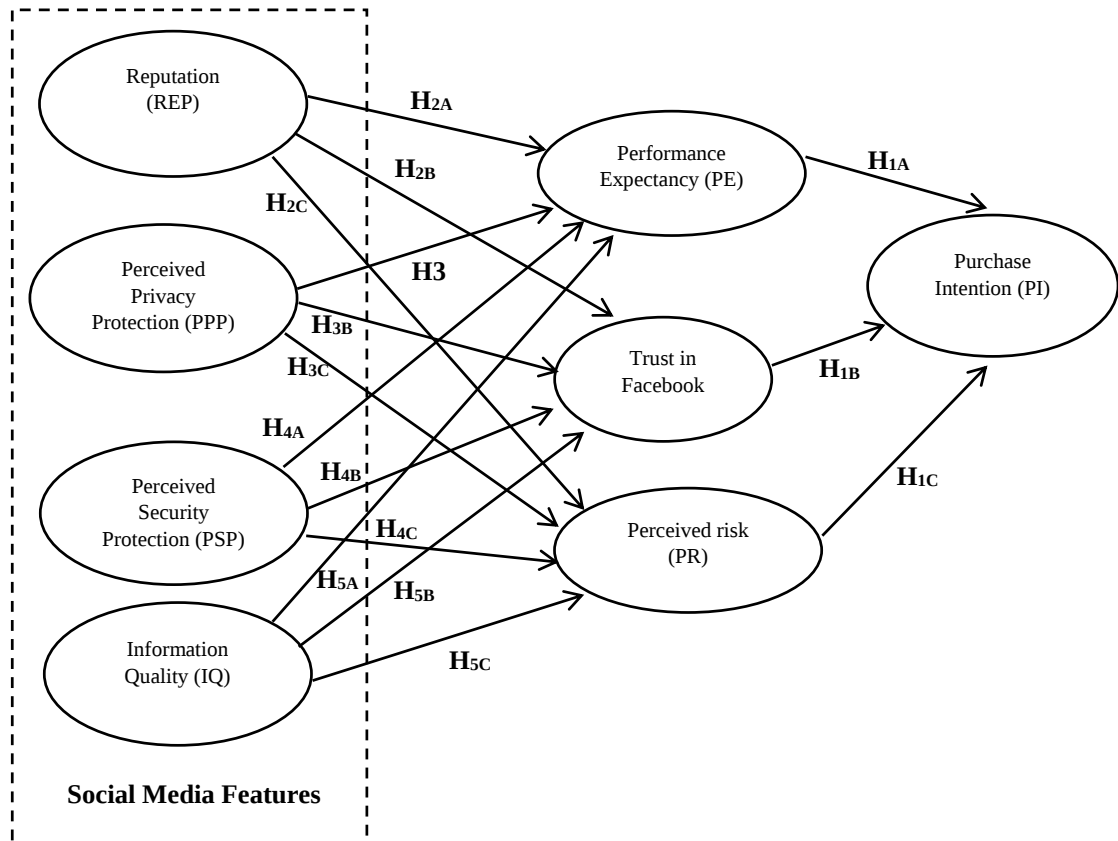


Figure 1 Conceptual framework

Research methodology

Measurement

The items for all the constructs are collected from past literature and included in Appendix A, namely: positive reputation (REP) adapted from Jarvenpaa et al (2000), Moorman, Deshpande, & Zaltman (1993) and Gefen (2000); perceived privacy protection (PPP) from Kim et al. (2008); perceived security protection (PSP) from Gefen (2000) and Kim et al. (2008); information quality from Doll & Torkzadeh (1988) ; performance

expectancy from Venkatesh et al. (2012); trust and behavior intention from Gefen (2000) and Jarvenpaa et al (2000); and perceived risk from Jarvenpaa et al (2000) and Kohli (1989).

To test the hypothesized relationships in the proposed research model, a questionnaire was developed. A five-point quantitative scale was used to measure all the items, where 1 was 'strongly disagree', and 5 was 'strongly agree'. Its content validity was reviewed by language experts from a university. Since the questionnaire was conducted in Thailand, the English version of the

instrument was translated into Thai language. Then, it was reverse translated into English to confirm translation equivalence.

Sample and procedure

After eliminating outliers and incomplete responses, four hundred and fifty five (455) sets of responses were collected. A network and quota sampling technique was used to collect data. Undergraduate students recruited survey participants from their social networks, with survey distribution through Facebook

messenger. The survey was created online using Google Docs. The sample was taken solely from people who had previously purchased products through Facebook, and were aged between 18 to 24 years old since this age group represents the biggest percentage of Facebook users in Thailand. The sample size is considered appropriate using G*Power 3.1.9.2 software (Faul, Erdfelder, Buchner & Lang, 2009) with an effect size of 0.15, a confidence interval of 0.05, and a confidence power of 0.95, as the required minimum sample size is 146. Sample characteristics are presented in Table 1.

Table 1 Profile of respondents in this survey

Characteristics	Number (persons)	Percentage
Gender		
• Male	166	36.5
• Female	289	63.5
Marital status		
• Single	359	78.9
• Married without children	55	12.1
• Married with children	41	9
Educational level		
• High school (M4-M5)	65	14.3
• College/Vocational school or equivalent	76	16.7
• Bachelor degree	304	66.8
• Master degree or higher	8	1.8
Occupation		
• Government officer	39	12.6
• Staff/Management in private company	59	18
• Business owner	66	22.7
• Student	284	44.7
• Others	4	1.4
Personal income (Baht / month)		
• Not more than 15,000 baht	194	39.3

• 15,001-25,000 baht	211	42.7
• 25,001-35,000 baht	71	14.4
• 35,001-45,000 baht	10	2
• More than 45,001 baht	3	0.6
Region of Thailand		
• Southern Thailand	179	39.3
• Northeastern Thailand	34	7.5
• Central Thailand	47	10.3
• Northern Thailand	195	42.9

Data analysis and results

Following the suggestion of Hair, Hult, Ringle & Sarstedt (2017), Partial Least Square Structural Equation Modeling (PLS-SEM) was used instead of covariance-based SEM (CB-SEM) as this study was for prediction of key constructs in an extended theory, and not a theory confirmation. SmartPLS 3.2.6 (Ringle, Wende, Becker, 2015) software was used to perform PLS-SEM.

Measurement model assessment

The measurement model was examined using internal reliability and convergent and discriminant validity (Hair et al., 2017). Internal reliability was measured with three indices: Factor Loadings, Cronbach's Alpha values, and Composite Reliability, as shown in Table

2. The measurement items had outer loadings ranging from 0.716 to 0.908, higher than 0.7082, which indicates the latent variable's ability to explain at least 50% of each indicator's variance. The composite reliability for the constructs ranged from 0.829 to 0.925, which were well above the required minimum level of 0.60 to reach a satisfactory composite reliability in exploratory research (Bagozzi and Yi, 1988) and below the 0.95 level (Hair et al., 2017). Other than PE, Cronbach's alpha value of the constructs ranged from 0.729 to 0.899, exceeding 0.7 which is the commonly accepted cut-off value (Nunnally, 1978). However, PLS-SEM has been known to underestimate Cronbach's alpha as it calculates the indicators according to their individual outer loadings instead of using equal outer loadings of the construct. As given, AVE and composite reliability values should be relied more for internal reliability analysis in PLS-SEM (Hair et al. (2017).

Table 2 Reliability analysis

Construct	Items	Loading	Cronbach's Alpha	CR	AVE
REP	REP1	0.774	0.785	0.86	0.607
	REP2	0.824			
	REP3	0.772			
	REP4	0.743			
PPP	PPP1	0.796	0.899	0.925	0.713
	PPP2	0.893			
	PPP3	0.873			
	PPP4	0.843			
	PPP5	0.812			
PSP	PSP1	0.807	0.722	0.844	0.644
	PSP2	0.833			
	PSP3	0.766			
IQ	IQ1	0.722	0.767	0.852	0.590
	IQ2	0.716			
	IQ3	0.813			
	IQ4	0.816			
PE	PE1	0.831	0.69	0.829	0.618
	PE2	0.783			
	PE3	0.743			
TR	TR1	0.797	0.743	0.854	0.661
	TR2	0.866			
	TR3	0.773			
PR	PR1	0.894	0.769	0.897	0.812
	PR2	0.908			
PI	PI1	0.856	0.762	0.863	0.678
	PI2	0.759			
	PI3	0.852			

Both convergent validity and discriminant validity were used to assess constructs' validity. Convergent validity is measured by the Average Variance Extracted (AVE). The AVE for the latent constructs ranged from 0.590 to 0.812, above the acceptable value of 0.50 (Bagozzi and Yi, 1988), which indicates

high levels of convergent validity. Discriminant validity was measured by Fornell and Larcker's (1981) approach, cross loading examination and the Heterotrait-Monotrait ratio of correlations (HTMT) criteria. Table 3 clearly shows that discriminant validity was met since the square roots of all the

constructs are higher than the corresponding latent variable correlations. Studying the cross loading in Table 4, the indicator's loading to its latent construct is much larger than that of other constructs. Table 5 shows all of

the HTMT ratios of correlation of the construct are below the acceptable value of 0.90 (Henseler, Ringle, & Sarstedt, 2015). On the basis of the above, the constructs have both reliability and validity.

Table 3 Discriminant validity assessment

	REP	PPP	PSP	IQ	PE	TR	PR	PI
REP	0.779							
PPP	-0.027	0.844						
PSP	0.308	0.406	0.802					
IQ	0.478	0.225	0.603	0.768				
PE	0.191	0.039	0.164	0.215	0.786			
TR	0.486	0.151	0.586	0.609	0.256	0.813		
PR	-0.124	-0.58	-0.349	-0.266	-0.135	-0.261	0.901	
PI	0.527	-0.046	0.439	0.531	0.255	0.595	-0.215	0.824

Table 4 Cross loading

	REP	IQ	PPP	PSP	PE	TR	PR	BI_
REP1	0.774	-0.045	0.173	0.396	0.167	0.376	-0.033	0.413
REP2	0.824	-0.03	0.146	0.359	0.152	0.322	-0.081	0.380
REP3	0.772	0.061	0.331	0.371	0.135	0.433	-0.244	0.389
REP4	0.743	-0.094	0.28	0.359	0.142	0.361	0.017	0.462
PPP1	0.041	0.796	0.381	0.268	0.045	0.230	-0.449	0.002
PPP2	-0.006	0.893	0.337	0.231	0.056	0.110	-0.497	-0.074
PPP3	-0.046	0.873	0.302	0.190	0.033	0.095	-0.495	-0.061
PPP4	0.018	0.843	0.315	0.146	-0.03	0.064	-0.500	-0.039
PPP5	-0.113	0.812	0.376	0.119	0.059	0.137	-0.505	-0.021
PSP1	0.219	0.395	0.807	0.412	0.105	0.448	-0.303	0.321
PSP2	0.205	0.425	0.833	0.509	0.123	0.439	-0.355	0.280
PSP3	0.315	0.158	0.766	0.529	0.165	0.522	-0.181	0.455
IQ1	0.454	0.072	0.346	0.722	0.175	0.433	-0.158	0.416
IQ2	0.276	0.281	0.395	0.716	0.154	0.411	-0.267	0.313

IQ3	0.341	0.205	0.531	0.813	0.118	0.462	-0.211	0.392
IQ4	0.398	0.141	0.561	0.816	0.207	0.552	-0.185	0.496
PE1	0.187	0.021	0.126	0.212	0.831	0.232	-0.119	0.180
PE2	0.160	0.043	0.111	0.141	0.783	0.171	-0.110	0.203
PE3	0.100	0.03	0.149	0.151	0.743	0.199	-0.087	0.221
TR1	0.552	-0.062	0.371	0.445	0.230	0.797	-0.149	0.547
TR2	0.359	0.265	0.594	0.569	0.185	0.866	-0.288	0.467
TR3	0.255	0.172	0.463	0.470	0.212	0.773	-0.197	0.430
PR1	-0.117	-0.514	-0.266	-0.211	-0.152	-0.203	0.894	-0.179
PR2	-0.107	-0.531	-0.36	-0.266	-0.093	-0.265	0.908	-0.208
PI1	0.430	-0.101	0.376	0.447	0.237	0.512	-0.144	0.856
PI2	0.398	0.127	0.386	0.356	0.167	0.426	-0.294	0.759
PI3	0.471	-0.115	0.329	0.500	0.223	0.525	-0.114	0.852

Table 5 Heterotrait-monotrait ratio (HTMT)

	REP	PPP	PSP	IQ	PE	TR	PR	PI
REP								
PPP	0.102							
PSP	0.396	0.504						
IQ	0.614	0.275	0.801					
PE	0.258	0.068	0.232	0.291				
TR	0.617	0.266	0.799	0.8	0.358			
PR	0.156	0.697	0.466	0.347	0.186	0.342		
PI	0.68	0.168	0.596	0.684	0.351	0.784	0.291	

Structural model assessment

The evaluation criteria for the goodness of the structural model are the R^2 measure of the coefficient of determination and the level of significance of the path coefficients (beta values) (Hair et al., 2017). The structural model accounted for 36.4% of the variance for purchase intention (PI). Hair et al., (2017) recommended cut-off values of 0.25, 0.5 and 0.75 to define a weak, moderate, and

strong coefficient of determination. The path coefficients of the structural model had been measured using the bootstrap resampling method (Henseler, Ringle, & Sinkovics, 2009), with 5000 iterations of resampling (Chin, 1998). The same model estimation also reveals the R^2 for the other latent constructs; social media's reputation, perceived privacy protection, security protection and information quality (REP, PPP, PSP and IQ) were

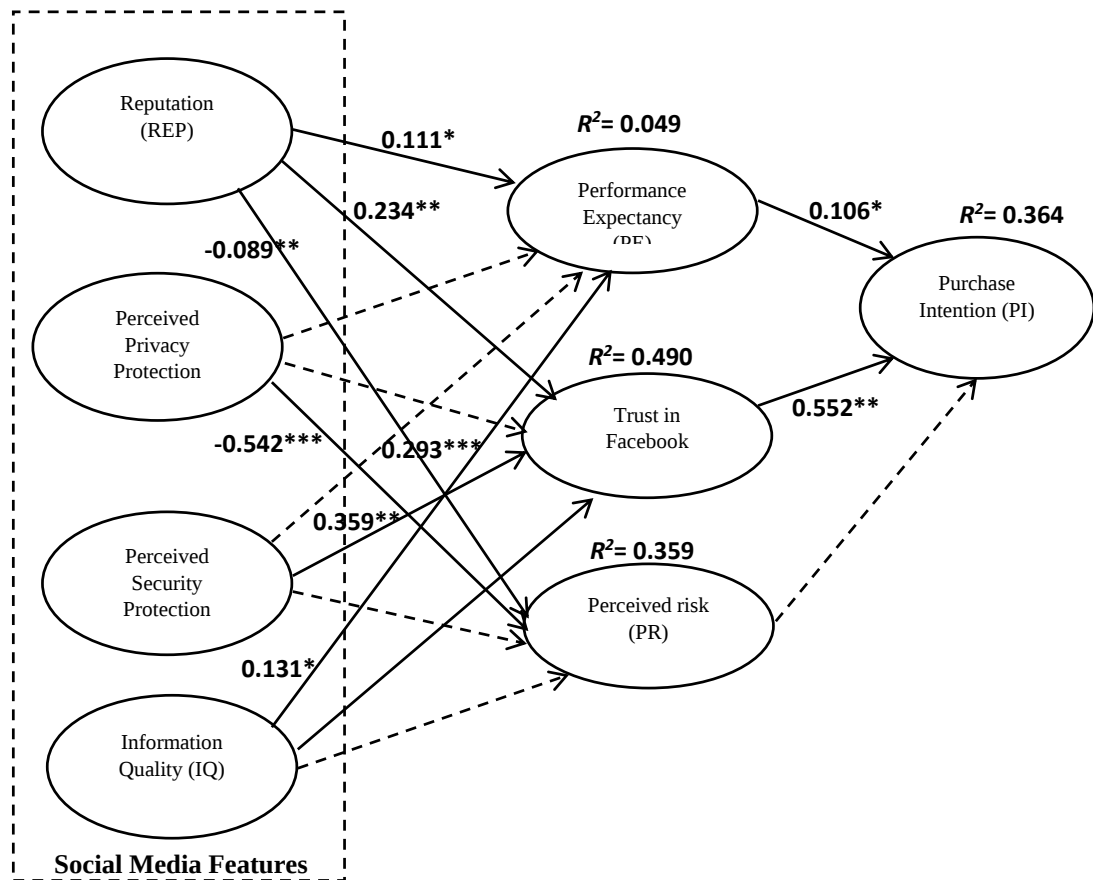
found to explain 4.9 % of the variance in performance expectancy (PE); 49% of the variance in trust (TR) and 35.9% of the variance in perceived risk (PR). The low score of R^2 for performance expectancy indicates that REP, PPP, PSP and IQ only can explain small amount of variance in performance expectancy. However, this model still has statistically significant explanatory power and can be used to better understand the s-commerce phenomenon.

Hypotheses testing

As displayed in Table 6 and Figure 2, the results revealed some significant relationships, confirming and contradicting our various hypotheses about the construct relationships. TR had the most significant influence on PI, followed by PE. On the other hand, PR had no significant effect on PI. PE is influenced by REP and IQ. TR is influenced by PSP, IQ and REP. PR is influenced by PPP and REP.

Table 6 Significance testing results of the structural model path coefficients

Hypothesis	Path	Path Coefficients	STDEV	t-Value	p-Value	Result	R^2	f^2
H _{1A}	PE -> PI	0.106	0.043	2.471	0.014	Supported	0.364	0.017
H _{1B}	TR -> PI	0.552	0.037	14.961	0	Supported		0.426
H _{1C}	PR -> PI	-0.057	0.043	1.323	0.186	Not supported		0.005
H _{2A}	REP -> PE	0.111	0.053	2.087	0.037	Supported	0.049	0.01
H _{3A}	PPP -> PE	-0.009	0.054	0.175	0.861	Not supported		0
H _{4A}	PSP -> PE	0.055	0.058	0.939	0.348	Not supported		0.002
H _{5A}	IQ -> PE	0.131	0.061	2.13	0.033	Supported		0.01
H _{2B}	REP -> TR	0.234	0.037	6.321	0	Supported	0.490	0.081
H _{3B}	PPP -> TR	-0.055	0.038	1.441	0.15	Not supported		0.005
H _{4B}	PSP -> TR	0.359	0.048	7.492	0	Supported		0.141
H _{5B}	IQ -> TR	0.293	0.046	6.432	0	Supported		0.092
H _{2C}	REP -> PR	-0.089	0.042	2.114	0.035	Supported	0.359	0.009
H _{3C}	PPP -> PR	-0.542	0.042	12.897	0	Supported		0.374
H _{4C}	PSP -> PR	-0.063	0.057	1.104	0.27	Not supported		0.003
H _{5C}	IQ -> PR	-0.063	0.058	1.091	0.275	Not supported		0.003



Note: * $p < .10$; ** $p < .05$; *** $p < .01$

Figure 2 Structural model analysis

Discussion

Key findings

Following previous study (Mardjo, 2018), social media features were found to influence purchase intention through trust in social media and performance expectancy. On the other hand, perceived risk, in contrast with that study (Mardjo, 2018), has no significant effect on the respondents' purchase intention. A plausible explanation for this surprising

result is because the age of respondents were between 18-24 years old. Most of people in this age group have lower income levels and purchase low value price items. As such, perceived risk has no effect on their purchase intention.

In addition, low R^2 value of performance expectancy indicates that social media features (reputation, perceived privacy, security and information quality) are not suitable predictors to explain this construct. Therefore, additional constructs should be used to explain

performance expectancy. Unique characteristic of s-commerce is its ability to provide social functionalities, such as other members' opinions/reviews, forums' participation, experience sharing, and products/services recommendations, that can have an influence over other consumers' decision making (Hajli, 2015; Hajli, Lin, Featherman, & Wang, 2014). As given, constructs those are related to social functionalities and unique to s-commerce, such perceived social presence and peer recommendation, are excellent candidates of predictors for the future model.

The result showed that social media's reputation and information quality are important features as they influence both performance expectancy and trust in social media, which subsequently influence the purchase intention in s-commerce. The more reputable the social media, the lower perceived risk and the higher performance expectancy and trust in social media that the customers have. Alraimi, Zo & Ciganek (2015, p30) claimed that "reputation is a valuable and intangible asset" as it is providing past information that the company has honored or met its obligations toward other consumers. In the context of this study, a positive reputation of Facebook influenced respondents' belief that Facebook was more likely to continue its good behavior and had higher reliability and therefore, considered it to be beneficial to use Facebook as s-commerce platform.

Although information quality has been conceptualized and investigated in an e-commerce context (DeLone and McLeann, 2003; Aldás-Manzano, Currás-Pérez & Sanz-Blas, 2011), this

construct has been under studied in the s-commerce context (Chen, Su and Widjaja, 2016). Chen et al. (2016) claimed that information quality deserves further investigation in s-commerce contexts because, unlike a normal e-commerce environment, online marketers on social media websites are unable to manipulate consumers' sense of vision by altering the environmental design and feature of the site, such as changing the website design, navigation structure, or color scheme that aim to stimulate impulse buying. The success of transactions in s-commerce is influenced by user generated content, which generates different issues from normal e-commerce.

This study found that accurate, up-to-date, and comprehensive information in social media is significant to stimulate performance expectation and trust in social media. A possible explanation is that high quality information in Facebook helped respondents to evaluate shopping products/e-vendors and make better purchase decisions, which subsequently invoked better trust in Facebook among respondents. Furthermore, respondents spent less time and effort on information gathering and scrutinizing, thereby giving them a positive experience and increasing their performance expectancy to use the social media for online transactions.

Compared to reputation and information quality, perceived security protection has the most significant effects on trust, which is the most important determinant of purchase intention. It can be inferred that a social media which offers adequate security protection gained the trust of respondents, more than either a reputable high quality information website. Thus,

although perceived security protection is only significant for trust, it is very important determinant to influence s-commerce. Knowledge of security features and protection mechanisms in Facebook caused respondents' recognition of its efforts to protect them from unlawful actions and, therefore, increased their trust in Facebook. Contradicting study by Kim et al. (2008), perceived security protection doesn't have significant effect on perceived risk. Plausible explanation is that Facebook in Thailand was mainly used for posting product or services. Critical and vulnerable activity, such as payment is conducted outside Facebook. Combined with low value purchases associated with this age group and the inexpensive nature of goods sold in Facebook (Booasang, 2017), the transactions can be considered as low risk. After the trade-off estimation between perceived risk and taking security risks, the respondents found perceived risk worthy despite the questionable security protection.

Perceived risk is mainly influence by perceived privacy protection. However, perceived risk is not a significant influence on purchase intention, making perceived privacy protection as uncritical factor in s-commerce. There is also no evidence for the impact of perceived privacy protection on performance expectancy and trust, which contradicting prior prediction. A possible answer is that most respondents combined Facebook with other messaging apps, such as Line, for private direct communication regarding payment and delivery information. By engaging respondents directly online and making business communications more private, these apps diminished the need of privacy protection in Facebook.

Contributions of this study

The most important theoretical contribution of this study is the creation and validation of an empirical model that explains how social media features exert its impact on s-commerce. Despite the recent increase in studies on social commerce, this topic has been understudied so far. Thus, proposing and testing this allows me to identify the relevant explanatory variables and how they influence behavior. The results not only extend the literature with new theoretical knowledge, but also provide insightful practical implications.

First, the findings of this study suggest that in order to attract more customers towards s-commerce, it is not going to be sufficient to merely introduce s-commerce. E-vendors need to develop the belief of usefulness of the s-commerce and the trust in social media as well. Moreover, it is of prime importance for e-vendors to select a social media, which is reputable, secure, and provides high quality information for their users. A reputable social media also typically has a large following, which can help to raise business awareness and audience reach.

Second, reputation of social media plays an important role to encourage s-commerce. As given, social media managers need to differentiate themselves from competitors. Social media managers need to be aware of and keep up to date with customers' needs, industry developments, competition, and news which could help to guide better business practices; monitor the reputation by encouraging customer feedback; be accessible and respond quickly to questions from customers to



build good relationships; promote their websites for wider publicity; and most importantly, be honest.

Third, information quality is critical for performance expectancy and trust, which are two most significant factors that influence purchase intention. Acknowledging this, social media managers need to devote more resources on refining the quality (e.g., timeliness, accuracy, and reliability) of their information. Social media websites should be able to present high quality, personalized information according to consumer demands/profiles. However, social media managers need to obtain consumers' permission in advance because this personalization may cause consumers to have privacy and risk concerns.

Finally, because of perceived security protection's significant impact on trust, social media managers must increase the security on their websites, which includes the implementation and reinforcement of protocols and applications (i.e. digital signatures, encryption algorithms) to decrease negative outcomes in online transactions.

Limitations and future research

This study has some limitations. First, this study used a non-random sample, which impairs the ability to generalize the results. Second, this study only tested the model with the respondents that use Facebook to purchase products. Thus, the results may not be applicable to other social media. Future studies should look at other social media platforms, such as Instagram, YouTube, etc., for

comparative analysis. Third, the findings are based on survey data; other methods such as in depth interviews and observations could provide a complementary picture of the findings.

Since s-commerce is a global phenomenon, it also would be interesting to replicate this study in different countries. I also propose including additional constructs into the research model to improve the prediction of performance expectancy to purchase products through Facebook. These other constructs could include factors, such as social presence and peer recommendation.

Conclusions

In terms of online transactions performed through social media, businesses need to understand the impact of social media features on potential customers and what features that will influence them towards s-commerce. This study represented a systematic approach and found the following constructs to have significant impact: reputation, information quality and perceived security protection. The limitations related to the generalizability and contexts encourage future studies to be done with larger, broader, sample from different geographical locations to explore how this result can be generalized to other populations. Future research should also consider testing the model using other social media as it would be interesting to be able to make comparisons among the various social media facilitated by the Web 2.0 technologies. Overall, the findings of this work enrich our understanding of s-commerce.



References

- Aldás-Manzano, J., Currás-Pérez, R., & Sanz-Blas, S. (2011). Online information quality as determinant of perceived risk reduction in e-commerce: an application to apparel virtual stores. *International Journal of Internet Marketing and Advertising*, 6, 352–372.
- Alraimi, K. M., Zo, H. J. & Ciganek, A. P. (2015). Understanding the MOOCs continuance: The role of openness and reputation. *Computers & Education*, 80, 28-38.
- Anbalagan, A. (2018). [MW Special Report] *Ecommerce in Thailand – Part 1*. Retrieved from http://staging.thelowdown.momentum.asia/will-everyone-get-slice-pie-thailands-e-commerce-industry/#_ftn1
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94.
- Bharadwaj, A. (2017). *Five Consumer Trends to Watch in Thailand*. Retrieved from <https://www.bcg.com/publications/2017/globalization-go-to-markets-five-consumer-trends-watch-thailand.aspx>.
- Booasang, P. (2017). *Social Commerce: An e-Commerce trend to rival Lazada*. Retrieved from <https://www.scbeic.com/en/detail/product/3926>.
- Boonruang, S. (2018). *Facebook hails local SMEs for social commerce savvy*. Retrieved from <https://www.bangkokpost.com/business/telecom/1466038/facebook-hails-local-smes-for-social-commerce-savvy>.
- Chen, J.-C. V., Su, B.-C., Widjaja, A. E. (2016). Facebook C2C social commerce: A study of online impulse buying. *Decision Support Systems*, 83, 57–69.
- Chen, J. & Shen, X. L. (2015). Consumers' decisions in social commerce context: An empirical investigation. *Decision Support Systems*, 79, 55-64.
- Cheong, J.H. & Park, M. C. (2005). Mobile internet acceptance in Korea. *Internet Research*, 15(2), 125-140.
- Chin, W.W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22 (1), 7-16.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of Management Information System*, 19, 9–30.



- Doll, W.J. and Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. *MIS Quarterly*, 12 (2), 259-274.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.
- Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal Marketing Research*, 18(1), 39–50.
- Gefen, D. (2000). E-commerce: the role of familiarity and trust. *Omega*, 28, 725–737.
- Hair, J. F., Hult, G. T. M., Ringle, A. M. & Sarstedt, M. (2017) *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)* (2nd ed.). Thousand Oaks: Sage.
- Hajli, N. (2015). *Handbook of research on integrating social media into strategic marketing*. IGI Global, Hershey PA, USA.
- Hajli, N., Lin, X., Featherman, M. Wang. Y. (2014). Social word of mouth: how trust develops in the market. *International Journal of Market Research*, 56 (5)
- Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advance in International Marketing*, 20, 277-319.
- Jarvenpaa, S.L., Tractinsky, J., Vitale, M. (2000). Consumer trust in an Internet store. *Information Technology and Management*, 1 (1–2), 45–71.
- Keh, H. T., & Xie, Y. (2009). Corporate reputation and customer behavioral intentions: The roles of trust, identification and commitment. *Industrial Marketing Management*, 38(7), 732–742.
- Kim, D. J., Ferrin, D. L. & Rao, H. R. (2008). A Trust-Based Consumer Decision-Making Model in Electronic Commerce: The Role of Trust, Perceived Risk, and Their Antecedents. *Decision Support Systems*, 44 (2), 544–564.



- Kim, S. & Park, H. (2013). Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. *International Journal of Information Management*, 33 (2), 318-332.
- Kohli, A. (1989). Determinants of influence in organizational buying: a contingency approach. *Journal of Marketing*, (1989), 50–65.
- Lallmahamood, M. (2007). An Examination of Individual's Perceived Security and Privacy of the Internet in Malaysia and the Influence of this on Their Intention to Use E-commerce: Using an Extension of the Technology Acceptance Model. *Journal of Internet Banking and Commerce*, 12 (3), 1-26.
- Lexcion. (2018). *Stats Don't Lie – Facebook is Still the King of Social – Especially in Thailand*. Retrieved from <http://lexiconthai.com/blog/stats-dont-lie-facebook-is-still-the-king-of-social-especially-in-thailand-2/>.
- Liao, C., Liu, C. C., & Chen, K. (2011). Examining the impact of privacy, trust and risk perceptions beyond monetary transactions: An integrated model. *Electronic Commerce Research and Applications*, 10(6), 702-715.
- Lin, H. F. (2007). The role of online and offline features in sustaining virtual communities: an empirical study. *Internet Research*, 17(2),119-138.
- Mardjo. (2018). Exploring Facebook users' willingness to accept f-commerce using the integrated Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), trust and risk under the moderating role of age and gender. *UTCC International Journal of Business and Economics (UTCC IJBE)*, 10(2), 139-165.
- Moorman, C., Deshpande, R. & Zaltman, G. (1993). Factors Affecting Trust in Market Research Relationships. *Journal of Marketing*, 57, 81-101.
- Ng, C. S. (2013). Intention to Purchase On Social Commerce Websites Across Cultures: A Cross-Regional Study. *Information and Management*, 50(8), 609-620.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Pornwasin, A. (2018). *A giant leap for social Commerce*. Retrieved from <http://www.nationmultimedia.com/detail/national/30350506>.
- Ringle, C. M., Wende, S. , & Becker, J. (2015). SmartPLS 3 (Version 3.2.6) [Software]. Bönningstedt: SmartPLS. Retrieved from <http://www.smartpls.com>
- U.S. Department of Commerce. (2017). *Thailand Country Commercial Guide*. Retrieved from <https://www.export.gov/article?id=Thailand-ecommerce>.



- Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178.
- We Are Social. (2017). *Digital in 2017 Global Overview* [Powerpoint slides]. Retrieved from <https://www.slideshare.net/wearesocialsg/digital-in-2017-global-overview>
- Yadav, M.S., de Valck, K., Hennig-Thurau, T., Hoffman, D.L., Spann, M. (2013). Social commerce: a contingency framework for assessing marketing potential. *Journal of Interactive Marketing*, 27, 311–323.
- Yang, Z. L., Cai, S. H., Zhou, Z. & Zhou, N. (2005). Development and validation of an instrument to measure user perceived service quality of information presenting Web portals. *Information & Management*, 42, 575–589.
- Zha, S., Yang, H., Yan, Y., Liu, K., Huang, C. (2018). Exploring the effect of social media information quality, source credibility and reputation on informational fit-to-task: Moderating role of focused immersion. *Computers in Human Behavior*, 79, 227–237.
- Zhang, H., Lu, Y., Gupta, S. & Zhao, L. (2014). What motivates customers to participate in social commerce? The impact of technological environments and virtual customer experiences. *Information & Management*, 51 (8), 1017-1030.
- Zheng, Y., Zhao, K., & Stylianou, A. (2013). The Impacts of information quality and system quality on users' continuance intention in information-exchange virtual communities: An empirical investigation. *Decision Support Systems*, 56, 513–524.
- Zhou, T. (2012a). An empirical examination of continuance intention of mobile payment services. *Decision Support Systems*, 54, 1085–1091.
- Zhou, T. (2012b). Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior*, 28 (4), 1518-1525

Appendix Measurement items for constructs.

Construct	Items	Adopted from
Performance Expectancy (PE)	PE1. Using Facebook is very useful in the purchasing process. PE2. Using Facebook helps me to accomplish the purchasing process more quickly. PE3. Using Facebook increases my efficiency in the purchasing process. PE4. Using Facebook improves the performance in the purchasing process	Venkatesh et al (2012)
Trust (TR)	TR1. Facebook is trustworthy. TR2. Facebook gives the impression that it keeps promises and commitments. TR3. I believe that this Facebook has my best interests in mind.	Gefen (2000), Jarvenpaa et al (2000)
Perceived risk (PR)	RISK1. Purchasing from Facebook would involve more product risk (i.e. not working, defective product) when compared with more traditional ways of shopping RISK2. How would you rate your overall perception of risk from this site?	Jarvenpaa et al (2000), Kohli (1989)
Purchase behavior intention through Facebook (PI)	BI1. I am likely to purchase products on Facebook. BI2. I am likely to recommend Facebook to my friends. BI3. I am likely to make another purchase from Facebook if I need the products that I will buy.	Gefen (2000), Jarvenpaa et al (2000)
Positive Reputation (REP)	REP1. Facebook is well known. REP2. Facebook has a good reputation. REP3. Facebook has a reputation for being honest. REP4. I am familiar with the name of Facebook	Jarvenpaa et al (2000); Moorman et al (1993); Gefen (2000)
Information Quality (IQ)	IQ1. Facebook provides correct information about the item that I want to purchase. IQ2. Facebook provides timely information on the item IQ3. Facebook provides sufficient information when I try to make a transaction. IQ4. I am satisfied with the information that Facebook provides.	Doll & Torkzadeh (1988)
Perceived Privacy	PPP1. I am concerned that Facebook is collecting too much personal information from me.	Kim et al. (2008)



Protection (PPP)	PPP2. Facebook will use my personal information for other purposes without my authorization. PPP3. Facebook will share my personal information with other entities without my authorization. PPP4. I am concerned about the privacy of my personal information during a transaction. PPP5. Facebook will sell my personal information to others without my permission.	
Perceived Security Protection (PSP)	PSP1. Facebook implements security measures to protect Internet shoppers PSP2. Facebook usually ensures that transactional information is protected from accidentally being altered or destroyed during a transmission on the Internet. PSP3. I feel safe in making transactions on this Facebook	Gefen (2000), Kim et al. (2008)