Vietnamese Consumers' Perception of Risks in Online Shopping

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ABSTRACT

In Vietnam, online shopping is still in its early stages and consumers are reluctant to use the Internet for their shopping because of some barriers which have not yet clearly defined. The study examines four main online perceived risks - performance risk, financial risk, time risk and privacy risk - to see how they affect consumer's attitude and online purchase intention. The overall perceived risks negatively affect consumer's attitude toward online shopping. Whenever consumers have a positive attitude towards online shopping they will plan to buy online. Based on the findings, some recommendations to Vietnam online companies and individuals are made for their improvement in consumers' perceived risk reducing solutions.

Keywords: perceived risk, online shopping attitude, purchase intention

1. INTRODUCTION

The new technology innovation of the Internet has set up a new and obvious trend of online shopping or e-commerce business model in the world with several advantages over conventional ones. While it was well accepted in developed countries and consumers have benefited from it, in Vietnam e-commerce has just begun and consumers are reluctant to use it for their shopping because of some barriers, which have not yet clearly defined in previous researches particularly for Vietnamese business environment.

Many researchers have discussed online consumer behavior theory and made empirical studies, and they found that there are many factors affecting online purchase intention and behavior. Among these, perceived risk is studied as a negative factor to the intention and actual action of online purchase. Based on these literature reviews, applying to Vietnam market, we make an assumption that there is a relationship between perceived risks and online purchase intention of Vietnamese consumers, and perceived risks are barriers to e-commerce development in Vietnam. The investigation of these perceived risk factors and their relationships with online purchase attitude and intention in Vietnamese context therefore is important for manufacturers as well as resellers to understand well what their consumers' insights of online purchase risks are; and through that they can make preparation of better management of risk-reliever factors and improve consumers attitude and purchase intention in their online businesses.

2. THEORY AND HYPOTHESES

Online shopping has some advantages compared with conventional shopping. It is convenient because consumers can have access to online stores at any time and at any place where Internet is available. Consumers can also review product's information, or comment or rate their items online and share their shopping experience with others. On the other hand, online shopping also has some disadvantages relating to its compatibility and complexity of technology, fraud and security concerns, privacy, product suitability, and shipping terms and conditions, etc. Consumers are reluctant to shop online because they perceive some risks (Liu and Wei, 2003).

Perceived risk is commonly thought as a negative feeling of uncertainty about possible consequences from using a product or service. Bauer (1967) defined risk as a combination of uncertainty plus seriousness of outcome involved. Featherman &

Pavlou (2003) said risk is the potential for loss in the pursuit of a desired outcome of using an e-service. Perceived risk is a concern in almost every decision of purchasing process. If someone sees that his/her perceived risk (potential loss of resources) in a deal is too high for some reason, he/she is less likely to have favorable evaluation on the purchase, and he/she is therefore likely to postpone the transaction until some form of protection is in place in order to minimize the associated risks.

Online purchase decision process with its identical characteristics of computer environment and geography distance seems to have higher associated level of risk perceived. Computer environment requires consumers to have technological knowledge about the interaction between client-side interface and program run on suppliers' side that not all people can easily adopt at the first time. They therefore may perceive it as a higher level of risk.

Performance risk is related to performance of the purchased product or service; it can be understood as quality risk as well. Featherman & Pavlou (2003) defined performance risk as the possibility of a product's malfunction or poor performance which does not meet the expectation as it is designed or/and advertised and thus fails to bring satisfaction to end-users. In online shopping environment, performance risk can easily happen because customers usually have no chance to test product or service in person prior to the purchase. Information that consumers collect before an online purchase is usually from advertisements/ claims of the web store itself or from its testimonials. Thus, if consumers do not have trust in online shopping in general or in a specific web store, they might perceive such online transaction of high performance risk; and they are then not likely to consider the purchase.

Financial risk is defined as the potential loss of expense paid for the initial purchase price as well as the cost for subsequent maintenance of the product that cannot be replaced or refunded or that fails to deliver to consumers (Doolin, 2005). Kuo-Kuang & Chi-Hua (2008) define financial risk as a loss incurred when consumers have made an inappropriate decision to buy a product that he/she cannot return, or refund or that he/she may not receive the delivery.

Privacy risk is defined as potential loss of control over personal information leading to potential consequence of misuse of them, especially credit card or other financial information without consumers' acknowledgement or permission (Monsuwe et al., 2004); or as unauthorized collection of personal information of users during their

Internet use; or as the supply of personal information to a third party by the collecting company. In some serious cases, privacy risk may lead to fraudulent transactions, and they become financial loss to consumers.

Time risk is defined as time loss for making a bad purchasing decision including time to research and make the purchase, to learn and adjust how to use, and to replace or repair a product or service (Featherman & Pavlou, 2003). Consumers are very time-oriented and concerned about potential risks of 'wasting time' implementing, learning how to use, and troubleshooting a new e-service. They therefore are likely to guard against the possible loss of time risk, and are less likely to adopt the e-service if they consider high switching, setup and maintenance time costs.

a. Online-Shopping Attitude:

Attitude towards a behavior refers to the sum of one's beliefs about performing the target behavior, which can be evaluated either positively or negatively or refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question (Li & Zhang, 2002).

Online-shopping attitude has been conceptualized in several different ways in the existing literature. First, it refers to the consumers' acceptance of the Internet as a shopping channel (Jahng et al., 2001). Second, it refers to consumer attitudes towards a specific Internet store, i.e. the extent to which consumers think that shopping at this store is appealing.

b. Purchase Intention:

In the theory of attitude change and behavior, attitude towards behavior determines the behavioral intention to perform a behavior. Heijden (2003) states that a person is more intent on performing a behavior when he/she has a positive attitude towards a behavior, and he/she is less intent on performing when he/she has a negative attitude. Moreover, the stronger the intention to engage in a behavior, the more likely its performance should be. In short, positive attitude towards behavior leads to a stronger intention and finally engages in purchasing behavior.

Based on the literature review and discussion, six hypotheses are proposed as below:

H1. There is a positive relationship between performance risks with overall perceived risk in online shopping.

H2. There is a positive relationship between financial risks with overall perceived risk in online shopping

H3. There is a positive relationship between privacy risks with overall perceived risk in online shopping.

H4. There is a positive relationship between time risks with overall perceived risk in online shopping.

H5. There is a negative relationship between overall perceived risk with consumers' attitude towards online shopping.

H6. There is a positive relationship between consumers' attitude towards online shopping with their purchase intention.

3. METHODOLOGY

Qualitative discussion of two focus groups is to explore consumers' perceptions of online purchasing in general and of perceived risks in particular. The first group includes two university students and two homemakers; the second one is among working people including two managers and two office workers. All of them are Internet users.

The qualitative discussion helps to get ideas for a quantitative questionnaire design. The discussion is based on the draft questionnaire designed from the literature review. After the first session of respondents' understandings of online shopping, the second session concerns a list of risks in online shopping and develops all related observation items to measure the consumers' perceived risks and their attitude and intention of online shopping.

After the qualitative phase, seven proposed constructs are found to be relevant to Vietnamese consumers and all are accepted. There are four constructs of risk factors, one of overall perceived risk, one of online-shopping attitude and one of purchase intention. Twenty-two observation items are developed into complete statements based on a five-point Likert scale from 1-5 (1 means "strongly disagree" - 5 means "strongly agree"). Wordings that describe a clear level of risk in each statement for respondents' comprehensive understanding are adjusted.

Data are collected by convenient sampling method via both online and offline survey. After collected, data are processed and analyzed by SPSS software with the descriptive analysis, reliability, factor analysis, linear regression, and T-test. For online

survey, Google Docs – Spreadsheet is used. The questionnaire is edited in Spreadsheet Form, after that the Form link is sent out to respondents via their email addresses. The link of questionnaires is sent to about 200 email addresses and expected 100-150 responses of answer sheets. For offline survey, 100 questionnaire sheets were delivered to Internet users for an expected return of 50-60 qualified answer sheets. After two weeks, 266 answer sheets are collected and 153 of which are valid for further processing. Hence, the actual sample size of the research contains 153 respondents.

4. RESULTS

General information of the research sample is shown in details in Table 1. Nearly 80% of respondents are under 40 years old. Gender contribution is nearly the same with 52% female and 48% male. Only 22% of the respondents attain below-university education, which shows a high education background of the sample. The three most popular occupations are office staff (37%), managers (26%) and technicians (16%). Monthly income of the sample is rather high with 60% of the respondents have monthly income above VND10 million.

Table 1: Sample Profile

Characteristics (n=153)		Frequency	Percent
Age	Under 23	10	7%
	24-30	54	35%
	31-40	56	37%
	Over 40	33	21%
Sex	Male	73	48%
	Female	80	52%
Monthly income	Under VND10 mn.	61	40%
	VND10-20 mn.	50	33%
	VND20-30 mn.	22	14%
	Over VND30 mn.	20	13%
Education	High school	12	8%
	Three-year college	22	14%

	University	88	58%
	Above university	31	20%
Occupation	Housewife	5	3%
	Worker	2	1%
	Technician	24	16%
	Office staff	56	37%
	Manager	40	26%
	Business Owner	2	1%
	Student	6	4%
	Freelancer	12	8%
	Retired	2	1%
	Other	4	3%

Half of respondents have less than four-hour access to the Internet while the other 27% and 19% access in 4-8 hours and over 8 hours per day respectively. The purposes of Internet access are presented in Figure 1. Four popular purposes are reading news or searching for information (94%), emailing (61%), chatting (54%), and listening to music (51%).
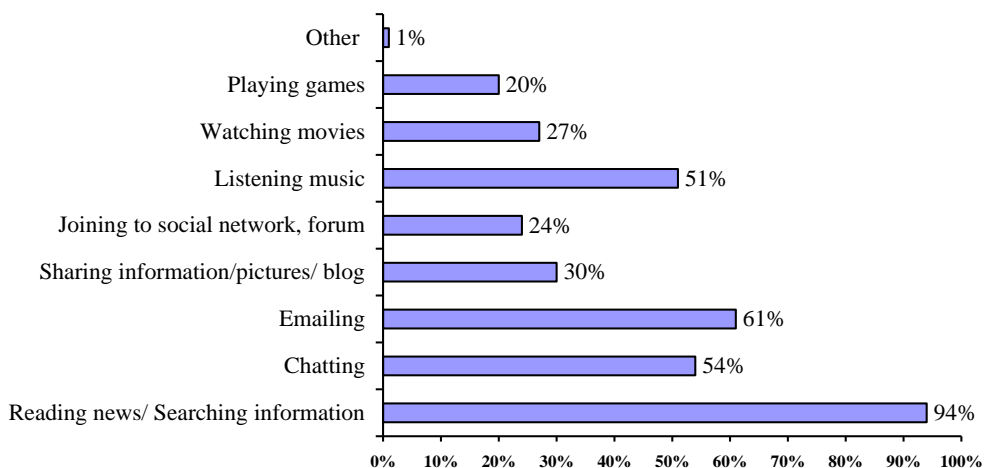

Figure 1: Internet Access Purpose

Table 2: Factor Analysis of Seven Constructs

Observation Items	Factor loading	Cronbach alpha	Cumulative %
Performance Risks (PERF)			
PERF1 – bad performance because of lack of in-person check before purchase	0.840		85.655
PERF2 – performance is different from the advertisement or claims	0.815	0.927	
PERF3 – performance brings low satisfaction	0.652		
Financial Risk (FINA)			
FINA1- loss because goods may not be delivered	0.778		65.691
FINA2 – loss because it's hardly to return, replace or repair goods	0.802	0.873	
FINA3- loss because of credit card potential fraud	0.704		
Privacy Risk (PRIV)			
PRIV1 – personal information may be revealed by web stores to 3rd party	0.844		23.237
PRIV2 – security system are not strong enough to protect personal information	0.851	0.934	
PRIV3 – internet hacker may attack and get personal information	0.841		
Time Risk (TIME)			
TIME1 – time loss for searching for products	0.810		45.672
TIME2 – time loss in setting, learning payment process	0.919	0.887	
TIME3 – time loss for solving related problems	0.693		
Overall Perceived Risk (OVERALL)			
OVERALL1 – overall uncertainty feeling	0.936		89.226
OVERALL2 – feeling of consequences of online	0.942	0.961	

purchase

OVERALL3 – feeling of possible losses due to online purchase	0.948		
OVERALL4 –feeling of risky in general	0.952		
Online Shopping Attitude (ATTI)			
ATTI1- online shopping is a good shopping channel	0.936		87.661
ATTI2 – positive attitude towards online shopping	0.942	0.929	
ATT3 – online shopping is appealing	0.948		
Purchase Intention (INTE)			
INTE1 – intent on buying online	0.953		88.501
INTE2 – willing to buy online	0.959	0.936	
INTE3 – consider buying online	0.909		

After performing EFA with four defined factors of risk, all of the observation items are extracted in their same construct as proposed before. This confirms that the observation items in each construct are well applicable to the research model. The four extracted factors are kept the same as beginning as PERF, FINA, PRIV and TIME. KMO value in this EFA is 0.883, much higher than the minimum requirement of 0.5, at the Barlett's test of sphericity sig. <0.05, which means the correlation among these 12 observation variables is significant. The cumulative loading percent is very high, at 85.65%, which indicates that the four components extracted can explain 85.65% of the total variance, and separately, PRIV component can explains 23.7%, TIME, FINA and PERF respectively 21.93%, 20.02% and 19.96% of the data.

For the rest three constructs of OVERALL, ATTI and INTE, they are considered as uni-dimensions and results of EFA for these three constructs. KMO of all three constructs is high and they are over 0.7 at significance level of 0.000. Cumulative loadings percentage of each construct gets over 85%. Therefore, it is concluded that they all well meet the criteria and applicable for further regression analyses.

Table 3: Multiple Regression Model

R	R^2	Adjusted R^2	ANOVA		
			df1	F	Sig. F Change
.907	.823	.819	4	148	.000
Model	**Beta**	**t**	**Sig.**	**Collinearity Statistics**	
(Constant)	1.788	10.940	.000	Tolerance	VIF
PRIV	.311	8.262	.000	.842	1.188
TIME	.361	10.164	.000	.944	1.060
PERF	.407	11.116	.000	.888	1.126
FINA	.413	10.202	.000	.728	1.374

Table 3 shows that the adjusted R^2 of this model is 0.819 implying that 82% of dependent variable OVERALL (Overall perceived risk) is explained by four predictors of privacy risk (PRIV), time risk (TIME), financial risk (FINA) and performance risk (PERF). The high R^2 shows this is a good model. P-values for four predictors in coefficients table are all significant (<0.001), which explains the significant relationship between dependent variables PRIV, TIME, FINA, and PERF and independent variable OVERALL.

The beta value shows how strong the relationship between dependent and independent variables. The bigger the beta value, the stronger relationship between dependent and independent variables. In Table 3, among four predictors, financial risk (FINA) is the most important one affecting the overall perceived risk in online shopping (OVERALL) because it has the highest value of beta value of 0.413, followed by performance risk (PERF) of 0.407 and time risk (TIME) of 0.361. Privacy risk (PRIV) has the least effect on the overall perceived risk with beta value of 0.311. So H1, H2, H3 and H4 are all accepted. Since all VIF values of these four factors are around 1.0 and all are smaller than 10, it is concluded that there is no multicollinearity.

Table 4: Single Regression Models

Model	Adjusted R^2	F Change	Sig. F Change	Beta	T	Sig.
A. Independent var.: OVERALL Dependent var.: ATTI	0.597	226.498	0.000	-0.775	-15.050	0.000
B. Independent var.: ATTI Dependent var.: INTENT	0.838	779.616	0.000	0.916	27.922	0.000

The results of two single regression models are shown in Table 4. For model A, there is a considerably negative relationship between overall perceived risk and attitude towards online shopping, with the adjusted R^2 value of 0.60, and the beta value of -0.775 (p < 0.001). Thus, H5 is accepted. For model B, F-value in ANOVA analysis has Sig. <0.001, the adjusted R^2 value is 0.84, and the beta value is 0.916 (p < 0.001). There is a considerably positive relationship between attitude towards online shopping and intention to do online purchasing. Thus, H6 is accepted.

The result of hypotheses' testing is summarized in Figure 2. Generally, all six proposed hypotheses are supported.
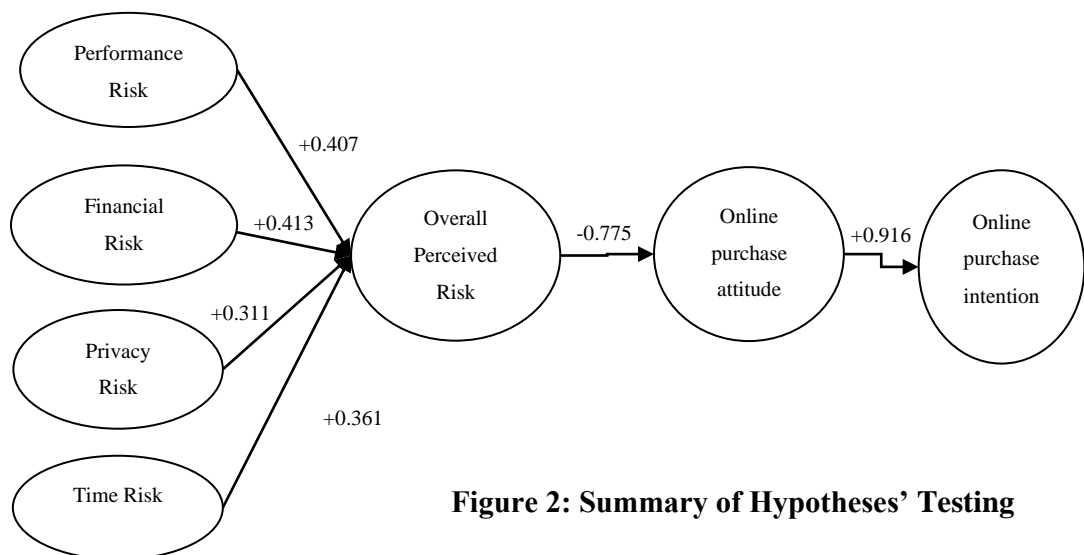
Figure 2: Summary of Hypotheses' Testing

At 95% of confident interval, the difference of perception between male and female in terms of performance risk, privacy risk and time risk are considerable as the p-value of t-test of these factors are 0.043, 0.034 and 0.003 respectively. Furthermore, there is no significant difference in perception of financial risk between the two groups (Table 5).

Table 5: T-test by Gender

Factors	Sex	n	Mean	Std. Deviation	Mean difference	Sig.
PERF	Male	73	3.3425	1.05259	-.32420	0.043*
	Female	80	3.6667	.89380		
FINA	Male	73	3.5845	.96190	-.05303	0.710
	Female	80	3.6375	.77983		
PRIV	Male	73	3.3059	1.01646	-.30656	0.034*
	Female	80	3.6125	.74525		
TIME	Male	73	2.8676	.93910	-.44909	0.003*
	Female	80	3.3167	.92458		

Note: * denotes the significance at $p < 0.05$

5. CONCLUSION AND IMPLICATIONS

The research concludes that there are four risk factors composing overall perceived risk in online shopping, in which financial risk is the strongest predictor of consumers' perception of overall risk in online shopping ($\beta=0.413$). Performance risk is the second important one ($\beta=0.407$), followed by time risk ($\beta= 0.361$) and finally privacy risk ($\beta=0.311$).

The overall perceived risk causes strongly negative impacts on online purchasing attitude. This relationship is confirmed by data from linear regression analysis with high negative beta value of -0.775. This implies the higher overall risks are perceived by consumers, the more negative attitude they have towards online shopping. Additionally, the more negative attitude towards online shopping consumers have, the less likely their purchase intention is. In this model, the relationship between online shopping attitude and purchase intention is very strong with $\beta=0.916$.

Another conclusion is the different awareness of risks between male and female. Women usually consider online shopping as a higher level of performance risk, privacy risk and time risk rather than men.

Understanding well consumers' perception of different risk dimensions, of how they compose the overall perceived risk and how strong the overall perceived risk influence the attitude and purchase intention in online shopping will help manufacturers and resellers find the best ways to reduce perceived risks, enhance consumers' attitude towards online shopping for better purchase intention. After all, when purchase intention increases, companies can generate higher turnover or sales and their online business can be developed better.

It is confirmed that in Vietnamese mind set, *financial risk* is considered as the most important predictor of the overall risk in online shopping. This finding implies that Vietnamese online businesses have not managed to gain consumers' trust, and thus their customers are still afraid of not receiving the product delivery or afraid of poor after-sales services. Since online shopping is still a new business model that most Vietnamese consumers do not know well about and they therefore perceive it as a risky channel of shopping, consumers' trust becomes the most important thing that can help companies to effectively eliminate any kind of risk concerns. In order to gain trust, companies should have a long-term business strategy to develop their brand of products or web stores so that consumers could identify the brand, and believe in its value and credibility.

Additionally, a clear policy of delivery, with perfect after-sale services, that allows consumers to return or replace low-quality products or services or to give fast feedbacks to the companies should be in place during the business operation. Customers should be informed of this policy and companies should make sure that they understand clearly terms and conditions before making an online purchase. To avoid fraudulent transactions, it is necessary for web stores to invest in a strong security system to ensure that no credit card or bank information could be stolen by hackers. Web store owners could apply for certificates from well-known security authorizers. Strong commitment on personal information with customers should be presented in the companies' trading policy.

Companies may apply the "brick-and-click" model for their business. In addition to online virtual shops, they may open physical stores to support their web stores in terms

of demonstration and after-sale service. Companies should make customers recognize quality of the products or service before they purchase. In web store environment, it is important that specification of products or services should be presented precisely and concretely so that consumers could well understand what value could be expected from the products or services. This really helps reduce *performance risk* for customers. E-demonstration is another way to help customers to understand the products or service well before making purchase decision. For digital products, it is possible to offer certain duration of free trial so that customers could be assured of the quality before purchasing. For luxurious and sophisticated goods that may require experiencing the product visibly before buying it, it is recommended to have physical stores to support visual stores.

In order to reduce *time risk*, companies should make their online purchasing process as simple and quick as possible. By that way, time loss for online transaction may be reduced. A strong server could also help improve web store speed. Transaction interface and local language of web store should be designed to be easy-to-use and friendly to users. To reduce time loss for searching, web stores should have a strong search engine and a plentiful information list of diversified products and services so that consumers can find everything from one source. Forum and chat room on web stores for sharing experience and exchanging information among customers and between the customers with the company may work to reduce time risk in buying decision process.

Vietnamese consumers are also aware of *privacy risk* during online shopping. They concern about exposure of personal information via the web and worry if their personal information is revealed and controlled without their acknowledgement or permission. To reduce privacy risk, companies should equip web stores' database with newly updated and strong security systems. Besides, a strict privacy policy and procedure on web store data process with strong commitment to customers should be created and implemented. To assure customers of the security systems and privacy policy, companies could also apply for security certificates from well-known organizations. A comprehensive communication on such strict privacy policy and procedure and strong security systems could also help companies gain trust from customers.

In comparison with males, females are more sensitive to risks in online shopping. This is understandable because women are often considerate and careful than men.

From this finding, companies should take into account customers' gender when launching their products on the web. For businesses, whose target customers are females, the proposed risk relievers in the previous parts should be applied more strictly than those for males.

6. LIMITATIONS AND FURTHER RESEARCH

This research investigates risk factors in general online business. It does not particularly study different categories of goods that may have different level of risk perceived by consumers. The research has demographic limitation since it covers only respondents in HCMC with a small sample of 153. Therefore, further research should investigate risk factors in different categories of experience goods or search goods, and expand the sample to other big cities in Vietnam for better understanding of the market∎

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