

The impact of perceived risk on consumers' online shopping intention: An integration of TAM and TPB

Ngoc Thang Ha^{a*}

^aNational Economics University, Vietnam

CHRONICLE

ABSTRACT

Article history:

Received: October 16, 2019

Received in revised format:

January 30 2020

Accepted: February 10, 2020

Available online:

February 10, 2020

Keywords:

Online shopping intention

Perceived risk

TAM

TPB

The aim of this paper is to discuss and to examine the impact of the factors on Vietnamese consumers' online shopping intention based on Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB). The questionnaire was sent directly to the respondents and through the Internet. After 5 months collecting, there were 423 valid replies being analyzed. The data were analyzed in accordance with the process from Cronbach's Alpha to EFA and multiple regression technique. The results showed that perceived usefulness, perceived ease of use, attitude and subjective norm had positive effects on consumers' online shopping intention. While the factor of perceived risk had a negative effect on consumers' online shopping intention.

© 2020 by the authors; licensee Growing Science, Canada

1. Introduction

Nowadays, online shopping has become more and more popular around the world (Wu *et al.*, 2011). The number of internet users who conduct their shopping online and the revenue from online retail industry are constantly increasing over time (Ozen & Engizek, 2014). However, the percentage of Vietnamese consumers that use shopping online is lower than other countries in the Asia-Pacific region as well as in the world (Ministry of Industry and Trade, 2014). Companies with plans for the growth of online retailing need reliable estimates of the growth of online shopping and need to understand the factors influencing customers' online shopping intention (Lohse *et al.*, 2000). It is believed that shopping intention is one of the two key factors that carry decisive impact on customers' shopping behavior (Blackwell *et al.*, 2001; Mayer *et al.*, 1995). Research on determinants that impact the intention of online shopping behavior applied numerous models in which technology acceptance model (TAM) and theory of planned behavior (TPB) has been widely used. Within this known range, TAM has been successfully applied in the role of theoretical framework which is used to forecast online shopping intention and behavior (Gefen *et al.*, 2003a; Gefen *et al.*, 2003b; Pavlou, 2003). TAM is originally introduced by Davis (1985) as an adaptation version of Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975). According to TAM, "intention" is directly impacted by two factors – "perceived usefulness" and "perceived ease of use" (Davis, 1989). Similar to TAM, TPB was developed by Ajzen (1991) based on Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) by adding a new factor of "Perceived Behavioral Control" into TRA. Perceived Behavioral Control reflected the easiness or difficulty in conducting a behavior which depends on the availability of resources and opportunities to conduct such behavior (Ajzen, 1991). According to TPB, "Behavioral Intention" of consumer is influenced by "Attitude", "Subjective Norms" and "Perceived Behavioral Control".

* Corresponding author.

E-mail address: hangocthang@neu.edu.vn (N. T. Ha)

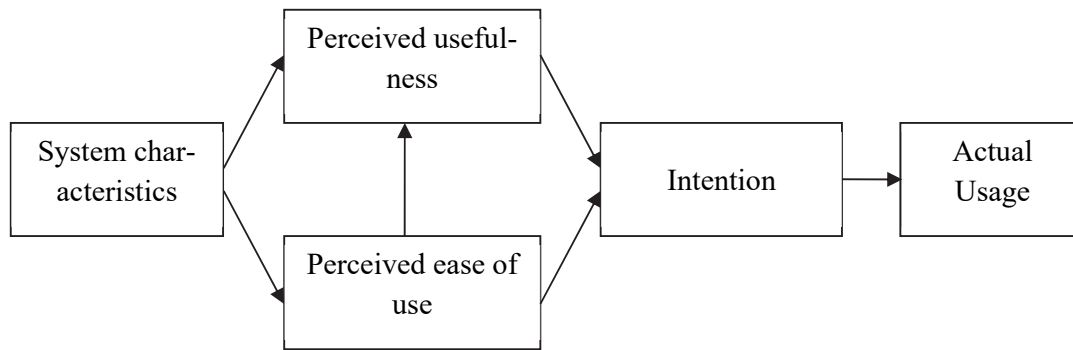


Fig. 1. Technology Acceptance Model

Source: Davis et al., 1989

TPB has been accepted and widely used in research to forecast usage intention and specific behavior of individuals. Moreover, empirical research showed the compatibility of this model in studying consumer's behavior within the context of online shopping (George, 2004; Hansen et al., 2004). Hansen et al. (2004) tested both TRA and TPB models and the results showed that TPB can explain consumer behavior better than TRA.

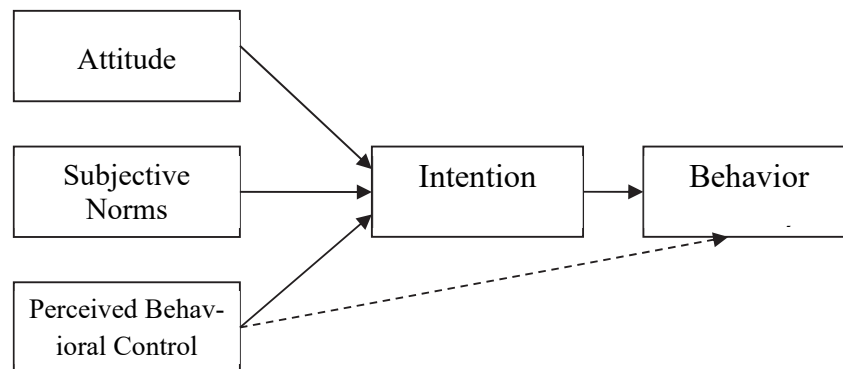


Fig. 2. Theory of Planned Behavior (TPB)

Source: Ajzen, 1991

Since both are developed from TRA basic thus TPB and TAM have certain interference with each other. Perceived Behavioral Control is defined as an individual feeling about the ease or difficulty of conducting a behavior (Ajzen, 1991, p.188). Meanwhile, perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p.320). This in turn shows that Perceived Behavioral Control in TPB is similar to Perceived Ease of Use in TAM. Beside the above mentioned factors, perceived risk is amongst the most influencing factors that prevent consumer to online shopping intention. Because in the context of online shopping, consumer perceived risk of transactions is higher in virtual environment given the buyer does not directly contact with seller and the underlying goods (Jarvenpaa et al., 2000; Pavlou, 2003). Risks that consumer may face while conducting their shopping online include financial risk and product risk (Bhatnagar et al., 2000). The impact of perceived risk to consumer online shopping intention has been investigated by many researchers. However, results from such researches still differ from one to another. According to Hsin Chang and Wen Chen (2008), perceived risk is a factor that negatively impact online shopping intention. However, Gefen et al. (2003b) argued that perceived risk does not carry any direct relationship with online shopping intention. Therefore, this paper will integrate TAM and TPB with perceived risk to research Vietnamese consumers' online shopping intention.

2. Theoretical framework and hypothesis

Intention is a factor used in evaluation of behavior execution possibility in the future (Blackwell et al., 2001). According to Ajzen (1991), intentions are assumed to capture the motivational factors that influence a behavior, they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior (Ajzen, 1991, p.181). Thus, Delafrooz et al. (2011) stated that "online purchase intention is the strength of a consumer's intentions to perform a specified purchasing behavior via Internet" (Delafrooz et al., 2011, p.70). According to Davis et al. (1989), intention is directly impacted by "perceived usefulness" and "perceived ease of use". Perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her job performance" and perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p.320). In online

shopping context, perceived usefulness refers to the degree a consumer believe that online shopping will increase their procurement effectiveness (Shih, 2004) and perceived ease of use is the degree where consumer believes that they won't need any effort doing shopping online (Lin, 2007). There is evidence that online shopping intention bears a significant impact from perceived usefulness and perceived ease of use (Gefen *et al.*, 2003a). Thus, the hypotheses for this paper will be:

H₁: Perceived usefulness has a positive impact on online shopping intention.

H₂: Perceived ease of use has a positive influence on online shopping intention.

Meanwhile, according to Ajzen (1991), intention is directly impacted by “attitude”, “Subjective Norms” and “Perceived Behavioral Control”. Amongst these, attitude refers to “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991, p.188). Within the context of online shopping, attitude refers to good or bad ratings from consumer about the use of Internet to purchase goods or services from retail website (Lin, 2007, p.434). Consumer attitude has impact on their intention (Fishbein & Ajzen, 1975). Within the context of online shopping, consumer attitude with online shopping has been proved to carry positive impact to their shopping intention (Yoh *et al.*, 2003). This relationship has been supported by many other empirical studies (Lin, 2007; Pavlou & Fygenson, 2006). Thus, the hypothesis for this paper will be:

H₃: Consumer attitude has a positive impact on online shopping intention.

Subjective norms can be described as an individual perception of social pressures on conducting or not conducting certain behavior (Ajzen, 1991, p.188). Previous studies pointed out that there is a positive relationship between subjective norms and intention (Hansen *et al.*, 2004; Yoh *et al.*, 2003). Within the context of online shopping, subjective norms refer to consumer perceptions regarding the use of online shopping by the opinions of the referent group (such as friends or colleagues) (Lin 2007, p. 434). Lin (2007) has proved that reference groups' comment has a positive impact to consumer online shopping intention (Lin, 2007). Thus, the hypothesis for this paper will be:

H₄: Subjective norms has a positive impact on consumer online shopping intention.

Perceived risk refers to consumer awareness to uncertainty and bad consequences of his/her participation in a certain action (Dowling & Staelin, 1994). The uncertainty involved with online transactions creates many different risks which Pavlou (2003) has classified into: financial risk, seller risk, privacy risk (private information may be released illegally) and security risk (credit card information theft). Some researchers had found the inverse relationship between perceived risk and online shopping intention (Hsin Chang & Wen Chen, 2008). Thus, the last hypothesis for this research will be:

H₅: Perceived risk has a negative impact on online shopping intention.

The corresponding research hypotheses are described and presented in Fig. 3.

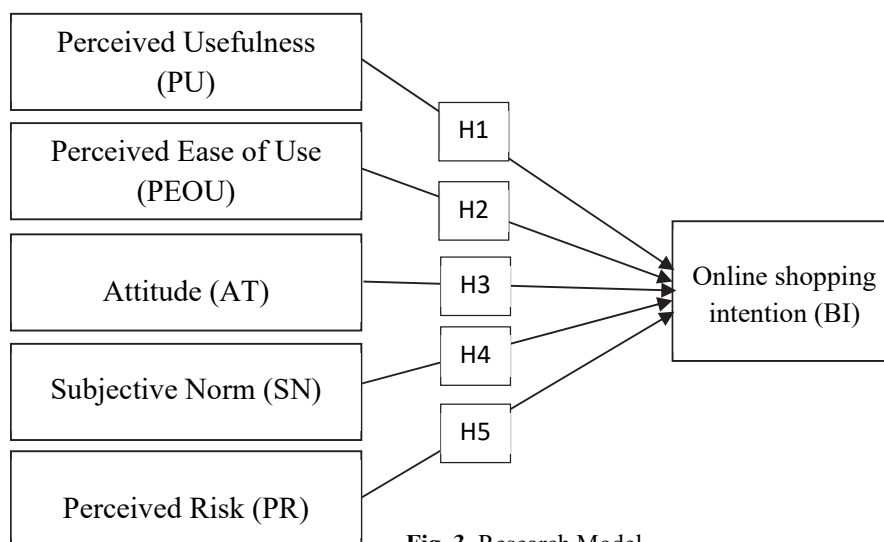


Fig. 3. Research Model

Source: Author

3. Research methodology

3.1. Qualitative Study

The purpose of qualitative study is to test, screen and identify the relationship between the variables in the theory model based on such foundation to propose research methodology for this paper. Besides, this qualitative study also aims to correct and develop the inherited scales from previous research. Reasons being cultural and language differences as well as development level, thus causes the scales a need to be adapted in order to fit with Vietnamese research context. In order to achieve the mentioned aims, the author conducted 10 depth interviews with consumers who had experienced online shoppers at several big cities in Vietnam. Such consumers were selected carefully to ensure representativeness in terms of the following main indicators: income, occupation, gender, education, internet experiences, online shopping experiences. Different consumers with different characteristics being interviewed will provide multidimensional and complete information for the research to achieve preset aims. The interviews were conducted with stop-when-no-new-factor-is-found ego. With those preset contents, the author found no new factor in comparison with the previous interviews at the 8th conversation. However, to further ensure the research precision, the author still conducted 2 more intensive interviewed. The author did not find any new factor in comparison with previous interviews thus stopped intensive interview activity after the 10th one. The result from qualitative study showed that beside perceived usefulness and perceived ease-of-use in TAM, online shopping intention also significantly impacted by trust and perceived risk of consumer toward a certain retail website. Thus, based on this qualitative research's result, the author developed TAM by combining 2 variables of trust and perceived risk in to this model.

3.2. Quantitative Study

3.2.1. Survey design

Survey questionnaire was built based on this paper's research overview and adapted to match with Vietnamese research environment. The respective scales for perceived usefulness and perceived ease of use were inherited from Lin's research (2007). Perceived risk was measured by inherited scale from Corbitt *et al.* (2003) and Forsythe *et al.* (2006). Attitude, subjective norm and online shopping intention within this research paper were measured by the inherited scale from Pavlou and Fygenson (2006). Along with the combination of inherited scales from previous research, this paper also altered such scales in the variable for trust in order to better fit with Vietnamese research environment. The variables were measured by Likert scale from 1 to 7. Before extending the investigation in a big scale, this questionnaire was sent to some individual clients for a pre-test (30 people). In general, the questionnaire was acceptable with minor alteration required in terms of wording and meaning so that the respondents could avoid misunderstanding and in terms of some questions design to promote respondents' convenience.

3.2.2. Sample and data collection

This research generally targeted experienced users who had used Internet for online shopping purpose in Vietnam. The questionnaires were sent directly and through Internet to the targets. There were 582 returned results in which 159 items were invalid due to lack of information or non-target respondents. All 159 replies were excluded before data process commenced. Therefore, the volume of official valid replies in use for analysis was 423. The sample consisted of 169 males (40.0%) and 254 females (60.0%). Sample population ranges from high school graduates (42.3%) to college/vocational school graduates (13.5%), university graduates (32.4%), post graduates (11.1%) and other (0.7%). Income from sample population was relatively low with 62.6% earns less than VND 5 Mio/month and 37.4% earns more than VND 5 Mio/month. The demographic profile of our final sample is presented in Table 1.

Table 1
Demographics of the sample (n = 423)

	Characteristic	Frequency	Percentage
Gender	Male	169	40.0
	Female	254	60.0
Education	High school degree	179	42.3
	College school degree	57	13.5
	Bachelor degree	137	32.4
	> Bachelor degree	47	11.1
	Others	3	0.7
Average monthly income	≤ 5.000.000 VND	265	62.6
	> 5.000.000 VND	158	37.4
Age group (years)	18 – 25	285	67.4
	26 – 30	54	12.8
	31 – 36	46	10.9
	> 36	38	9.0

Source: Author

3.2.3. Data analysis

After screening and rejecting unsatisfactory questionnaires' replies, the author proceeded coding and input data. Such raw data was then being processed by SPSS and the hypotheses were tested by multiple regression technique. However, we conducted scale reliability analysis and exploratory factor analysis (EFA) before multiple regression technique to test the hypotheses. Scale reliability was tested by using Cronbach's Alpha for each of the underlying factors. The purpose of this test was to explore whether the observed variables had the same measurement for a particular measuring item. The abundant or lack of contributed value was reflected through Corrected Item – Total Correlation. Through that, it is possible to exclude unsuitable factors in the underlying research model. According to Hoang & Chu (2008), a Cronbach's Alpha ranging from 0.8 to 1 indicates a good scale, from 0.7 to 0.8 indicates that the scale is usable.

In terms of Corrected Item – Total Correlation, the scale is usable when this figure is from 0.3 and up (Hair *et al.*, 2010).

EFA analysis is conducted for all observed variables with Varimax rotation and eigenvalue of greater than 1 to find out representative factors of variables. According to Hair *et al.* (2010), the requirements for EFA analysis are: (i) KMO value is within the range of 0.5 to 1; suitable to conduct EFA; (ii) Only the observed variables that has factor loading of greater than 0.3 will be kept in the model, those that resulted in a factor loading below this threshold will be eliminated; (iii) Total Variance Explained is greater than 50% and (iv) Eigenvalue greater than 1. After scale reliability test and EFA analysis, the satisfied scales will further be analyzed by taking mean values and the control variables will be coded to conduct correlation analysis. We used Pearson (r) correlation to test the linear relationship between factors. If the correlation coefficient between dependent and independent variables are significant then they are related and linear analysis is applicable. The absolute value of r showed the strength of linear relationship. The closer such absolute value to 1, the stronger the relationship and vice versa.

After correlation analysis, we conducted multiple linear analysis with method Enter at a significant of 5% to test the proposed hypotheses, the suitability of research model and the level of impact that observed variables can have on the dependent variable. The paper inherited research methodology from previous studies and uses linear analysis instead of non-linear analysis. The linear analysis of this research being employed is the OLS method. The adjusted R² is used to identify the suitability of the model. F analysis is used to emphasize the extension capability of this model. T analysis is used to refuse the hypotheses that the total linear analysis result is 0.

4. Results

4.1. Reliability

Reliability of scales is tested using coefficient Cronbach's alpha for each factor. In this case, returned results for coefficient Cronbach's alpha are all greater than 0.7 and for Corrected Item-Total Correlation are all greater than 0.5 proves that scales used fulfill reliability requirement. Result is shown in Table 2 underneath.

Table 2
Results of reliability analysis

Factor	Number of items	Cronbach's Alpha	Minimum of Corrected Item-Total Correlation
Perceived Usefulness	3	0.862	0.732
Perceived Ease of Use	3	0.793	0.584
Attitude	4	0.899	0.735
Subjective Norm	2	0.831	0.711
Perceived Risk	6	0.900	0.551
Online Shopping Intention	2	0.921	0.854

Source: Author

4.2. EFA analysis

KMO test and Bartlett's test of sphericity score a value of 0.852, within the allowed range from 0.5 to 1. On the other hand, 18 observed variables converging on 5 factors (in line with theoretical model) has Eigenvalue greater than 1 and explains approximately 75% data volatility. Factor loading of observed variables are all greater than 0.5 thus all variables were kept in the model.

Table 3
Rotated Component Matrix

	Component				
	1	2	3	4	5
PU1			0.866		
PU2			0.837		
PU3			0.856		
PEOU1				0.814	
PEOU2				0.842	
PEOU3				0.679	
AT1		0.832			
AT2		0.82			
AT3		0.867			
AT4		0.794			
SN1					0.819
SN2					0.852
PR1	0.659				
PR2	0.712				
PR3	0.898				
PR4	0.886				
PR5	0.87				
PR6	0.867				

Source: Author

4.3. Correlation analysis

Pearson correlation coefficient has been used to analyze the correlation between quantitative variables. Correlation coefficients show that the relationships between dependent variables and independent variables all have statistical meaning. On the other hand, the magnitude of the correlation coefficients ensures no multicollinearity phenomenon. Thus, other statistical results can be used to test the relationship between variables.

Table 4
Correlations Matrix

		PU	PEOU	AT	SN	PR	BI
PU	Pearson Correlation	1	.326**	.411**	.268**	0.075	.375**
	Sig. (2-tailed)		0	0	0	0.124	0
	N	423	423	423	423	423	423
PEOU	Pearson Correlation	.326**	1	.467**	.393**	-0.006	.438**
	Sig. (2-tailed)	0		0	0	0.904	0
	N	423	423	423	423	423	423
AT	Pearson Correlation	.411**	.467**	1	.481**	-.109*	.545**
	Sig. (2-tailed)	0	0		0	0.025	0
	N	423	423	423	423	423	423
SN	Pearson Correlation	.268**	.393**	.481**	1	-.113*	.474**
	Sig. (2-tailed)	0	0	0		0.02	0
	N	423	423	423	423	423	423
PR	Pearson Correlation	0.075	-0.006	-.109*	-.113*	1	-.322**
	Sig. (2-tailed)	0.124	0.904	0.025	0.02		0
	N	423	423	423	423	423	423
BI	Pearson Correlation	.375**	.438**	.545**	.474**	-.322**	1
	Sig. (2-tailed)	0	0	0	0	0	
	N	423	423	423	423	423	423

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

* Correlation is significant at the 0.05 level (2-tailed).

Source: Author

4.4. Hypotheses testing

Result of regression analysis showed 5 independent variables: perceived usefulness, perceived ease of use, attitude, subjective norm, and perceived risk which have standardized (beta) coefficient of 0.178, 0.177, 0.262, 0.199 and -0.284 respectively with Sig. less than 0.05. Therefore, all five hypotheses H₁, H₂, H₃, H₄ and H₅ are supported.

Table 5
Result of multiple regression of factors impact online shopping intention

Model		Unstandardized Coefficients		Standardized Co-Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	1.996	0.315		6.344	0		
	PU	0.174	0.039	0.178	4.443	0	0.792	1.263
	PEOU	0.186	0.044	0.177	4.253	0	0.726	1.377
	AT	0.32	0.055	0.262	5.794	0	0.618	1.618
	SN	0.214	0.045	0.199	4.758	0	0.724	1.381
	PR	-0.294	0.038	-0.284	-7.82	0	0.962	1.039

a. Dependent Variable: BI

Source: Author

5. Discussion and implications

The main contribution of this paper was the integration of Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) by adding the factor of trust and perceived risk in the investigation of consumer online shopping intention. On the other hand, this paper also rechecked the vague relationship existed in previous studies between perceived risk and online shopping intention. Results from this paper have shown that, consumer online shopping intention bears influences from Perceived Usefulness, Perceived Ease of Use, Attitude, Subjective Norms and Perceived Risk. This shows similarity to the result of Hsin Chang and Wen Chen (2008) researches. Thus, in order to encourage consumer online shopping intention, retailers need to manage a way to minimize consumer's perceived risk. For financial risk, many consumers have concern on the risk of losing money while receiving no goods or services if they have to prepay. Therefore, online retailers may apply Cash on Delivery method of payment or payment via third party to encourage. For product risk, in order for the buyer to correctly evaluate a product, the seller needs to provide adequate and precise product photos. With tangible product, the seller can use modern technology to describe their product such as 3D photo/virtual sample of the underlying good. This is because 3D image helps customer minimize perceived risk better than 2D image (Shim & Lee, 2011). For digital product such as software, music etc., the seller should provide a trial version within a certain period of time for customer to experience and evaluate such product before they can make any purchase decision. This paper has also pointed out that perceived ease of use carries an impact to consumer online shopping intention. Therefore, online retailer needs to design their website user-friendly where consumer can search, shop and precede payment at the easiest possible way. The selling website needs to be organized sophisticatedly with integrated search engine, comparison tools to support consumer in finding their best fit solution timely. Moreover, in view of the current globalization context, customer of online retailers is not only within their country but also from across the globe thus website needs to use multiple languages to better suit many different target customers. Beside the above findings, this paper also faces the following limitation. Within the context of online shopping, the risks that consumer may faces include financial risk, seller risk, privacy risk, security risk etc. (Pavlou, 2003). However, this paper can only study financial risk and product risk. Hence in the future, this research can be further extending to the study of security impact and privacy risk to consumer online shopping intention.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Bhatnagar, A., Misra, S., & Rao, H. R. (2000). On risk, convenience, and Internet shopping behavior. *Communications of the ACM*, 43(11), 98-105.
- Blackwell, R. D., Miniard, P. W., & Engel, J. F. (2001). Consumer behavior, 9th edition. *New York: Dryden*.
- Corbitt, B. J., Thanasankit, T., & Yi, H. (2003). Trust and e-commerce: a study of consumer perceptions. *Electronic Commerce Research and Applications*, 2(3), 203-215.
- Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
- Delafrooz, N., Paim, L. H., & Khatibi, A. (2011). A Research Modeling to Understand Online Shopping Intention. *Australian Journal of Basic & Applied Sciences*, 5(5), 70-77.
- Dowling, G. R., & Staelin, R. (1994). A model of perceived risk and intended risk-handling activity. *Journal of Consumer Research*, 21, 119-134.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*, Addison-Wesley.
- Forsythe, S., Liu, C., Shannon, D., & Gardner, L. C. (2006). Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of Interactive Marketing*, 20(2), 55-75.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003a). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, 27(1), 51-90.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003b). Inexperience and experience with online stores: the importance of TAM and trust. *Engineering Management, IEEE Transactions on*, 50(3), 307-321.
- George, J. F. (2004). The theory of planned behavior and Internet purchasing. *Internet Research*, 14(3), 198-212.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th Edition). Pearson Prentice Hall.
- Hansen, T., Møller Jensen, J., & Stubbe Solgaard, H. (2004). Predicting online grocery buying intention: a comparison of the theory of reasoned action and the theory of planned behavior. *International Journal of Information Management*, 24(6), 539-550.
- Hoang, T. & Chu, N.M.N. (2008), *Data Analysis with SPSS*, Book 2, Hong Duc Publishing House.
- Hsin Chang, H., & Wen Chen, S. (2008). The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator. *Online Information Review*, 32(6), 818-841.
- Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. (2000). Consumer Trust in An Internet Store. *Information Technology & Management*, 1(1-2), 45-71.

- Lin, H. F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications*, 6(4), 433-442.
- Lohse, G. L., & Spiller, P. (1998). Electronic shopping. *Communications of the ACM*, 41(7), 81-87.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709-734.
- Ministry of Industry and Trade (2014). *Vietnamese e-Commerce Report 2014*, Ha Noi.
- Ozen, H., & Engizek, N. (2014). Shopping online without thinking: being emotional or rational?. *Asia Pacific Journal of Marketing and Logistics*, 26(1), 78-93.
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 69-103.
- Pavlou, P. A., & Fygenon, M. (2006). Understanding and predicting electronic commerce adoption: an extension of the theory of planned behavior. *MIS quarterly*, 115-143.
- Shih, H. P. (2004). An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management*, 41(3), 351-368.
- Shim, S. I., & Lee, Y. (2011). Consumer's perceived risk reduction by 3D virtual model. *International Journal of Retail & Distribution Management*, 39(12), 945-959.
- Wen, C., Prybutok, V. R., & Xu, C. (2011). An integrated model for customer online repurchase intention. *Journal of Computer Information Systems*, 52, 14-23.
- Wu, S. I. (2003). The relationship between consumer characteristics and attitude toward online shopping. *Marketing Intelligence & Planning*, 21(1), 37-44.
- Yoh, E., Damhorst, M. L., Sapp, S., & Laczniak, R. (2003). Consumer adoption of the internet: the case of apparel shopping. *Psychology & Marketing*, 20(12), 1095-1118.



© 2020 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).