An Empirical Research on Customers' Awareness of E-Commerce in the Context of Vietnamese Developing Economies

Nhu-Ty Nguyen[1,2], Thanh-Tuyen Tran[3,*], Anh-Quan Huynh[1,2]

[1]School of Business, International University, Vietnam

[2]Vietnam National University HCMC, Quarter 6, Linh Trung ward, Thu Duc district, HCMC, Vietnam

[3]Nguyen Tat Thanh University, HCMC, Vietnam

Corresponding author: tttuyen@ntt.edu.vn

ABSTRACT. Many research studies have been conducted in the field of e-commerce, which can contribute for academic background and development of e-commerce around the world. In Vietnam, the awareness of customers toward e-commerce is limited for the emerging of this industry in Vietnam recently. This study tries to figure out research model explains the factors and to study the awareness of customers that influence the behaviors and acceptance of users buying online in the developing economy. According to the research, buying online is quite risky. Therefore, product safety would be the purchasing decision's priority. Online sales providers need to provide a safe way of ensuring consumers ' purchasing process. Through hard qualification process, they need to shortlist the good quality product. The sale would grow dramatically as consumers gained confidence. Not only should they care about the short-term profit in order to get the products of low quality.

I. INTRODUCTION

Although there are many theories in the world today, the research model explains the factors that affect online buyers ' behavior and acceptance. However, it is difficult to apply the environment in Vietnam due to the differences in the economic model, culture and society, while the country's research models are quite limited ([19]). Therefore, it is urgent to study models in the world that have been based on domestic research in the past to build an appropriate model for Vietnam's

current situation. Consumers in Vietnam are still used to product trials or direct purchases because of low-quality psychology compared to online purchasing lustration images ([22]).

An effective marketing strategy should be based on a rigid basis for understanding market segmentation expectations, cognition, decision-making, trends and behaviour. The Internet has become the destination for business and mass media in recent years, leading to a dramatic change in the way people purchasing. In addition to the rapid development and national coverage of Internet service providers, customers are now truly free from the constraints of brick-and-mortar stores and adapt quickly to the new era of online shopping ([21]).

Although there are now many theories in the world, the research model explains the factors that influence the behavior and acceptance of users buying online. But the application to the environment in Vietnam is difficult due to differences in economics, culture and society, while the research models in the country are quite small ([20]).

II.   LITURATURE REVIEW

2.1.   The concept of e-commerce

E-commerce means the distribution of goods, services, information or payments via computer networks or other electronic means.

E - Commerce is an application for technology that automates business transactions.

E - Commerce is a tool that helps businesses; customers reduce service costs, improve the quality of the product, and speed up service. In short, e - commerce is a business model that is enabled by information technology.

There are two major e-commerce models: B2B (business-to-business) and B2C (business-to-consumer).

B2B is an e-commerce model in which participants are businesses or organizations. Currently, the majority of e-commerce is implemented under this model. B2C is the e-commerce model in which the business sells to the consumer directly.

In addition to the two main models, the internet also forms many new models:

C2C (consumer-to-consumer): Personal sales direct to individuals such as car applications, consumer goods, real estate and software.

C2B (consumer-to-business): Individuals can find businesses to sell (goods, software) to businesses.

G2C (Government-to-citizens): State-owned organizations purchase and sell goods, services and information to businesses and citizens.

Online banking: access to banking services on individuals or businesses from commercial services online or via the Internet.

This thesis shall focus on Business to Customer (B2C) e-commerce.

Suggestion Research Model
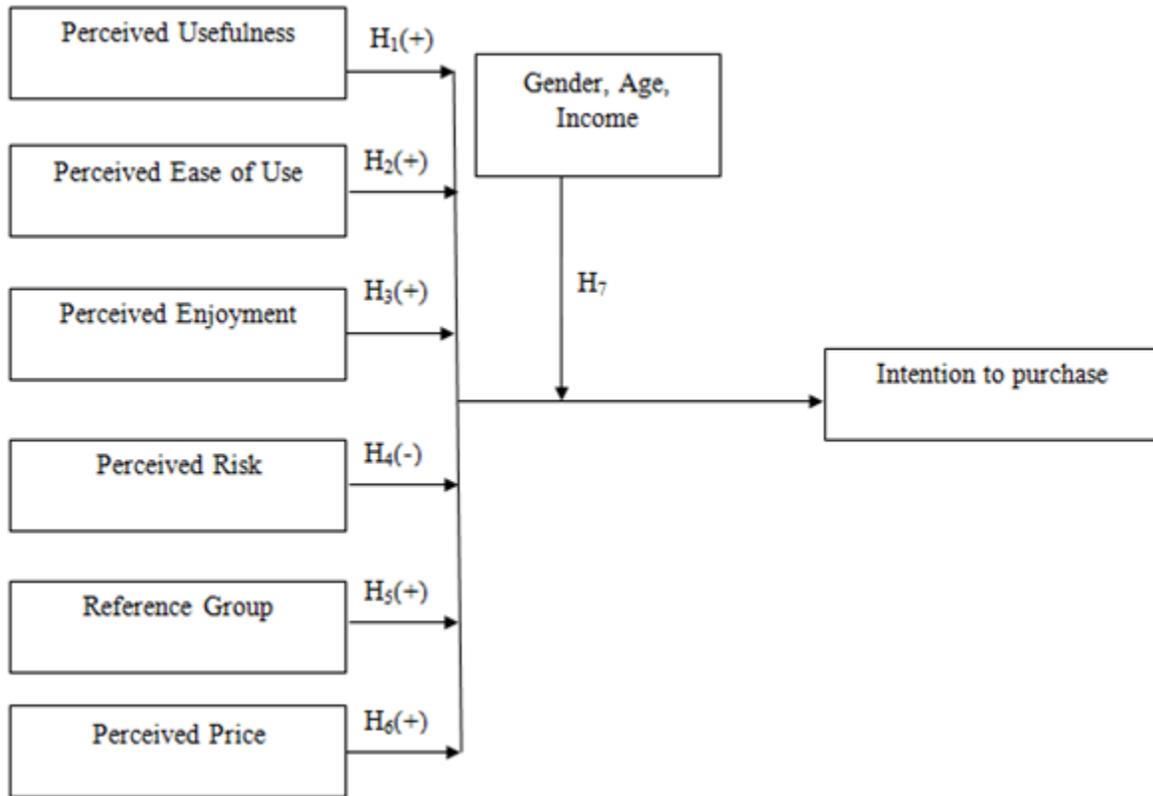
Figure 1: Proposed research model

Describe the elements in the proposed research model

Variable	Definition	Reference
Perceived Usefulness	The online shopping will bring convenience to consumers, they are no longer limited time and place when shopping.	[18]
PEU	Interoperability between web-based and consumer web sites, easily handled when performing searches and transactions.	[23] Moon Ji Won et al., 2001 [24] Venkatesh et al., 2003

Perceived Enjoyment	Sense of the user when using the online shopping service.	[23] Moon Ji Won et al., 2001
Perceived Risk	Risks arising during the transaction such as passwords, online fraud, loss of credit card.	[25] Joongho Ahn et al., 2001
Reference Group	The introduction of the use of friends, relatives and co-worker.	[24] Venkatesh et al., 2003
Perceived Price	The price of the product on the web compared to the price at the store is a factor of concern consumers over the network.	[18]

2.2. Developmental Hypothesis

Perceived Usefulness: [18] also stated that consumers find online shopping timesaving, effortless and convenient. As a result, the study posits the following hypothesis:

H1: Perceived Usefulness of e-buying affect purchase intention of customers positively (+)

Perceived Ease of Use (PEU): PEU is the degree of effortlessness a person believes a particular system could provide (Davis 1985). In this study, the PEU demonstrates that users are easy to get acquainted with, use electronic purchases online and become easy to become a proficient user of the service. Therefore, it can be hypothesized that:

H2: User's PEU of e-commerce will positively (+) influence their intention to purchase.

Perceived Enjoyment: is defined as the enjoyment degree of using technology perceived by a person apart from any probable anticipation caused by performance consequences [26] . In a research by Moon and Kim (2001) [23], pleasure perception expresses three components: concentration, curiosity, and enjoyment. They also discovered that pleasure was the premise of the inner motivation of using the world-wide-web, and confirmed that the intrinsic motivation was strongly correlated with the decision to use the Internet-based system. Thus, the expectation that perceptions of pleasure affect the acceptance of e-buying services online. From that, it can be hypothesized that:

H3: Perceived enjoyment positively affects (+) intention to purchase.

Perceived Risk: In Risk-Focused E-Commerce Adoption Model, the perception of risk associated with the product or service reflects the consumer's anxiety about the use of the online product. The risks associated with using the online purchase service include personal information loss, account loss, credit card information, the actual product does not conform to the advertisement.

H4: Perceived Risk negative effects (-) intention of consumer

Reference Group: The concept of social influence is defined as the extent to which users perceive that other important people believe they should use new systems, information technology products. Following to Unified Technology Acceptance and Use Technology model of Venkatesh et al. 2003 [24], Social influence has a positive influence on intention. In this study, social influences are manifested by the perception that people around them, such as family, friends, co-workers or other institutions, influence the intention to use the service online purchases of their electronics. Therefore, it can be hypothesized:

H5: Reference Group relate positively (+) to users 'intention to purchase.

Perceived Price: The price is what consumers pay to get the desired product or service. Perceived price is the consumer's perception of what you're going to sell at a cost. Consumers will feel the price on two sides: the cost of money must be spent and the opportunity cost of abandoning the use of that money to buy other products or services. According to the "Factors affecting online consumers" model, [18] mentioned that consumers believe that online purchases will save money and and be comparable in price.

H6: Perceived price have a positive (+) effect on the consumer's willingness to buy e-electronic products.

III.   METHODOLOGY

METHODOLOGY RESEARCH

Perceived Price Scale

Perceived price refers to the extent to which an individual believes that using electronic purchase e-commerce will help them save money and be comparable in price to shopping. According to the model "Factors affecting online consumers," [18] and "A study on the online purchasing behavior of women," Eliasson Malin (2009) [27] used the observation variables to measure the concept of "perceived price." After a qualitative study, the preliminary scale consists of 3 observation variables added: "E-commerce promotions help me save money."

Table 3. 1 Scale of Perceived Price

Code	Research Question
Price 01	The price of electronic goods on e-commerce cheaper than the price at the store
Price 02	Using e-commerce services makes it easy for me to compare prices
Price 03	Using e-commerce services helps me save on transport expenses to view the goods
Price 04	The promotions on e-commerce help me save money

Perceived Usefulness Scale

Perceived Usefulness refers to the level of an individual who believes that using e-commerce for electronic purchase will help them gain benefits in work and life. Following "Factors affecting Online Consumer Behaviour" model of [18] use the observation variables to measure the concept of "perceived usefullness ".

The "Perceived Usefulness" scale initially had four observational variables. This scale has nothing to do with the original.

Table 3. 2 Scale of Perceived Usefulness

Code	Research Question
Conve_05	E-commerce service useful, saving time
Conve_06	E-commerce shopping service that helped me find information about the product quickly
Conve_07	Using e-commerce service helps me buy products anywhere
Conve_08	Using e-commerce service helps me buy products anytime

Perceived Ease of Use Scale

PEU is defined as the level of ease related to the usage of system, IT products. The "PEU" preliminary scale has 4 observation variables. Through a qualitative study to eliminate the variable " Learning how easy it is to use e-commerce" and is replaced by "The features on e-commerce are extremely clear and easy to understand."

Table 3. 3 Scale of PEU

Code	Research Question
PEasy_09	Account registration procedures, e-commerce purchase and payment process is quite simple
PEasy_10	Easy to find the product you want to use e-commerce
PEasy_11	The features on e-commerce web are extremely clear and easy to understand
PEasy_12	Online shopping is easily compare one product to the others and make decision from that

Reference Group Scale

Social influences reflect the influence and impact of the surrounding people in encouraging and supporting users to use electronic purchase services online. The initial scale consists of four observation variables. This scale has nothing to do with the original.

Table 3. 4 Scale of Reference Group

Code	Research Question
SoInf_13	Every member of the family uses e-commerce, so I use it
SoInf_14	Friends, colleagues, customers recommend me to use the e-commerce service
SoInf_15	The media advertise e-commerce, so I join and try it out
SoInf_16	I would recommend that my friends shop online as well

Perceived Enjoyment

According to research by Moon and Kim (2001) [23], pleasure perception expresses three components: concentration, curiosity and enjoyment. The initial "Perceived enjoyment" scale was initially proposed to include four variables. Through qualitative research, rejecting the statement "Using the Internet every day is my hobby" as it does not focus on the interest of the e-commerce user. Replaced by " Promotion on e-commerce attracts me a lot". Referring to the research by Moon and Kim (2001) [23], the preliminary scale and the observed variables for the "Perceived Enjoyment" component are as follows:

Table 3. 5 Scale of Perceived Enjoyment

Code	Research Question
Enjoy_17	I have accounts on multiple shopping sites
Enjoy_18	I spend over 2 hours daily use online shopping websites
Enjoy_19	Whenever I find a good item on e-commerce I feel very excited
Enjoy_20	Promotion on e-commerce attracts me a lot

Perceived Risk

In Risk-Focused e-Commerce Adoption Model, the perception of risk associated with the product or service reflects the consumer's anxiety about the use of the online product. Use the following observation variables to measure "Perceived Risk" when using e-commerce for electronic purchase. Qualitative research helps to make words easier to understand, so there is no change in the variables.

Table 3. 6 Scale of Perceived Risk

Code	Research Question
PRisk_21	The quality of goods received from online purchases is lower than the advertised information
PRisk_22	I'm so worry that my personal information would be leaked out to the third party
PRisk_23	Online purchases may not receive the item
PRisk_24	My credit card information may not be secure

Intention to Purchase

Intention to use refers to the intention of the user will continue to use or will use e-commerce services. Thus, one additional observation variable "I intend to use". Finally, the intended scale is as follows:

Table 3. 7 Scale of Intention to Purchase

Code	Research Question
Inten_25	I intend to use (or continue to use) e-commerce in the future
Inten_26	I will definitely use e-commerce
Inten_27	I will learn to use e-commerce in the future
Inten_28	I will introduce e-commerce for many people to use

Summary of qualitative research results

Qualitative research helped to calibrate the scale for the following research models:

- Edit words in scale to make them easier to understand

- Add 5 observation variables, remove 2 observation variables.

- Finally, the "Research of Factors Affects Purchasing Decisions on E-commerce" model uses six conceptual components that influence the intention to use and a total of 28 observed variables in this model.

Quantitative Research

Quantitative research was conducted through questionnaires. The results are used to evaluate the reliability and validity of the scale, test the scale, verify the fit of the model.

Data Collection

Data collection was conducted using open questionnaire interviews. For research person who has a stable job and over 22 years old.

The questionnaire survey was conducted as follows: design the questionnaire online and send the link to the survey respondent's online, information recorded in the database.

- Place of research: Ho Chi Minh city

- Research time: May. 2019

The variables used for this concept will be measured by the 5 points Likert scale:

- Strongly Disagree

- Disagree

- Neutral

- Agree

- Strongly Agree

Likert type scales or frequencies use fixed-choice feedback formats and are designed to measure attitudes or opinions in the survey. (Bowling, 1997; Burns, & Grove, 1997)

Data Analysis

The sequence of data analysis is as follows:

Step 1 - Prepare information: retrieve the answer sheet, filter the information, encrypt the necessary information in the answer table, input and analyze the data using SPSS 2.0.

Step 2 - Statistical: conduct statistics describing the data collected.

Step 3 - Estimate the reliability: Cronbach Alpha analysis was performed.

Step 4 - EFA analysic: Scale analysis by EFA analysis

Step 5 - Multivariate regression analysis: performed multivariate regression analysis and validated the hypotheses of the model with a significance level of 5%.

Analyze data based on demographic variables to analyze the differences between the following groups: male and female; high income and low income; young and old.

IV.   DATA ANALYSIS

DATA DESCRIPTION ANALYSIS

Questionnaires have been given to 550 people for the survey. Following the elimination of invalid samples with missing information or from participants outside the target age range, 467 remains are up to quantitative analysis.

Table 4. 1 Result of respondents.

	Total samples	Valid samples	Invalid samples
Online survey	330	272	58
Offline survey	220	195	25
Total	550	467	83

4.1. Gender

Table 4. 2 Sample analysis by gender

Gender	Quantity	Percent
Male	210	44.97%
Female	257	55.03%
Total	467	

The number of women using online electronics purchase is higher than that of men, according to the figures in the sample. Specifically: 44.97% female and 55.03% male.

4.2. Age

Table 4. 3 Sample analysis by age

Age group	Quantity	Percent
22-24	27	5.78%
25-27	208	44.54%
28-30	85	18.20%
31-40	126	26.98%
Over 40	21	4.50%
Total	467	

The most distributed group in the age group is 25-27 (about 44.54%), the age from 31 to 40 accounted for 26.98%, the age group 28-30 accounted for 19.20 % and lowest among the age group of 22-24 and over 40 (following by 5.78% and 4.50% respectively).

4.3. E-commerce access time

Table 4. 4 Average time per visit e-commerce

Access Time	Quantity	Percent
Never use	46	9.85%
Under 10 minutes	58	12.42%
10-30 minutes	287	61.46%
Over 30 minutes	76	16.27%
Total	467	

Although they know about e-commerce, only 9.85% of respondents (46 respondents) have never purchased online. Most observers use online shopping sites over an average of 10-30 minutes at 61.46% and over 30 minutes at 16.27%.

4.4. Internet habits

Table 4. 5 Figures Internet habits

Internet Habit	Quantity	Percent
Under 3 years	1	0.21%
3-5 years	86	18.42%
5-7 years	182	38.97%
Over 7 years	198	42.40%
Total	467	

Among 467 observed targets, Internet users over 7 years is made up for almost half of number (42.40% of the targets) and only 0.21% that use Internet less than 3 years.

4.5. Reliability test

4.5.1. Evaluation criteria

Cronbach's Alpha Analysis is a statistical test of the degree of correlation between the items in the scale. This is a necessary reflection scale analysis that is used to exclude inappropriate variables before analyzing the EFA. Acceptable range for exploration purposes when the Alpha value of Cronbach is 0.6. Variable Coefficient — sum is the variable correlation coefficient with the average of other variables in the same high group. Coefficient of correlation-the sum must be greater than 0.3. Variables with variable correlation-rubbish variable less than 0.3 is considered and removed from the scale.

4.5.2. Cronbach's Alpha analysis results

Table 4. 6 Cronbach's Alpha analysis results

Factors	Item	Average intertem Covariance	Standard Deviation	Corrected Item-Total Correclation	Crombach's Alpha if item deleted
Perceived price	Price_01	3.52	0.920	0.681	0.731
	Price_02	3.94	0.892	0.542	0.799
	Price_03	3.57	0.832	0.662	0.743
	Price_04	3.49	0.868	0.620	0.761
	Crombach's Alpha: 0.808				
Perceived usefulness	Conve_05	3.26	1.127	0.531	0.672
	Conve_06	3.45	1.035	0.718	0.654
	Conve_07	3.91	.843	0.478	0.778
	Conve_08	3.56	1.027	0.638	0.699
	Crombach's Alpha : 0.781				
PEU	PEasy_09	3.14	1.025	0.594	0.715
	PEasy_10	2.82	1.098	0.587	0.716

	PEasy_11	3.21	1.244	0.531	0.748
	PEasy_12	3.15	1.185	0.610	0.703
	Crombach's Alpha: .744				
Reference group	SoInf_13	3.16	1.224	0.720	0.745
	SoInf_14	3.10	1.170	0.714	0.748
	SoInf_15	3.47	1.081	0.594	0.803
	SoInf_16	3.33	1.100	0.574	0.812
	Crombach's Alpha: 0.825				
Perceived Enjoyment	Enjoy_17	3.79	.990	0.753	0.823
	Enjoy_18	3.71	.926	0.743	0.821
	Enjoy_19	3.71	1.030	0.793	0.797
	Enjoy_20	3.54	1.090	0.614	0.875
	Crombach's Alpha: 0.867				
Perceived Risk	PRisk_21	2.81	1.186	0.706	0.738
	PRisk_22	2.67	1.357	0.755	0.706
	PRisk_23	2.70	1.346	0.721	0.724
	PRisk_24	2.96	1.283	0.390	0.874
	Crombach's Alpha: 0.815				
Intention to use	Inten_25	3.46	0.818	0.606	0.779
	Inten_26	3.39	0.819	0.696	0.737
	Inten_27	3.55	0.869	0.677	0.745
	Inten_28	3.51	0.803	0.558	0.800
	Crombach's Alpha: 0.814				

Comment: The concept of components has a coefficient of Cronbach Alpha higher than 0.6. The lowest is the "PEU" component with a coefficient of 0.774 for the Cronbach Alpha and the highest is "Perceived Enjoyment" (0.867). This shows that in the same concept the variables are closely related to one another.

4.5.3. Exploratory Factor Analysis (EFA)

The conceptual scale in the satisfactory model in the reliability assessment will be used in the EFA analysis.

4.5.3.1. Standard analysis

This study uses the Principal component extraction method with Varimax rotation and stopping when extracting elements with Eligen Values higher than or equal to 1 for 24 variables of measurement observation.

4.5.3.2. First EFA analysis

At the first EFA analysis, remove the SoInf_16 and PRisk_24 variables because of factor coefficients of <0.5.

Conducted the second EFA analysis with the remaining 26 variables.

Hypothesis H0: The observed variables have no correlation in the whole.

Barlett Test: Sig = 0.000 <5%. Rejection of H0, the observed variables in EFA analysis are correlated in overall.

- KMO = 0.883> 0.5: Factor analysis is required for analytical data.
- There are six factors extracted from the EFA analysis with:

Eigenvalues of all factors are> 1: qualified

Observed variables have load coefficients > 0.5: qualified

Total variance value = 69.364% (> 50%): EFA factor analysis was satisfactory. It can be said that these 6 factors explained 69.364% of the variance of the data.

Table 4. 7 The second factor loadings EFA

Rotated Component Matrix [a]							
Component							
Code	1	2	3	4	5	6	7
Enjoy_19	.847						
Enjoy_18	.816						

Enjoy_17	.810					
Enjoy_16	.604					
Price_01		.842				
Price_03		.794				
Price_04		.754				
Price_02		.736				
Inten_26			.774			
Inten_25			.750			
Inten_27			.730			
Inten_28			.658			
Conve_06				.811		
Conve_07				.738		
Conve_08				.664		
Conve_05				.596		
PEasy_12					.778	
PEasy_11					.722	
PEasy_10					.680	
PEasy_09					.658	
PRisk_22						.944
PRisk_23						.934
PRisk_21						.750
SoInf_13						
SoInf_14						
SoInf_15						

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

The results of the second EFA analysis showed that seven factors were extracted from these factors, corresponding to six original independence concepts: Perceived Enjoyment, Perceived Price, PEU, Reference Group, Perceived Risk, Perceived Usefulness and 1 Dependence Concept is Purchasing Intent.

Factor analysis results show that these factors ' observed variables have a good factor load factor (0.596 and above) and the Alpha coefficients of Cronbach are higher than 0.7. So the model will still consist of 6 conceptual component elements as the proposed model after calibration.

4.6. Research model after measuring scale

There is no change in the composition of the intended use of e-commerce from the results of the analysis. The research model will remain the same as the original proposal: 6 independent variables are the variables that influence the intention to use e-commerce and the intention to buy is one dependent variable.

Table 4. 8 Abstract hypothesis in the research model

Hypothesis	Content
H_1	Perceived price have a positive (+) effect to users'intention to use e-commerce
H_2	Perceived Usefulness of e-buying relate positively (+) to users'intention to use e-commerce
H_3	User's PEOU of e-commerce will positively (+) to users'intention to use e-commerce
H_4	Perceived enjoyment positively affects (+) to users'intention to use e-commerce
H_5	Reference Group relate positively (+) to users'intention to use e-commerce
H_6	Perceived Risk negative affects (-) to users'intention to use e-commerce

4.7. REGRESSION analysis and hypothesis

4.7.1. Correlation analysis

Between INTEN and independent variables such as Perceived Price (PRICE), Perceived Usefullness (CONVE), PEU (PEASY), Perceived Enjoyment (ENJOY), Reference Group (SOINF), Perceived Risk (PRISK), correlational analysis is carried out. At the same time, it is also analyzed the correlation between the independent variables to find the strong correlation between the independent variables. Because such correlations can have a major impact on the result of regression analysis as they result in multi-co linearity.

Pearson correlation analysis results as shown below:

Table 4. 9 Pearson correlation analysis

Correlations								
		INTEN	PRICE	CONVE	PEASY	SOINF	ENJOY	PRISK
INTEN	Pearson Correlation	1.000	.237**	.393**	.435**	.454**	389**	-.276**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	467.000	467	467	467	467	467	467
PRICE	Pearson Correlation	.237**	1.000	.052	.026	.104*	-.139**	-.025
	Sig. (2-tailed)	.000		.262	.574	.025	.003	.596
	N	467	467.000	467	467	467	467	467
CONVE	Pearson Correlation	.393**	.052	1.000	.357**	.584**	.480**	-.086
	Sig. (2-tailed)	.000	.262		.000	.000	.000	.063
	N	467	467	467.000	467	467	467	467
PEASY	Pearson Correlation	.435**	.026	.357**	1.000	.436**	.412**	-.156**
	Sig. (2-tailed)	.000	.574	.000		.000	.000	.001
	N	467	467	467	467.000	467	467	467
SOINF	Pearson Correlation	.454**	.104*	.484	.436**	1000	.468**	-.108*
	Sig. (2-tailed)	.000	.025	.000	.000		.000	.020
	N	467	467	467	467	467.000	467	467
ENJOY	Pearson Correlation	.389**	-.139**	.480**	.412**	.486**	1.000	-165**
	Sig. (2-tailed)	.000	.003	.000	.000	.000		.000
	N	467	467	467	467	467	467.000	467
PRISK	Pearson Correlation	-.276**	-.025	-086	-.156**	-.108*	-.165**	1.000
	Sig. (2-tailed)	.000	.596	.063	.001	.020	.000	
	N	467	467	467	467	467	467	467.000

Comment: Independent variables have a strong linear correlation with dependent variables and statistically significant correlation coefficients ($p < 0.01$).

4.7.2. Regression analysis

Multivariate regression results as shown in Table 4.10

Table 4. 10 The coefficients of the independent variables in the multivariate regression

Model Sumary b					
Model	R	R Square	Adjusted R Square	Std.Error of the Estimate	Durbin - Watson
1	620	.384	.376	.52246	2.076
a. Predictors: (Constant), PRISK, PRICE, CONVE, PEASY, ENJOY, SOINF					
b. Dependent Variable: INTEN					

ANOVA b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.422	6	13.070	47.883	.000 a
	Residual	125.563	460	.273		
	Total	203.985	466			
a. Predictors: (Constant), PRISK, PRICE, CONVE, PEASY, ENJOY, SOINF						
b. Dependent Variable: INTEN						

Coefficients a								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std.Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.289	.205		6.327	.000		
	PRICE	.214	.036	.225	5.991	.000	.939	1.065
	CONVE	.087	.040	.104	2.199	0.28	.599	1.067
	PEASY	.163	.032	.217	5.121	.000	.744	1.345
	SOINF	.118	.033	.177	3.634	.000	.567	1.764
	ENJOY	.131	.036	.169	3.677	.000	.636	1.572
	PRISK	-.103	.021	-.181	-4.843	.000	.962	1.040
a. Dependent Variable: INTEN								

Comment: Relevance of the model: Thus, the modified R^2 model is 0.376, which means that 37.6% of the variance of the intended use (INTEN) is explained by the variation of the

components: Perceived price (PRICE), perceived usefullness (CONVE), PEU (PEASY), perceived enjoyment (ENJOY), reference group (SOINF), perceived risk (PRISK).

Test the hypothesis of model fit:

Hypothesis H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ (all partial regression coefficients = 0)

$\text{sig}(\beta_1)$, $\text{sig}(\beta_2)$, $\text{sig}(\beta_3)$, $\text{sig}(\beta_4)$, $\text{sig}(\beta_5)$, $\text{sig}(\beta_6)$ < significance (5%), the independent variables are PRICE, PEASY, SOINF, ENJOY, PRISK with significant statistical significance at 5% significance.

Multi-collinearity testing: VIF values <10: Multiplicity phenomena of independent variables do not affect the interpretation of the model.

Remainder: From normal normalized frequency histogram (Appendix II. 2.4) with mean value = 1.5 * $10^{-16} \cong 0$; Standard deviation = 0.994 $\cong 1$: distribute the remainder of the form near the standard, satisfying the hypothetical assumption of the normal distribution of the residual.

The Durbin-Watson coefficient of 2.076 shows that the errors in the model are independent of each other.

4.7.3. Hypothesis verification

Perceived price

Hypothesis H_1: Perceived price have a positive (+) effect to users'intention to use e-commerce

The reference standard deviation $\beta_1 = 0.226$, sig $(\beta_1) = 0.000$ <5%: Support the hypotheis H_1

Comment: Survey results show that "perceived price" has a positive (+) effect on the intention of users to use e-commerce. The more about the price, the more interested users intend to use the e-commerce service.

Perceived usefulness

Hypothesis H_2: Perceived Usefulness of e-buying relate positively (+) to users's intention to use e-commerce.

The refercence standard deviation $\beta_2 = 0.104$, sig $(\beta_2) = 0.000 < 5\%$: Support the hypothesis H_2.

Comment: Thus, e-buying perceived usefulness is positively (+) related to the intention of users to use e-commerce. The more convenience sellers bring to buyers, the more online shopping services they would use.

PEU

Hypothesis H_3: User's PEOU of e-commerce will positively (+) to users'intention to use e-commerce.

The reference standard deviation $\beta_3 = 0.217$, sig $(\beta_3) = 0.000$ <5%: Support the hypothesis H_3.

Comment: So that user's PEOU of e-commerce will positively (+) to users's intention to use e-commerce that means that when the user realizes that the functionality and operation of e-commerce is easy to use, the intention to use the service for consumers will increase.

Perceived enjoyment

Hypothesis H_4: Perceived enjoyment positively affects (+) to users'intention to use e-commerce.

The reference standard deviation $\beta_4 = 0.169$, sig $(\beta_4) = 0.000 < 5\%$: Support the hypothesis H_4.

Comment: As the hypothesis mention, perceived enjoyment positively affects (+) to users'intention to use e-commerce. Perceived enjoyment when buying electronic on e-commerce as an internal motive increases the individual's intention. When users find that content and activities on e-commerce websites are interesting, their intentions will increase.

Reference Group

Hypothesis H_5: Reference Group relate positively (+) to users'intention to use e-commerce.

The reference standard deviation $\beta_5 = 0.117$, sig $(\beta_5) = 0.000 < 5\%$: Support the hypothesis H_5.

Comment: Positively (+) refers to the intention of users to use e-commerce. In other words, in the survey, the impact of the people around them affected consumers. The more influential people (family, family, colleagues, etc.) support and encourage, the greater the intention of consumers to use the e-commerce service.

Perceived Risk

Hypothesis H_6: Perceived Risk negative effects (-) to users' intention to use e-commerce.

The standard deviation $\beta_6 = -0.181$, sig $(\beta_6) = 0.000 < 5\%$: Support the hypothesis H_6.

Comment: As we can see Perceived Risk negative effects (-) to users 'intention to use e-commerce, consumers are more aware of the risk, the less they intend to use. Today, cyber security is a top issue for online shopping sites in Vietnam, which has had a negative impact on consumers' purchasing decisions.

Table 4. 11 Summary of hypothesis verify results

Hypothesis	Content	Result
H_1	Perceived price have a positive (+) effect to users'intention to use e-commerce	Support H_1
H_2	Perceived Usefulness of e-buying relate positively (+) to users'intention to use e-commerce	Support H_2

H_3	User's PEOU of e-commerce will positively (+) to users'intention to use e-commerce	Support H_3
H_4	Perceived enjoyment positively affects (+) to users'intention to use e-commerce	Support H_4
H_5	Reference Group relate positively (+) to users'intention to use e-commerce	Support H_5
H_6	Perceived Risk negative affects (-) to users'intention to use e-commerce	Support H_6

4.8. Discriminant analysis in demographic variables

Income discrimination

Income differences hypothesis:

- Hypothesis $H_{3,0}$: In terms of income, there is no difference in intention to use

- Hypothesis $H_{3,1}$: In terms of income, there is no difference in perceived price

- Hypothesis $H_{3,2}$: In terms of income, there is no difference in perceived usefullness

- Hypothesis $H_{3,3}$: In terms of income, there is no difference in PEU

- Hypothesis $H_{3,4}$: In terms of income, there is no difference in social influence

- Hypothesis $H_{3,5}$: In terms of income, there is no difference in perceived enjoyment

- Hypothesis $H_{3,6}$: In terms of income, there is no difference in perceived risk

Homogeneity tests of the PRICE and ENJOY components 0.0%, 0.9% respectively, were higher than 5%, indicating the variance of income was equal to the ANOVA analysis.

Homogeneity test of components INTEN = 78.9%, CONVE = 5.5%, PEASY = 39.0%, SOINF = 48.4%, PRISK = 56.6% <5% variance of income is not equal, does not satisfy the ANOVA analysis conditions.

Among factors that satisfy the condition of ANOVA can be seen:

Sig (INTEN) = 1.9%, Sig (SOINF) = 4.1%< 5%

Rejection of $H_{3,0}$ & $H_{3,4}$: There are difference in income group in the intention to use e-commerce and social influence.

In particular, the intention to use low-income group e-commerce tends to be lower than that of high-income groups, while low-income groups tend to be more vulnerable than high-income groups to social impact. This may be due to the higher income group being more exposed to using e-

commerce services, so their intentions to buy e-commer are higher. Moreover, the level of impact from their social impact is lower than that of low-income groups due to more exposure to information sources.

Sig (CONVE) = 31.2%, Sig(PEASY) = 19.5%, Sig(PRISK) = 23.8% > 5%

There is no basis for $H_{3,2}$, $H_{3,3}$, $H_{3,6}$ rejection: meaning there is no evidence of income group differences with PEU, perceived usefulness, and perceived risk. This can be explained by the fact that in recent years only e-commerce service has grown, making online payments one of the key strengths of e-commerce has not yet become widely known. Therefore, there is no difference between income groups in ease of use, usefulness as well as risk.

4.9. Conclusion

Section 4 presented information on survey samples, Cronbach's Alpha and EFA analysis, multivariate regression analysis, and control variables.

The information from the observation sample showed that the sample was young, ranging from 25 to 27 years old. Most of them have knowledge of using the Internet, have knowledge of using e-commerce.

The Cronbach Alpha reliability and EFA analysis of SoInf_16 and PRisk_24 variables.

V. Conclusion

The study suggests that e-commerce providers can improve and enhance customer service, depending on the extent to which each factor influences the intention to use electronic purchases.

5.1.1. Perceived Price

Service providers therefore need to pay attention to price-related factors in order to attract consumers in order to improve the intention to buy electronic goods through the user network.

5.1.2. Perceived Usefulness

Service providers need to improve the purchasing process, simple, convenient, complete installation information and guarantee to improve the intention to use consumer purchasing e-commerce services. There will also be a significant reduction in online purchases if you do not pay online. Moreover, wider advertising is needed to enable consumers to see the convenience of buying electronics online.

5.1.3. PEU

This demonstrates that consumers are very keen on ease of use. However, there was not a high level of consumer feeling in the survey (from 2.82 to 3.21). In order to raise awareness of e-

procurement providers ' ease of use, it is important to provide complete user information, displaying instructions in the process at prominent locations; access website.

5.1.4. Perceived Enjoyment

The survey results agree with the perceived pleasure statements that the user's approval level for this factor is quite high (3.54 to 3.79 on average). This demonstrates that e-commerce is now a new trend that attracts attention to all ages. Therefore, when implementing advertising programs to promote their services, e-commerce service providers need to pay attention to the aspect of exploring and discerning.

5.1.5. Reference group

As friends and relatives, colleagues, partners, media, the audience can influence consumers. The survey results agree with the social impact statements that the user's level of consent to family and family impact is low (from 3.10 to 3.16), while the organization's level of impact is higher (3.47), the data does not support media impact information. E-commerce providers should therefore focus on marketing programs for teams, organizations and referral discounts. Consumers will introduce and invite their friends and colleagues to participate in promotional activities.

5.1.6. Perceived Risk

The results show that users do not agree with Perceived Enjoyment (average of observation variables from 2.57 to 2.94)

The impact of risk awareness tends to be greater for women, so online e-commerce providers need to have policies tailored to women in order for them to feel secure when purchasing electrical goods. death through the network.

5.2. Contribution of research

Research with theoretical and practical contribution in online trading in Vietnam

5.2.1. Contribution in theory

Based on the UTAUT model combination (Venkatesh et al., 2003) [24] model "Factors affecting online consumers", E-CAM (Joongho Ahn et al., 2001) [25] and extended TAM for WWW (Moon Ji Won & Kim Young Gul, et al., 2001) [23], this research provided a more comprehensive overview of research and survey compared to a single model. On the other hand, it is designed for developed countries to measure this research. However, through practical data in Ho Chi Minh City and surrounding provinces, this measurement is modified and evaluated to match the Vietnamese

environment. The data will play a role in measurement theory that will help academic and applied researchers gain a better understanding of the Vietnamese market.

5.2.2. Contribution in application

This research has opened up a path for service providers to carry on similar research with other products such as: magazines, movies … And eventually, service providers in both developing countries and Vietnam will be able to improve e-commerce service.

5.3. Proposal for E-commerce Business

5.3.1. Increase spending benefit for consumers.

The business needs to concentrate on building up its customer services: The third party would organize fastest delivery activities, COD activities across the country.

5.3.2. Minimize the risk for the purchasers when they use online sale services

According to the research, buying online is quite risky. Therefore, product safety would be the purchasing decision's priority. Online sales providers need to provide a safe way of ensuring consumers ' purchasing process. Through hard qualification process, they need to shortlist the good quality product. The sale would grow dramatically as consumers gained confidence. Not only should they care about the short-term profit in order to get the products of low quality. That is the easiest way to kill their business.

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